

Page 001 of 537

Withheld pursuant to/removal as

Advice/Recommendations

Page 002 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 003 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 004 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 005 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 006 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 007 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 008 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 009 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 010 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 011 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 012 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 013 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 014 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 015 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 016 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 017 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 018 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 019 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 020 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 021 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 022 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 023 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 024 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 025 of 537

Withheld pursuant to/removal as

Advice/Recommendations

Page 026 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 027 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 028 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 029 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 030 of 537

Withheld pursuant to/removed as

Advice/Recommendations ; Intergovernmental Communications

Page 031 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 032 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 033 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 034 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 035 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 036 of 537

Withheld pursuant to/removed as

Advice/Recommendations

2. How many new FTEs have been funded as part of Budget 2022?

Approval	2022/23	2023/24	2024/25
Regional Permitting	13	13	0
Major Mines*	25	25	0
Clean Transportation	11	11	11
Building Pathway	1	1	1
Low Carbon Fuels	19	19	19
Reduce Emissions from Natural Gas	2	2	2
Advancing Industrial Decarbonization	8	9	9
TOTAL	79	80	42

*Includes FTEs in FLNR, EAO and ENV with funding recovered from EMLI.

3. What is the Clean BC budget lift being spent on?

Budget 2022 CleanBC Details	2022/23	2023/24	2024/25	TOTAL
<ul style="list-style-type: none"> Regulatory Compliance, Enforcement & Data Tools 	120	120	120	360
<ul style="list-style-type: none"> Additional 11 FTEs 	1,553	1,625	1,659	4,837
Clean Transportation	1,673	1,745	1,779	5,197
<ul style="list-style-type: none"> Better Home, Better Buildings FTEs (3 FTEs previously funded from LCELF) 	365	372	383	1,120
<ul style="list-style-type: none"> Home Energy Rating System (1FTE) 	118	121	125	364
Buildings Pathway	483	493	508	1,484
Low Carbon Fuels Standard (19 FTEs)	1,968	2,537	2,609	7,114
Reduce Emissions from Natural Gas (2FTEs)	296	309	317	922
<ul style="list-style-type: none"> Methane Monitoring & Elimination 	226	231	235	692
<ul style="list-style-type: none"> Coordinated CCS Approach 	111	113	115	339
<ul style="list-style-type: none"> Net Zero 2050 Requirements 	334	341	347	1,022

• CO2 Storage and Critical Minerals	213	463	472	1,148
Advancing Industrial Decarbonization (8 FTEs)	884	1,148	1,169	3,201
• Go Electric	0	7,700	5,000	12,700
ICE Fund	0	7,700	5,000	12,700
TOTAL CleanBC Approvals	5,304	13,932	11,382	30,618

4. How much has Budget 2022 committed over the next three years for Clean BC?

Including the Budget 2022 increase of \$30.618 million, Budget 2022 commits \$125.291M over three years for Clean BC programs in ministry base budget.

CleanBC Initiative	2022/23	2023/24	2024/25	TOTAL
Low Carbon Fuel Standard	1,968	2,537	2,609	7,114
Clean Transportation	1,673	1,745	1,779	5,197
Advancing Industrial Decarbonization	884	1,148	1,169	3,201
Building Pathway	483	493	508	1,484
Reduce Emissions from Natural Gas	296	309	317	922
Go Electric funded by ICE Fund	0	7,700	5,000	12,700
Sub Total Budget 2022	5,304	13,932	11,382	30,618
<i>Previous Budget Approvals:</i>				
Efficiency BC Expansion(Better Buildings Better Homes)	23,490	23,490	23,490	70,470
Efficiency BC Expansion (Clean Building)	3,000	3,000	3,000	9,000
Go Electric	1,843	1,843	1,843	5,529
Low Carbon Fuels	1,732	1,732	1,732	5,196

Clean Energy Vehicle Supply Standard	948	948	948	2,844
Low Carbon Fuels - BC Hydrogen	240	240	240	720
Remote Community	164	165	165	494
Building Energy Codes	140	140	140	420
Sub Total Prior Year	31,557	31,558	31,558	94,673
TOTAL CleanBC Base Budget	36,861	45,490	42,940	125,291

Advice/Recommendations

Page 040 of 537

Withheld pursuant to/removed as

Advice/Recommendations

EMLI 2022 Estimates Table of Contents

Electricity and Alternative Energy Division

Clean Transportation

CleanBC Go Electric Programs.....	1
Zero Emission Vehicle Act / Regulation	2
Low Carbon Fuel Standard.....	3
Renewable and Low Carbon Fuel Production Goal.....	4
Clean Transportation Action Plan	5

Energy Efficiency

Clean Buildings Strategy.....	6
Clean BC – Better Homes and Better Buildings Program	7
Utility DSM.....	8

BC Hydro

Affordability and BC Hydro Rates (Update on the CCF; link between Phase 1 and F21 RRA; F22-F24 RRA).....	9
Site C Update	10
Energy Purchase Agreements Renewals.....	11
BC Hydro Integrated Resource Plan	12
Industrial Electrification and CleanBC Industrial Electrification Rates	13
Rates and Rate Design (Tiered Residential Rates & Income Impacts, Industrial Rate Flattening & BCH's planned engagements on rate design)	14
DRIPA Action Plan/Indigenous Clean Energy Opportunities process.....	15

Communities

Remote Community Energy Strategy.....	16
---------------------------------------	----

Innovative Clean Energy (ICE) Fund

ICE Fund	17
ICE Fund Approved Budget 2021 (Appendix 2 to ICE Fund Note)	
ICE Fund / SDTC Partnership	18
\$25M Contingencies Access - Federal Partnerships	19

Climate Leadership

Geothermal Energy	20
CleanBC	21
Decarbonising BC's gas grid (GGRR, GHG Reduction Standard)	22
LNG Bunkering (with input from JEDC)	23
BC Hydrogen Strategy	24
Centre for Innovation and Clean Energy	25

Mines, Competitiveness and Authorizations Division

Mining Regulatory Excellence	1
Permitting Regional Mines - Mines Standardization and Service Improvement Project	2

Exploration

Exploration highlights in BC	3
British Columbia Geological Survey	4
Geoscience BC	5
Mining Exploration Tax Incentive Programs	6

Region Projects/Issues of Concern

Thor Project: Taranis Resources	7
Giant Copper Mineral Tenure Purchase	8
South Island Aggregates	9
Deasan Gravel Pit	10
OK Industries Quarry – Millstream Road	11
Krisch Pit – East of Sumas Mountain	12
Steelhead Community	13
Nuxalk “Eviction” Notice	14

Carlyle Commodities – Newton Project.....	15
Ministry Response to Flooding.....	16
Watts Point Quarry – Squamish.....	17
Upland Concrete _ Campbell River Landfill Site	18
Nicola Valley Aggregates.....	19
Joe Rich Quarry.....	20
Ajax	21
Pavilion Mine	22
Goat River Area	23
Hole in the Wall Provincial Park Expansion and Nearby Rock Quarries (Sukunka Limestone and Lime Stone Cowboys).....	24

Mine Development Projects

Table: Mine Development Projects in B.C.....	25
--	----

Significant Active Projects (in pre-application or review) [>300 employed]

- Cariboo Gold 26
- Blackwater 27
- Premier
- Yellowhead
- Wolverine-Hermann Expansion

Active Projects (in pre-application or review)[<300 employed]

- Red Mountain
- Michel Coal

Forecast but No Current Permitting Applications

- Giscome Quarry and Lime Project..... 28
- Sukunka Project
- Murray River
- Kerr- Suphurets- Mitchell (KSM)
- Kutcho
- Crown Mountain
- New Prosperity Stand Down Agreement

Operating Mines

Operating Coal Mines in B.C.....	29
Operating Metal Mines in B.C.	30
Map – Operating Mines & Selected Major Exploration Projects in BC....	31
Mineral Tax Revenue Forecast / Revenue Sharing with First Nations....	32
Financial Securities for Mines	33

Major Amendments

Table: Major Amendments	34
-------------------------------	----

Mine Expansion Amendments

• Red Chris Block Cave	35
• Eskay	36
• Bonanza Ledge/QR Mine	
• Highland Valley Copper 2040	
• New Afton	
• Teck Fording River Extension & KNC	
• Copper Mountain New Ingerbelle	

Other Major Amendments

- Mt. Milligan
- Myra Falls
- Silvertip
- Gibraltar
- Teck Coal Water Treatment Projects
- Brule
- Elk Gold
- Tenas Coal

Closed Care and Maintenance Mines

Bell/Granisle Mines	37
---------------------------	----

Policy

Mining Competitiveness	38
International Joint Commission Reference and BC's Transboundary Relations with Neighbouring States	39
Mining Jobs Task Force	40
Placer and Jade Mining in BC	41
Mineral Tenure Act Reform/Modernization (w/ Banks Island Gold/Gitxaala Reference)	42

Mines Health, Safety and Enforcement Division

Mining Oversight.....	1
Code Review	2
Health and Safety of BC Mines	3
Abandoned Mines	4
Mine Audits Unit.....	5
Mines Investigations	6
Quinsam Coal Receivership.....	7
Mines Digital Services	8
Tulsequah Chief Mine	9
Yellow Giant Mine (Banks Island)	10

Oil and Gas Division

Tenuring and Geoscience

Petroleum and Natural Gas Tenuring and Disposition	1
Petroleum and Natural Gas Tenure Revenue	2
First Nations Engagement and Consultation	3
Land Management with Blueberry River First Nation.....	4
Caribou Recovery Planning	5
First Nation Government to Government Agreements	6
Treaty Land Entitlement.....	7
Regional Strategic Environmental Assessment (RSEA).....	8
Farmers' Information Service	9
Petroleum and Natural Gas Development and Agriculture	10

Economics and Market Development

Royalty Programs	11
Royalty Review – progress and outcomes	12
Royalty Review – Consultation process and comments received.....	13

Royalty Revenues.....	14
Deep Well Royalty Credit.....	15
Royalty Revenues - Confidentiality of Royalty Information (Joint with Finance)	16
Gasoline Prices.....	17
Fuel Price Transparency Act Implementation Progress	18
Global Oil Prices	19
Government's Four Conditions for LNG	20
Upstream Investment and Competitiveness and ESG	21
Long-term Production and Emission Outlook	22
Questions on Subsidies	23

Regulatory and Infrastructure

Methane Regulations and Federal Equivalency Agreement.....	24
CleanBC Roadmap to 2030 - Oil and Gas Industry.....	25
Canada Energy Regulator	26
Hydraulic Fracturing and Responsible Resource Development	27
Clean Growth Infrastructure Royalty Program (CGIRP)	28
Federally Funded Programs for Dormant and Orphan Well Clean-up	29
Sierra Yoyo Desan Road	30

Oil Infrastructure Group

Trans Mountain Expansion Project Overview and Permitting.....	31
Trans Mountain Expansion Project - Construction, Work Camps and COVID-19.....	32
Trans Mountain Expansion Project Indigenous Consultation	33

LNG

LNG Projects: Status and Facts.....	34
LNG Bunkering	35
Government Action on LNG Competitiveness.....	36

Opportunities for LNG Development to Support Energy Security and Climate Change Objectives	37
---	----

LNG Canada Implementation Secretariat

LNG Canada Project Profile.....	1
Coastal GasLink Project Profile	2
Coastal GasLink and the Morice River area	3

Woodfibre Implementation Group

Status Update on Woodfibre LNG Project.....	1
Project Profile Eagle Mountain Pipeline	2

Strategic & Indigenous Affairs Division

UNDRIP Implementation.....	1
SIAD Overview	2
Tahltan Overview	3
Yahey Decision (Blueberry River FN & Treaty 8 Negotiations updates) ...	4

Consular Corps

Consular Corps.....	1
---------------------	---

Questions Deferred from other Ministries

2022 Deferred Estimates Questions	*
---	---

CSNR Financials and Service Plan

Budget and Ministry Key Documents (Prepared by CSNR)

Budget Highlights.....	1
i Minister Briefing Slides	
ii Estimates Summary	
Service Plan & Estimates Blue Book.....	2
Budget Questions & Answers	3
Statistical Analysis - Operating Budget Summaries	4
i. Operating Budget by Core Business	
ii. Operating Budget by Group Accounting Classification	
iii. Operating Budget by STOB	
Capital.....	5
Revenue	6
Minister Mandate Letter	7
Other	8
i. B22 BN – Budget Transfer Summary EMLI	
ii. Key Messages Contracts and Direct Awards	
iii. Key Messages – COVID 19 Terminations	
iv. Ministry of Finance – CleanBC Budget 2022 Approval Breakdown	

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: CleanBC Go Electric Program

Drafted: March 15, 2022

Issue: Investments to stimulate increased uptake of zero-emission vehicles (ZEVs), and further economic development in the ZEV sector in British Columbia

Response:

- British Columbia (BC) is a leader in clean transportation, with the highest ZEV adoption rate in North America in 2021 (13% of new light-duty vehicle sales), one of the largest public charging networks in Canada, the largest public hydrogen fuelling network in Canada, and a world-leading hydrogen and fuel cell industry.
- The CleanBC Go Electric Program has been highly successful in: reducing market barriers; encouraging the adoption of ZEVs by British Columbians; leveraging private, municipal and federal investment in ZEVs and infrastructure in BC; and supporting new economic opportunities in the ZEV sector.
- The CleanBC Go Electric Program provides rebates for zero-emission light-duty vehicles, medium- and heavy-duty trucks and buses, ferries, and airport and port ground equipment, and makes investments in infrastructure, training, public outreach, and economic development.
- Budget 2022 includes \$66 million for the CleanBC Go Electric Program, including: \$10 million for home and workplace charger rebates; \$20 million for investments in public charging; \$30 million for zero-emission commercial vehicle projects; and \$0.375 million for local and Indigenous government planning.
- In 2022/23, the CleanBC Go Electric Vehicle Rebate program is implementing means testing, and transitioning its funding source to revenues from BC Hydro's sales of credits obtained through the Low Carbon Fuel Standard.
- In May 2019, the Province passed the *Zero-Emission Vehicles Act* (ZEV Act) which requires automakers to meet ZEV sales targets reaching 10% of new light duty vehicle sales by 2025, 30% by 2030, and 100% by 2040. The Roadmap to 2030 accelerated the ZEV sales targets to 26% by 2026, 90% by 2030 and 100% by 2035, and announced the introduction of new ZEV targets for medium- and heavy-duty vehicles. The purpose of the ZEV Act is to ensure increased ZEV availability and choice at more affordable prices in BC.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Background/Status:

- In 2011, BC introduced ZEV programming, currently called the CleanBC Go Electric Program (the Program). Not including Budget 2022, more than \$420 million has been committed to make ZEVs more affordable and reduce greenhouse gas emissions.
- To date the Program has led to:
 - Almost 80,000 new light-duty ZEVs on the road;
 - over 812 ZEVs in commercial applications, such as forklifts, medium/heavy duty vehicles, cargo e-bikes and port and airport ground equipment;
 - over 2,350 public Level 2 charging stations, and 720 fast-charging stations across 262 locations;
 - a network of four public hydrogen fueling stations, with two more planned to be operational by the end of 2022, the majority of which are at existing gas stations;
 - automotive technician training at seven BC technical institutions, electrician training, and eleven research and academic projects;
 - an economic development and recovery program for BC's ZEV sector supporting 18 ZEV projects leading to approximately 178 additional full-time equivalent jobs; and
 - a multi-faceted outreach and awareness program called Emotive, including include community awareness and planning funding.
- There are multiple Program streams:
 - The point-of-purchase vehicle rebate provides up to \$3,000 for light-duty ZEVs priced below \$55,000. The rebate may be combined with federal rebates, for a total rebate of up to \$8,000 per ZEV. The program will transition to income-testing in Summer 2022.
 - Home and workplace charger rebates, which provide up to \$350 for charging stations in homes, and up to \$2,000 for charging stations and free EV advisor services in apartments, condos and workplaces. Rebates up to \$3,000 are available to complete an EV Ready Plan for condominiums and apartments. Increased rebates are available for Indigenous communities and businesses.
 - Public infrastructure funding, which provides up to 50% funding for public fast charging stations (up to \$80,000) and up to 33% funding for public hydrogen fueling stations. Increased rebates of up to 90% of project costs

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

(to a maximum of \$130,000) per station are available for Indigenous-owned DCFC stations.

- Commercial vehicle pilots program, which provides funding for vehicles, infrastructure, and data analysis to support zero-emission technologies. The first and second rounds of application reviews are complete and will be allocating funding to 29 medium/heavy duty ZEVs and related infrastructure across eight projects. Advice/Recommendations
- Specialty Use Vehicle Incentive program which provides a rebate up to 33% (66% for tourism operators) for e-cargo bikes, electric motorcycles, low-speed vehicles, medium/heavy-duty vehicles, airport and port vehicles, and utility vehicles.
- Fleets program including school bus fleets, which provides funding for ZEVs and infrastructure assessments, installations of charging stations, and supports including training and advising services.
- “Emotive”, the province-wide public outreach program developed and delivered under partnerships with local governments and community organizations, including Indigenous communities.
- Funding to upgrade electrician and automotive technician training to incorporate charging infrastructure and ZEVs.
- The Advanced Research and Commercialization program which supports projects that create jobs and lead to economic growth and recovery in the ZEV industry sector in BC.
- The Program supports growth of BC’s ZEV sector, which has over 250 companies and organizations involved in all aspects of the supply chain employing more than 10,000 jobs, producing \$1.9 billion in total economic output and contributing \$1.1 billion to the provincial gross domestic product.

Cross Reference:

Zero Emission Vehicles Act

Low Carbon Fuel Standard

Clean Transportation Action Plan

Contact:

Les MacLaren

ADM

Electricity and Alternative Energy
Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Zero-Emission Vehicles Act / Regulation

Drafted/Revised: March 18, 2022

Issue: The *Zero-Emission Vehicles Act* / Regulation (ZEV Act) requires automakers to increase their supply of zero-emission vehicles (ZEVs) to British Columbia (BC)

Response:

- BC's ZEV Act delivers on the Province's CleanBC plan commitment to make ZEVs more affordable and accessible to British Columbians.
- The ZEV Act requires automakers to meet an escalating annual percentage of new light-duty ZEV sales, reaching 10% by 2025, 30% by 2030, and 100% by 2040, which will ensure greater supply and availability of ZEVs.
- The CleanBC Roadmap to 2030, released in 2021, included commitments to increase the ZEV Act targets to 26% of light-duty vehicle sales to be ZEV by 2026, 90% by 2030, and 100% by 2035, and to implement medium- and heavy-duty regulations.
- The ZEV Act provides flexible pathways (through sales, trading of compliance units, initiative agreements for sales of used and medium/heavy duty ZEVs, or purchase agreements), for suppliers to achieve compliance while ensuring that the Province meets its ZEV and GHG targets.
- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) has developed an online ZEV Reporting System which regulated parties use to demonstrate their compliance with the ZEV Act. Eighteen automakers are actively using the system and submitted their first compliance reports in October 2021.
- BC joined Quebec and 12 US states in having a ZEV standard, as well more than 20 countries worldwide who have now either announced a future ban on the sale of new gasoline and diesel cars, or targeted 100% of vehicle sales to be ZEVs.
- The ZEV Act is part of a coordinated, and expanding, program of activities under the Province's highly successful CleanBC Go Electric Program that aims to: reduce market barriers; encourage the adoption of ZEVs by British Columbians; leverage private, municipal and federal investment in ZEVs and infrastructure in BC; and support new ZEV sector economic opportunities.
- Budget 2022 includes an additional \$120,000 per year to enable development and ongoing operation of online regulatory reporting tools for both the ZEV Act and Low Carbon Fuel Standard.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Background/Status:

- The ZEV Act passed on May 30, 2019, and the ZEV Act Regulation on July 30, 2020, to ensure that more ZEVs are available for purchase in BC.
- The ZEV Act was informed by engagement and consultation with the auto industry, local governments, and environmental non-governmental organizations (ENGOS).
- The ZEV Act initially focuses on light-duty vehicles (cars and light-trucks) but enables Government to set future targets for other vehicle classes, such as buses and heavy-duty trucks.
- In the Roadmap to 2030, Government announced that the light-duty ZEV targets will be increased, and targets will be developed for medium- and heavy-duty vehicles.
- The ZEV Act sets phased-in annual targets and other compliance requirements, ensuring automakers increase ZEV availability to meet demand.
- A technical review of the ZEV Act will be held at regular intervals to review market trends, receive input from stakeholders, and allow for any necessary adjustments. The first technical review is anticipated to start in Spring 2022, as part of the plan to implement the Roadmap 2030.
- A ZEV Advisory Council will be established to provide input into the Ministry's ZEV programming and policies including the ZEV Act. The ZEV Advisory Council will be comprised of industry, ENGOS, local governments, Indigenous organizations, infrastructure providers, and academics.
- In 2021, BC continued to have the highest uptake in North America. New ZEV sales averaged 13% of light-duty vehicle sales over the year despite the pandemic.
- The ZEV Act is based on legislation already in place in Quebec, California, and 11 other U.S. states, with adjustments for BC. BC's ZEV Act was the first in the world to include a 100% ZEV target.
- In 2021, the Government of Canada announced a mandatory target for all new light-duty cars and passenger trucks sales to be zero-emission by 2035, accelerating Canada's previous goal of 100 percent sales by 2040, but has not yet confirmed a national ZEV mandate.

Cross Reference: 01 - CleanBC Go Electric Programs
05 - Clean Transportation Action Plan

Contact:

Les MacLaren

ADM

Electricity and Alternative
Energy Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Low Carbon Fuel Standard

Drafted: March 16, 2022

Issue: Repeal and replace the legislation governing the BC Low Carbon Fuel Standard (LCFS)

Response:

- Proposed legislation will repeal the *Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act* (Existing Act) and replace it with the *Low Carbon Fuels Act* (New Act) that broadens its scope and makes it easier to understand, administer, and enforce.
- The effectiveness of the New Act is increased by implementing a number of policy improvements which extends the authority to include new fuel categories, recognize new technologies, and ensure funding/support for low carbon fuel projects that also support other objectives of CleanBC.

Background/Status:

- The LCFS was implemented in 2010. It sets annual carbon intensity reduction targets using a lifecycle analysis encompassing all stages of a fuel product's life from raw material to final use.
- A fuel supplier's annual compliance with the LCFS is calculated in terms of compliance units, a positive number (credits) for low carbon fuels and a negative number (debits) for high carbon fuels.
- At the end of each compliance period, suppliers must have a balance of zero or positive compliance units to avoid non-compliance penalties.
- As annual carbon intensity targets become more stringent, fuel suppliers will be challenged to meet their obligations, and will require access to more credits or alternative options for compliance with the LCFS.
- Amendments to the Regulation in July 2020:
 - extended the LCFS from a 10% reduction in carbon intensity in 2020 to a 20% reduction by 2030.
 - reduced the exemption threshold from 75 million litres in 2020 to 25 million litres in 2021, and 200,000 litres in 2022 and thereafter. The exemption was reduced to: strengthen the overall effectiveness of the LCFS; advance market transformation; and address an unfair competitive advantage (i.e., removing the exemption will result in price balancing between previously exempt suppliers and those complying with the LCFS).

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- Amendments to the Regulation in June 2021:
 - corrected an error omitting authorization for the Minister to publish names and circumstances for fuel suppliers who fail to comply with the low carbon fuel requirement;
 - recognized renewable naphtha as a fuel in the gasoline category to enable a new compliance pathway for fuel suppliers; and
 - clarified the point of compliance for electricity to enable those making investments in electricity supply infrastructure to be recognized as suppliers and to monetize earned credits to offset the costs of their investments.

The LCFS contribution to CleanBC:

- The LCFS is the single largest contributor to meeting the greenhouse gas (GHG) reduction targets set out under CleanBC and is an integral part of BC's GHG reduction policies in general.
- Between 2010 and 2020, actions taken to comply with the LCFS have avoided over 13 million tonnes of global greenhouse gas emissions.
- At a 20% reduction in 2030, the LCFS is expected to directly deliver 4.3 million tonnes of GHG reductions in 2030, which represents 16% of the CleanBC Roadmap to 2030 (Roadmap) provincial reduction target, and to contribute an additional 6% indirectly by supporting the *Zero-Emission Vehicle Act* (ZEVA).
- At a 30% reduction in 2030, as contemplated in the Roadmap, the LCFS is expected to deliver an additional 2.4 million tonnes of reductions for a total of 6.7 million tonnes of reductions in GHG emissions in 2030, which represents 25% of CleanBC's current 2030 target (with indirect support for an additional 6% from ZEVA).

Investment in Clean Fuel through the Part 3 Agreement Program

- In 2020, the Province entered into Agreements to support 22 projects with potential new investments exceeding \$2.19 billion over the next five years. Upon completion, the projects are expected to supply fuel that will reduce lifecycle greenhouse gas emissions by approximately 4.0 million tonnes of carbon dioxide equivalent globally per year.
- If successful, seven projects supported by Part 3 Agreements will lead to the annual production of over 800 million litres of low carbon renewable fuel in BC by 2026, representing 62% of the new Roadmap target of 1.3 billion litres of renewable fuel production in BC by 2030.

Policy improvements:

- More than a decade of experience developing and administering the LCFS has identified that the Existing Act, as structured, is inadequate for robust administration through 2030 and beyond.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- Proposed legislation will repeal the Existing Act and replace it with a New Act that broadens its scope and makes it easier to understand, administer, and enforce.
- The intention of the New Act remains the same while improving overall clarity for regulated industry, closing compliance and enforcement gaps, and incorporating policy changes announced in the CleanBC Roadmap to 2030.
- Policy changes in the New Act that are supported by the CleanBC Roadmap to 2030 include:
 - Recognizing jet fuel as a new category of fuel, and enabling regulations to create other fuel categories, such as marine fuels.
 - Providing compliance credits for direct air capture with permanent sequestration of eligible greenhouse gases, such as carbon dioxide.
 - Expanding the scope of Part 3 Agreements to increase the supply of low carbon fuels in BC by enabling support for new proponents and new business opportunities.
- The Ministry of Energy, Mines and Low Carbon Innovation has prepared a Bill that is ready for introduction in the House in 2022.

Fuel Pricing:

- The British Columbia Utilities Commission inquiry into fuel pricing identified the LCFS cost impact on gasoline prices to be three and a half cents per litre in 2018.
 - Ministry officials estimate that the price impact increased to about 11.6 cents per litre in 2022.
 - As the carbon intensity reduction targets become more rigorous, the cost of high carbon fuels can be expected to increase, while the cost of low carbon fuels is expected to decrease.
- Cabinet Confidences; Advice/Recommendations

Cross Reference:

04 Increasing Renewable Low Carbon Fuel Production in BC

Contact:

Les MacLaren ADM Electricity and Alternative Energy Division Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Renewable and Low Carbon Fuel Production in British Columbia.

Drafted: March 16, 2022

Issue: CleanBC Roadmap to 2030 committed to increasing the production of renewable fuel in B.C. by 1.3 billion litres per year by 2030.

Response:

- Under the CleanBC Roadmap to 2030, the BC Low Carbon Fuel Standard (LCFS) is expected to deliver about 6.7 million tonnes of reductions in British Columbia (BC)'s greenhouse gas emissions in 2030.
- The CleanBC Roadmap to 2030 committed to enhancing the LCFS by considering increasing stringency of carbon intensity reduction targets to 30% by 2030.
- In order to meet the increased demand for cleaner fuels, CleanBC Roadmap to 2030 committed that the Province will work to ramp up new production of 1.3 billion litres of renewable fuels by 2030.
- Refining our own renewable fuels with BC materials and BC workers will lead to job growth and reduce the need to import fossil fuels and renewable fuel and feedstocks from other jurisdictions.
- BC does not produce enough "conventional" feedstocks, such as canola, to meet the long-term demands for meeting the 1.3 billion litre goal. To utilize BC feedstocks, new technologies must be commercialized to convert the feedstocks into finished fuels. Potential new feedstocks include wood waste, tall oil, municipal solid waste, sewage sludge, and carbon from direct air capture of CO₂.
- Part 3 Agreements currently support projects that could result in the production of 800 million litres of low carbon renewable fuel by 2025. The Ministry will continue to work to ensure that these projects are successful, while working with industry to achieve the 1.3 billion litre production goal for 2030.
- The Ministry is currently reviewing the approach to Part 3 Agreements to consider continuous intake of proposals and more effective development of agreements, including integration with BC government funding mechanisms and co-ordination with other federal and provincial programs.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Background/Status:

- Transportation accounts for 39% of BC's GHG emissions, with more than half being emitted from medium- and heavy-duty transportation vehicles.
- Currently, BC imports virtually most of its renewable fuels. Making these fuels in the province will lead to job growth and regional economic development.
- The LCFS, including Part 3 Agreements, is a strong tool for attracting investment in renewable and low carbon fuel production.
- Part 3 Agreements between a fuel supplier and the statutory director are for actions that increase the use of Part 3 fuels sooner than would have occurred otherwise.
- In 2020, Part 3 Agreements were signed to support 22 projects with potential new investments exceeding \$2.19 billion over five years. Upon completion, the projects are expected to supply fuel that will reduce lifecycle greenhouse gas emissions by approximately 4.0 million tonnes of carbon dioxide equivalent globally per year.
- In 2021 the impact of COVID reduced the credits available for Part 3 Agreements, so there were no new agreements signed. The capacity for new agreements in 2022 has yet to be determined.
- The Parkland Refinery in Burnaby and the Tidewater Midstream Refinery in Prince George are both making the transition to co-processing, beginning with used cooking oil, tallow and canola blended with fossil crude oil as inputs to their refineries. Both refineries have been receiving support through Part 3 Agreements.
- For several conversion technologies, the resulting product may not be completely suitable as a fuel but can be further refined by mixing the product with crude oil for processing at existing fossil fuel refineries. This enables existing refineries to transition to the production of significant quantities of renewable fuels.
- Most processes that create renewable diesel fuel can be modified to produce jet fuel. Inclusion of jet fuel in the LCFS could provide significant support for this emerging opportunity.
- The Ministry continues to engage with companies who are considering the production of low carbon fuel in B.C., including: Business Information; Business Information; Advice/Recommendations; Government Financial

Cross Reference: #3 Low Carbon Fuel Standard

Contact:

Les MacLaren	ADM	Electricity and Alternative Energy Division	Government Financial
--------------	-----	--	-------------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Clean Transportation Action Plan

Drafted/Revised: March 16, 2022

Issue: Clean Transportation Action Plan

Response:

- CleanBC's Roadmap to 2030 (Roadmap) committed to developing a Clean Transportation Action Plan (CTAP) to be released in 2023.
- The CTAP is part of a comprehensive approach, as outlined in the Roadmap, to meet British Columbia's (B.C.) transportation sector GHG reduction target of 27-32% below 2007 levels by 2030.
- The Province has already taken significant actions to reduce transportation GHG emissions, including through programs, policies and regulation that support zero-emission vehicle (ZEV) adoption. Examples include: the Ministry of Energy, Mines and Low Carbon Innovation's (Ministry's) suite of Go Electric programs and the *Zero Emission Vehicle Act* which sets sales targets for new light-duty zero-emission vehicles.
- Building off this and other Provincial transportation work, the purpose of the CTAP is to identify the next set of concrete actions across five foundational areas - vehicle kilometres travelled (VKT) reductions; mode shift to efficient modes; vehicle efficiency; ZEVs; and fuel efficiency - to ensure B.C. meets its legislated and Roadmap transportation targets.
- CTAP will be a public, technical document that acts as a unifying, single point of reference for clean transportation actions.
- The CTAP will take a long-term view in order to realize the GHG benefits of all potential actions, such as compact, complete communities that take longer to yield results but provide significant benefits.
- The CTAP is being co-led by the Ministry and the Ministry of Transportation, with participation from multiple ministries on policy and action development, and engagement with key stakeholders, Indigenous communities as well as broader stakeholders.
- Decarbonizing B.C.'s transportation sector and making it more energy efficient helps achieve government priorities such as supporting clean jobs and ensuring affordability, all while stimulating province-wide economic activity.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Background/Status:

- The Ministry plays a leading role in developing policies, programs and standards that improve the energy efficiency and reduce greenhouse gas (GHG) emissions in the transportation sector.
- The transport sector accounts for approximately 39% of B.C.'s GHG emissions (approximately 14% from light-duty vehicles, 14% from medium- and heavy-duty vehicles, and 11% from marine vessels, rail, aircraft, off-road equipment).
- In 2019, transport emissions had risen 22% in B.C. since 2007, largely due to increasing emissions from heavy-duty vehicles, rising vehicle populations, and increasing fuel consumption.
- In addition to the sector targets identified above, the *Climate Change Accountability Act* requires B.C. to reduce its GHG emissions 40% below 2007 levels by 2030, 60% by 2040, and 80% by 2050.
- CleanBC and the recently released CleanBC Roadmap to 2030 (Roadmap), identify additional transportation targets including:
 - ZEV targets:
 - accelerated *Zero Emission Vehicle Act* targets - 26% of new light-duty vehicles by 2026, 90% by 2030, 100% by 2035; and
 - new ZEV targets for medium- and heavy-duty vehicles aligned with California or leading jurisdictions.
 - VKT reduction targets: reduce light-duty VKT by 25% by 2030, compared to 2020.
 - Mode share targets: increase share of trips (e.g., commuting for work and personal activities) made by walking, cycling, transit to 30% by 2030, 40% by 2040, and 50% by 2050.
 - Energy intensity targets for personal and commercial transportation: reduce the energy intensity of goods movement (tonne-kilometres) by at least 10% by 2030, 30% by 2040, and 50% by 2050, relative to 2020.
- CTAP project work is underway ^{Advice/Recommendations}

Cross Reference:

01 - CleanBC Go Electric Programs
02 - Zero-Emission Vehicles Act & Regulation

Contact:

Les MacLaren

ADM

Electricity and Alternative Energy
Division

Government
Financial
Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Clean Buildings Strategy

Drafted/Revised: March 18, 2022

Issue: Efforts to decarbonize buildings through energy efficiency and fuel switching

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) plays a leading role in developing policies, programs and standards that improve energy efficiency and reduce greenhouse gas (GHG) emissions in buildings.
- Making British Columbia's (B.C.'s) built environment more energy efficient and lower carbon helps achieve government priorities such as supporting clean jobs and ensuring affordability, all while stimulating province-wide economic activity.
- The Ministry has been implementing a multi-faceted Clean Buildings Strategy as part of CleanBC to support B.C. in transitioning to low-carbon buildings by 2030.
- The strategy is the basis of the Buildings Pathway commitments in the CleanBC Roadmap to 2030.
- The objective of the strategy is to drive energy efficient and low carbon solutions to a tipping point of availability, acceptability, and affordability through targeted interventions in the marketplace, followed by progressively more stringent codes and standards that backstop progress.
- The Clean Buildings Strategy includes five streams of action to drive market transformation in the sector:
 - **Research, development and demonstration** to bring B.C.-made energy efficient and low-carbon solutions to the market;
 - **Energy information** tools to help British Columbians identify retrofit opportunities and inform investment decisions;
 - **Industry training** to support workforce readiness for programs, codes and standards;
 - **Targeted incentives and financing** to drive adoption of low carbon heating systems and energy efficiency improvements; and

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- **Progressively more stringent energy codes and standards** to eliminate the most polluting and least efficient products and practices from the market.

Background/Status:

- Buildings accounts for 10% of B.C.'s GHG emissions (not including emissions from waste and deforestation). The Province has a target to reduce emissions from the built environment by 59%-64% by 2030.
- Achieving the Province's legislated 2030 and 2050 GHG reduction targets will require a shift towards low-carbon heating options and the highest performing buildings.
- In addition to reducing emissions, making B.C.'s buildings more efficient will help achieve government priorities such as advancing innovative technology development, promoting clean jobs, and ensuring affordability of housing by reducing energy costs, all while stimulating province-wide economic activity.
- Every \$1 million invested in energy efficiency is estimated to create between 30 and 57 job years and \$4-8 million of gross domestic product.
- Between 2007 and 2018, energy use per m² of floorspace was reduced by 28% in residential buildings and 14% in commercial buildings. GHG emissions¹ per m² of floorspace reduced 29% in residential buildings and 21% in commercial buildings.
- Between 2007 and 2020, the percentage of households using heat pumps for primary or secondary heating increased by 180%.
- Efficiency Canada's Provincial Energy Efficiency Policy Scorecard awarded B.C. the top ranking in Canada in 2019, 2020, and 2021. BC leads in both the 'Enabling Policies' and 'Buildings' categories and was praised in particular for its Energy Step code, heating electrification programs and long-term policy approach, outlined below.
- The Province's built environment initiatives are grounded in a market transformation approach that covers both existing buildings and new construction. This approach consists of five streams of action, listed below along with key initiatives:

Research, Development and Demonstration

- The Building Innovation Fund provides support for research, commercialization and demonstration of advanced building designs and construction methods,

¹ This NRCan statistic excludes emissions from electricity, which in BC are very small.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

and ultra-efficient building components in order to increase the availability and affordability of low-carbon buildings solutions made in B.C. To date, the program has held three intakes, distributing \$14.65 million in support to 41 projects across the province. A fourth intake is being planned for 2022/23, and will distribute a further \$5 million in funding.

Energy Efficiency Information

- Better Homes and Better Buildings provides free energy coaching to British Columbians to help them identify opportunities for energy savings and emission reductions in their homes and businesses.
- Advice/Recommendations

Industry Training

- The Ministry has worked with BC Hydro, FortisBC, and the Home Performance Stakeholder Council to develop best practice installation guidelines and training curriculum for heating systems and envelope improvements, and is now subsidizing the cost of this training for those becoming registered members of the Home Performance Contractor Network (HPCN). CleanBC Better Homes is transitioning to requiring use of an HPCN member in order to access incentives. This will help foster quality workmanship and maximize energy efficiency and emission reductions.

Financial Incentives

- The CleanBC Better Homes and Better Buildings program provides financial incentives and low-interest financing to help households and businesses save energy and reduce GHG emissions through heating equipment replacement and building envelope improvements. The program is funded through 2024/25.
- Budget 2022 included a PST exemption on heat pumps, paired with an increase to the PST on fossil fuel alternatives to 12 per cent. It also included a new temporary tax credit - the Clean Buildings Tax Credit - for retrofits that improve the energy efficiency of eligible multi-unit residential buildings and commercial buildings.
- Last year, BC Hydro, FortisBC Gas and FortisBC Electric spent a combined \$116 million on energy efficiency programs², enabled through a supportive regulatory framework. The Province is working on amendments that will carry

² Based on BC Hydro results for 2020/21 and FortisBC results for 2020

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

out the CleanBC Roadmap commitment to transition utility DSM away from conventional combustion gas equipment and towards building-envelope improvements and heat pumps.

- Local governments have requested the legislative authority to offer Property Assessed Clean Energy financing programs to support building energy retrofits. The Province is currently assessing options and timing.

Regulated Codes and Standards

- Efficiency standards are implemented as point-of-sale regulations (through the *Energy Efficiency Act*) or in the BC Building Code (by the Minister Responsible for Housing).
- CleanBC commits to setting a requirement that, after 2030, all space and water heating equipment sold and installed in BC will be at least 100% efficiency, significantly reducing GHG emissions. The Ministry is working with the Office of Housing and Construction Standards on an implementation plan that utilizes both the *Energy Efficiency Act* and the BC Building Code. Budget 2022 funds will support technical, market and regulatory analysis to inform the development of options.
- The Province has built off its success with the Energy Step Code, by committing to adopt a “net-zero energy ready” base code for new buildings by 2032, with incremental improvements in 2022 and 2027. The base code will be incorporating carbon pollution standards that support a transition to zero-carbon new buildings by 2030.
- Advice/Recommendations
- The Roadmap to 2030 also commits to a new regulatory tool--placing a cap on emissions for natural gas utilities and enabling a variety of pathways to achieve it. This will drive utility investment in energy efficiency, renewable gas, and other decarbonization actions.

Cross Reference: 07 - Better Homes and Better Buildings Program
08 - Utility Demand-Side Management
21 - CleanBC
22 - Decarbonising BC's gas grid

Contact:

Les MacLaren

ADM

Electricity and Alternative Energy
Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Better Homes and Better Buildings Program

Revised: March 18, 2022

Issue: Better Homes and Better Buildings Program Overview

Response:

- The Better Homes and Better Buildings program provides financial incentives to help households, businesses and the public sector save energy and reduce greenhouse gas emissions (GHG) through heating equipment replacement and building envelope improvements.
- The program launched in September 2018 as a two-year, \$24 million retrofit program co-funded by the Province and the federal government through the Low Carbon Economy Leadership Fund.
- Under the CleanBC plan, the program was extended and provided additional funding.
- CleanBC Better Homes and Better Buildings has \$71.6 million in base funding from fiscal 2022/23 through fiscal 2024/25.
- The program portfolio includes:
 - commercial retrofit incentives for large complex buildings;
 - commercial retrofit incentives for small buildings;
 - commercial new construction incentives;
 - residential retrofit incentives;
 - residential low-interest retrofit financing;
 - residential new construction incentives;
 - Indigenous community retrofit incentives; and
 - specialized energy coaching support for small businesses, Indigenous communities and civic organizations.
- Better Homes was expanded to include a stand-alone income qualified program (IQP), which launched in February 2022. The IQP provides high value incentives to low- and moderate-income households and is complementary to current residential and income-qualified rebates offered by the Province, BC Hydro and FortisBC.
- As of December 2021, Better Homes and Better Buildings has provided 30,500 residential retrofit rebates, approved pre-registrations for

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

436 residential new construction projects and disbursed 66 incentives, and approved 243 capital incentives for commercial, institutional, and multi-unit residential building energy efficiency and fuel-switching projects.

- As of April 1, 2022, the Province will no longer contribute top-up incentives for conventional residential and commercial natural gas space and water heating equipment.

Background/Status:

- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) launched a \$24 million retrofit program in September 2018, co-funded through the federal Low Carbon Economy Leadership Fund.
- The Program was allocated an additional \$40.6 million in Provincial base funding over fiscal year 2019/20 to 2021/22, and now has \$71.6 million in base funding for fiscal year 2022/23 to fiscal 2024/25.
- The program includes:
 - **Better Homes:**
 - Residential retrofit rebates for fuel-switching to heat pumps, high efficiency windows, doors and insulation in fossil-fuel heated homes;
 - Low-interest financing for fuel-switching to heat pumps;
 - High value incentives for income-qualified households;
 - Incentives for building to higher steps of the BC Step Code with electric heating, and for installing heat pumps in new construction; and
 - A single application for Provincial, BC Hydro, FortisBC, and local government incentives.
 - **Better Buildings:**
 - Energy study and capital incentives for commercial, institutional, and multi-unit residential buildings and social housing to support fuel-switching and energy efficiency improvements.
 - **Online hubs and energy coaching:**
 - Online web hubs for homeowners and businesses to access information, incentives (provincial, utility and local government) and supports to reduce energy use and GHG emissions in homes (www.betterhomesbc.ca) and buildings (www.betterbuildingsbc.ca).
 - Free energy coaching services for homeowners, contractors, small businesses, Indigenous communities, and civic organizations.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- From October 2020-June 2021, select rebates were doubled as a COVID-19 economic recovery measure. The 'Double the Rebate' offer, combined with enhanced marketing, has led to residential participation that exceeded estimates for fiscal 2021/22.
- Commercial program participation remains robust.
- The Ministry continues to increase awareness of heat pumps and available incentives through public and contractor education and marketing.
- The Ministry has worked with BC Hydro, FortisBC, and the Home Performance Stakeholder Council to develop best practice installation guidelines and training curriculum for heating systems and envelope improvements and is now subsidizing the cost of this training for those becoming registered members of the Home Performance Contractor Network (HPCN). CleanBC Better Homes is transitioning to requiring use of an HPCN member in order to access incentives. This will help foster quality workmanship and maximize energy efficiency and emission reductions.
- In the fall of 2021, registration for the CleanBC Better Homes New Construction program was suspended due to oversubscription. The program will now be extended until December of 2022, which is timed to coincide with the introduction of higher energy efficiency requirements in the BC Building Code.
- As of April 1, Provincial top-up incentives for gas-fired equipment in both residential and commercial programs are ending in order to prioritize clean fuel-switching incentives.

Cross Reference: 06 - Clean Building Strategy
08 - Utility Demand-Side Management
21 - CleanBC

Contact:
Les MacLaren ADM Electricity and Alternative Energy Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Utility Demand-Side Management

Drafted/Revised: March 18, 2022

Issue: Utility demand-side management programs help reduce energy bills and greenhouse gas emissions

Response:

- Energy efficiency programs, capacity-focused programs, and electrification programs – otherwise known as demand-side management (DSM) - are a resource for utilities to address energy and capacity needs, while helping families and businesses to reduce their energy bills.
- The Province provides the regulatory framework for DSM through legislation and regulation, including the *Utilities Commission Act*, the *Clean Energy Act*, and the Demand-Side Measures Regulation (DSM Regulation).
- The Province provides additional support for utility electrification through the Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR).
- Due to supportive government policies, there has been a significant increase in natural gas DSM (energy efficiency) by FortisBC over the last 15 years.
- BC Hydro's spending on electricity DSM (energy efficiency) has been moderate because of the current electricity surplus, but is scheduled to increase given the increasing demand for electricity that will be driven by actions to achieve climate targets.
- Electrification will play a larger role in utility planning given provincial greenhouse gas (GHG) reduction goals.
- BC Hydro has released an electrification plan, which, if approved, will result in \$260 million in spending to advance electrification in buildings, transportation, and industry over 5 years.

Background/Status:

- Utility energy efficiency and capacity-focused DSM expenditures are approved by the British Columbia Utilities Commission (BCUC).
- Utilities must meet adequacy and cost-effectiveness requirements set out in the DSM Regulation.
- This regulation includes an avoided carbon price signal which boosts the cost-effectiveness of natural gas DSM, allowing natural gas utilities to advance robust DSM portfolios.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The DSM Regulation also offers favorable treatment of programs that are harder to justify through traditional cost-effectiveness tests, including those that:
 - Serve low-income customers and renters;
 - Offer education and awareness in schools;
 - Support the transition to higher building codes including the Step Code;
 - Support future codes and standards; and
 - Support technology innovation.
- In 2021, B.C. DSM programs were amongst the only programs across the country that met energy efficiency savings and participation targets in spite of the COVID-19 pandemic, largely due to the “Double the Rebates” campaign¹.
- Electrification DSM is currently considered separately from energy efficiency and capacity-focused DSM in legislation. Utilities in B.C. are authorized under the GGRR to undertake electrification projects and programs in order to reduce GHG emissions, provided they are cost-effective to the utility.
- The GGRR allows utilities to implement these undertakings without seeking the prior approval of the BCUC. The BCUC can still rule on the prudence of these expenditures

Natural Gas Utilities:

- In 2020, Fortis Energy Inc (FEI) spent \$75.8 million on DSM and achieved 1,033 terajoules (TJ) in new energy savings. FortisBC's approved 2019-2022 DSM plan includes spending of \$66.4M, \$72.6M, \$88.8M and \$96.8M and net incremental savings of 876 TJ, 930 TJ, 1,114 TJ, and 1,202 TJ in 2019, 2020, 2021 and 2022 respectively. This represents more than six-fold spending growth since 2005.
- In March 2021, FEI filed a revised DSM expenditure plan for 2021 and 2022 which reallocates budget from underperforming commercial programs to industrial and innovative technology programs. For example, in 2022, the commercial budget is reduced by \$11 million with nearly \$5 million allocated to industrial programs and \$9 million allocated to innovative technologies (natural gas heat pumps and deep retrofit projects) for a total of \$97.7 million.
- FEI will be submitting a new DSM plan this year.
- Pacific Northern Gas, which serves portions of northern B.C., has an approved DSM portfolio averaging \$0.86 million in approved spending per year for 2020-2022.
- PNG will be submitting a new DSM plan this year.

¹ 2021 Provincial Energy Efficiency Scorecard by Efficiency Canada

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The CleanBC Roadmap commits to shifting gas utility incentives away from conventional gas-fired heating equipment such as furnaces and boilers, towards building-envelope improvements such as insulation and better windows. The Ministry is working on DSM regulation amendments that will carry out this commitment.
- The Roadmap to 2030 also commits to a new regulatory tool - placing a cap on emissions for natural gas utilities and enabling a variety of pathways to achieve it. This will drive additional utility investment in energy efficiency, renewable gas, and other decarbonization actions.

Electric Utilities:

- Electricity conservation and energy efficiency will take on increased importance as the Province takes action to meet its GHG targets, which will require electrification throughout the economy.
- BC Hydro's spending on electricity DSM has been moderate the past few years because of the current electricity surplus.
- In fiscal 2021, BC Hydro spent \$77 million on DSM and achieved 780 GWh in new incremental energy savings. This is approximately in line with BC Hydro's approved F20-F21 DSM plan which included \$89.1M for traditional DSM, targeting 753 GWh/yr of new incremental energy savings.
- In September 2021, BC Hydro filed a three-year Revenue Requirements Application for F25, proposing to spend \$83.4 million, \$ 85.1 million and \$87.1 million on DSM in F23, F24, and F25, respectively.
- BC Hydro's latest Integrated Resource Plan was filed in December 2021, and proposes to continue with a base level of energy efficiency in the near-term but ramping up in future years.
- In Sept 2021, BC Hydro released an electrification plan, including \$260 million in spending to advance electrification in buildings, transportation, and industry over 5 years. The funding includes \$190 million to promote fuel switching in the built environment, transportation, and industrial sectors and \$50 million to attract new load from customers who have flexibility in which jurisdictions they operate.
- BC Hydro concurrently launched a residential heat pump fuel switching incentive of \$3,000, which is integrated with the CleanBC Better Homes rebate.
- FortisBC Inc. (FBC), which provides electricity in parts of the BC interior, has planned electricity DSM expenditures between 2019 and 2022 of approximately \$11 million per year, with savings of approximately 33 GWh/yr. In 2020 it spent \$10.2M and achieved 26 GWh of savings.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Cross Reference: 06 - Clean Buildings Strategy
07 - Better Homes and Better Buildings Program
21 - CleanBC
22 - Decarbonizing BC's Gas Grid

Contact:

Les MacLaren ADM Electricity and Alternative Energy Division Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Affordability and BC Hydro Rates

Drafted/Revised: March 21, 2022

Issue: Government is working with BC Hydro to maintain affordability of electricity rates

Response:

- In its August 2021 Revenue Requirements Application to the BCUC, BC Hydro requested rate increases below the expected rate of inflation for the next three years of 0.62% beginning April 1, 2022, 0.97% on April 1, 2023, and 2.18% on April 1, 2024.
- BC Hydro requested that these increases be offset by a rate rider giving a 2% discount for fiscal 2023, a 1% discount for fiscal 2024, and a 0.5% discount for fiscal 2025.
- The BCUC has subsequently granted BC Hydro an interim rate increase of 0.62% effective April 1, 2022, and an interim rate rider providing a 2% discount. This results in a net rate decrease of nearly 1.4%. The BCUC's proceeding on F2024 and F2025 rates is currently underway, and a decision is not expected before the end of this year.
- For this 3-year period, Government has directed the BCUC not to increase its allowed net income - i.e., profit - from BC Hydro, further limiting pressure on ratepayers' bills.
- In addition to a focus on keeping rates low, over the last 4 years BC Hydro's Customer Crisis Fund has provided grants to customers facing disconnection who have experienced a life event and are in financial crisis.
- As part of the BC Hydro Review Phase 2, Government is committed to providing continued support for low-income customers and is considering implementing a means-tested bill assistance program modelled after the Customer Crisis Fund.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Background/Status:

BC Hydro's Net Income

- As an outcome of Phase 1 of the Comprehensive Review of BC Hydro (Phase 1), legislative/regulatory changes returned authority to the BCUC to set:
 - BC Hydro's rates beginning in Fiscal 2020, and
 - BC Hydro's allowed net income (profit), which is recovered from its customers through rates, in Fiscal 2021 after a transition period.
- In the Phase 1 report, Government anticipated that the BCUC would have the opportunity to undertake a separate proceeding to set BC Hydro's allowed cost of capital (and thus net income) after it issued its decision on BC Hydro's Fiscal 2021 Revenue Requirements Application (RRA).
- The BCUC's decision on the Fiscal 2021 RRA was issued over a year after the Phase 1 report anticipated. As a result, BC Hydro did not have the opportunity to submit a cost of capital application to the BCUC prior to its Fiscal 2022 RRA.
- In 2021, Government directed a two-year extension to BC Hydro's allowed net income, to Fiscal 2023, to provide additional time to determine a long-term approach to net income that would maintain affordability while safeguarding the Fiscal Plan.
- Since this extension was granted, BC Hydro and Government became aware of proposals to update international financial reporting standards (IFRS) that would allow for governments, rather than independent regulators, to set a targeted net income for public utilities on an ongoing basis.
- It is likely that, beginning in Fiscal 2024, the BCUC would set BC Hydro's net income higher than the \$712 million (M) per year that Government set in recent years, in recognition that the utility should earn a reasonable return on investment.
- To provide certainty for ratepayers and the Fiscal Plan as the province emerges from COVID and pending updates to IFRS, Government extended the transition period for returning authority to the BCUC, and directed the BCUC to set BC Hydro's current \$712 M allowed net income for Fiscal 2024 and Fiscal 2025.
- Government will work with BC Hydro to identify approaches to net income that would maintain affordability while safeguarding the Fiscal Plan whether or not potential changes to IFRS are finalized.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

BC Hydro Rate Increases

- Over the next three years, BC Hydro's rates are set to increase by less than inflation on a cumulative basis.
- In its Fiscal 2023-2025 Revenue Requirements Application, BC Hydro has requested rate increases of: 0.62% for Fiscal 2023; 0.97% for Fiscal 2024; and 2.18% for Fiscal 2025.
- Offsetting these increases, BC Hydro proposes to return favourable regulatory account balances to ratepayers with a -2% rate rider in Fiscal 2023; a -1% rate rider in Fiscal 2024; and a -0.5% rate rider in Fiscal 2025.
- If these rates and deferral accounts are approved by the BCUC, rates would decrease 1.39% in Fiscal 2023, increase 2% in Fiscal 2024, and increase 2.06% in Fiscal 2025.
- Overall, rates would increase by less than inflation over the three year period.
- On February 22, 2022, the BCUC approved BC Hydro's requests for Fiscal 2023 on an interim (refundable) basis, which means rates will decrease by a net 1.39% on April 1, 2022.

Customer Crisis Fund:

- On May 1, 2018, BC Hydro started the Customer Crisis Fund (CCF) pilot program to provide bill relief for certain customers, as directed by the BCUC.
- A residential BC Hydro account holder may apply for a grant under the CCF if their account is overdue and they are facing disconnection. They must also have experienced a life event, within the previous year, that caused a temporary financial crisis. Eligibility is not dependent on income or whether the account holder receives other forms of Government assistance.
- Under the CCF, eligible customers may receive a grant equal to the amount owing on their account, up to maximum grants of \$600 for customers who heat their homes with electricity, and \$500 for customers with non-electrically heated homes (e.g., natural gas heat).
- The CCF pilot program expired on May 31, 2021. In June 2021, Government put in place a direction to the BCUC that allowed the CCF to continue past that date on a temporary basis.
- The CCF pilot program was funded by a monthly rate rider that was added to residential customers' bills. BC Hydro stopped applying the rate rider to customers' bills effective June 1, 2021. The temporary continuation of the CCF is being funded through an existing surplus of approximately \$5 million that represents the difference between revenues already collected through the monthly rate rider and the costs of providing the pilot program.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- As of the end of the CCF pilot program on May 31, 2021, BC Hydro provided approximately 11,396 grants totaling \$4.289 million to customers in need.
- Since June 1, 2021, when the CCF was continued temporarily, BC Hydro has provided support to an additional 819 customers, providing \$0.478 million in grants as of February 2022.
- At the current level of participation, BC Hydro forecasts the funding available through the rate rider surplus will allow operations for up to three years.
- As part of the BC Hydro Review Phase 2, government committed to provide additional support for low-income customers and is considering implementing a means-tested program modelled after the CCF to continue providing relief to BC Hydro Customers in crisis.
- A working group comprised of staff from the Ministry of Energy, Mines and Low Carbon Innovation, Ministry of Social Development and Poverty Reduction, Ministry of Indigenous Relations and Reconciliation and BC Hydro is currently examining options for a means-tested CCF, as well as other measures to address household energy affordability issues.

Cross Reference: 14 – BC Hydro Rates and Rate Design

Contact:

Les MacLaren

Assistant Deputy
Minister

Alternative Energy and
Electricity Division

Government
Financial

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Title: Site C Project Update

Revised: March 17, 2022

Issue: Site C Project

- In February 2021, government confirmed its decision to continue with Site C at a revised cost estimate of \$16 billion and with a one-year delay to its in-service date. The Project is currently on schedule and on budget.
- In March 2022, BC Hydro achieved a significant milestone by energizing the 2nd 500 kilovolt transmission line from Site C to Peace Canyon ahead of schedule.
- Work on the Right Bank Foundation Enhancements is currently underway. About half of the required piles (concrete filled steel tubes) that will extend the foundation deeper into the rock are installed and the remaining work is on schedule. International experts continue to confirm that BC Hydro's solution for the right bank foundation issues will result in a safe and reliable facility.
- Construction on the Project has progressed on all fronts. The earthfill dam is completed to approximately 34% of the total required volume.
- In October 2021 the Project's roller-compacted-concrete program was completed. A total of 1.7 million cubic metres of roller-compacted concrete was placed in three large buttresses, or foundations, that support the powerhouse, spillways and the dam abutment. Combined, the buttresses measure approximately 800 metres long and up to 70 metres wide.
- COVID-19 has remained a challenge to the Project. An outbreak occurred between August and October 2021. In January 2022, BC Hydro began on site screening of Site C workers. Over 10,000 rapid screen tests were administered in the first 60 days of 2022, and with about 700 positive cases requiring isolation there was some impact to contractors but this has not translated into delays to the Project schedule. The mandatory vaccination policy for Site C contractors came into force in January 2022. As of March 18, 2022, there were 3 active COVID-19 cases.

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

- In January 2022, Government approved the temporary exclusion of Area E and Ice Bridge Road from the Agricultural Land Reserve. Area E, which was identified and consulted on as part of the Site C Project's Environmental Assessment Certificate, is required to provide aggregate for the continued construction of the earthfill dam. Reclamation of Area E will be completed by December 31, 2025, and will include consultation with impacted Treaty 8 Nations.

Background/Status:

Overview:

- Site C will be the third dam and hydroelectric generating station on the Peace River and is designed to provide 5,100 gigawatt hours of electricity each year and 1,100 megawatts of capacity, which is enough power for 450,000 homes.
- Construction began on July 27, 2015. Completion is scheduled for December 2025.

Right Bank Foundation Enhancements

- During construction of the powerhouse and spillway buttresses, sensitive instruments monitored the bedrock foundation below and behind the buttresses for movements. BC Hydro identified small movements (millimetres) along a thin bedding plane located below the bottom of the concrete buttress shear key.
- One of the project's design objectives is to avoid movements of the buttresses, as the concrete structures built on top of them (and the generating equipment that will eventually be installed in the powerhouse) cannot accommodate even small movements without damage.
- BC Hydro identified a two-part solution to improve the stability of the right bank structures: extend the foundation deeper into the rock; and reduce water pressure that can build up in the bedrock foundation.
- The first part of the solution is to improve the strength of the concrete buttresses beneath the right bank structures by anchoring the buttresses deeper into the rock below using vertical piles (large steel pipes filled with concrete).
- The second part of the solution is to improve the water tightness of the approach channel. The approach channel directs water around the earthfill dam and into the generating station. BC Hydro will enhance the approach channel with a manufactured geomembrane liner, and improve drainage to prevent water from seeping into the foundation.

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

- Many large hydroelectric dam projects have encountered geotechnical challenges during construction and have modified their design to suit the conditions.
- One example in British Columbia is the Revelstoke Dam, which was completed in 1984. Adverse bedrock geology discovered during construction led to major design changes. Changes in the concrete dam included additional excavation of weak rock, placement of backfill concrete to provide a more stable foundation, provision of additional drainage.
- The cost of the right bank foundation enhancement work is included within the current \$16 billion cost estimate. BC Hydro expects to complete this work by the end of 2023.
- The right bank foundation enhancement work continues to be reviewed by internationally recognized dam experts appointed by the Project Assurance Board: John France and Dr. Kaare Höeg.

Construction Progress:

- Construction on Site C began in July 2015 and is over 50% complete.
- Construction activities are underway in all project areas including at the dam site, reservoir, transmission line corridor, and segments of Highway 29.

COVID-19

- The Project experienced two outbreaks of COVID-19. The first in between April and June 2021 and the second between August and October 2021. A substantial majority of the cases associated with the second outbreak occurred in unvaccinated workers.
- To manage the Omicron variant risk with the large numbers of workers returning in January 2022, BC Hydro expanded the rapid testing program to pre-access rapid tests for all returning workers. From January 2022 to end of February 2022, the Project administered over 10,000 screening tests and identified about 700 positive workers, many of which were asymptomatic but still isolated for five days. There have been no worker hospitalizations.
- Based on the BC Centre for Disease Control's transmission rate, the Project may have avoided up to 1,200 additional cases in January 2022 due to this rapid testing program. In January 2022, BC Hydro's mandatory vaccination policy for consultants and employees of contractors and subcontractors came into force.

Indigenous Relations

- Advice/Recommendations The use of Area E was identified, assessed, consulted on, and approved as part of the Site C Environmental Assessment Certificate

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

- Area E and most of Ice Bridge Road are within the Agricultural Land Reserve (ALR) and the activities proposed by BC Hydro for these areas (i.e., granular material extraction from Area E and upgrading Ice Bridge Road to handle the necessary haul traffic) are not permitted uses for lands within the ALR. BC Hydro requested that Government exclude these two areas from the ALR so that it could prepare the site and undertake road upgrades this winter in advance of the mid-April bird nesting and spring freshet, which would otherwise preclude these activities.
- In late January 2022, Cabinet approved the Order-in-Council (OIC) that temporarily excluded Area E and Ice Bridge Road from the ALR and has allowed this work to proceed and mobilize. Area E and Ice Bridge Road will be placed back into the ALR at the end of December 31, 2025, at which point the areas would have been remediated in consultation with the impacted Treaty 8 Nations.
- All required permit applications under the *Land Act*, *Forest Act*, *Mines Act*, and *Water Sustainability Act* to undertake activities at Area E and to upgrade Ice Bridge Road to accommodate transport of granular materials have been approved by government.

Earthfill dam construction

- Two cofferdams are required to seal off the main channel of the river. These structures were completed in March 2021, ahead of schedule. The main earthfill dam is currently under construction and approximately 30% complete.
- The main earthfill dam will be 60 metres tall, about 500 metres wide at its base and span more than one kilometre across the river valley.

Generating station and spillways work

- Generating station and spillways work on the right bank of the Peace River includes the Site C powerhouse, penstocks, spillways, turbines and generators.
- The six penstocks, which will channel the water from the reservoir into the turbines and generators, are more than 90% complete. Penstocks are large steel pipes, which are 10 metres in diameter and 80 metres long.
- All six turbine runners have been transported to BC from Brazil. The last two runners (the rotating part of a turbine) will be transported to site this summer.

Substation and transmission lines

- The Site C substation was completed in October 2020, and the two 500 kilovolt transmission lines are now energized ahead of schedule.

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Highway 29 construction

- BC Hydro is partnering with the Ministry of Transportation and Infrastructure to realign six segments of Highway 29, which connects Hudson's Hope to Fort St. John.
- Construction is underway for all 30 kilometres of the highway that need to be realigned to accommodate the future reservoir.
- In October 2021, the Farrell Creek East highway segment was opened to traffic.

Reservoir clearing

- BC Hydro is removing trees and vegetation from the future Site C reservoir area.
- Clearing of the 87-kilometre-long reservoir area is about 75 per cent complete.

Construction activities for 2022:

This year, the Project activities include:

- Progression of earthworks at the dam site
- Ongoing construction of the powerhouse and spillways, including the continued installation of steel piles as part of the right bank foundation enhancement work.
- Construction of approach channel.
- Transmission line maintenance and reclamation.
- Highway 29 realignments at Cache Creek, Halfway River, Farrell Creek East, Farrell Creek, Dry Creek and Lynx Creek.
- Clearing and road construction activities to access aggregate sources on the south bank (Area E and Area 24).

Site C employment

- The latest employment statistics show that there were 3,991 total workers on the Site C project in January 2022.
 - Of the total workers, 2,140 or 66% were from British Columbia.
 - There were 775 workers on site from the Peace River Regional District — that's 24% of the construction and non-construction contractor's workforce.
 - There were 399 women working for Site C construction and non-construction contractors.
- Peak employment was reached on the project in October 2020, with a total project workforce of 5,181 people.

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Indigenous relations

- BC Hydro has reached benefit agreements with the majority of the Treaty 8 First Nations impacted by the project.
- About \$530 million in Site C procurement opportunities have been awarded to Indigenous designated businesses, including pre-construction contracts.
- There are about 300 Indigenous people currently working on the project, and several hundred more have received training.

Les MacLaren	ADM	Electricity and Alternative Energy Division	Government Financial
--------------	-----	--	-------------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Electricity Purchase Agreements and Renewals

Drafted: March 18, 2022

Issue: BC Hydro is seeking to renew 21 Electricity Purchase Agreements (EPAs) that expire before April 1, 2026

Response:

- BC Hydro's Integrated Resource Plan (IRP) states that BC Hydro is seeking to renew EPAs for 21 independent power producer (IPP) projects, whose current contracts expire before April 2026.
- While the energy from these projects would be surplus to British Columbia (BC's) projected domestic load for at least the next five years, renewing the agreements would provide greater certainty that these clean or renewable energy facilities will continue to be available when needed.
- As compared to greenfield (new) projects, BC Hydro expects that renewal prices will be more favorable, and existing projects will have minimal incremental environmental impacts, and provide greater certainty with respect to timing and volumes of delivered energy.
- All renewals will be subject to approval of the British Columbia Utilities Commission (BCUC).
- The Province has heard the interests of many Indigenous Nations who are seeking to participate in clean electricity projects to bring economic benefits to their communities in a way that aligns with Indigenous values.
- The Province, through my Ministry, is committed to having a fresh dialogue with Indigenous Nations on this issue. Discussions on clean electricity opportunities is expected to occur under the Indigenous Clean Energy Opportunities process, a co-designed and co-led engagement that the First Nations Leadership Council and I launched last November.

If asked about natural gas-fired facilities and/or Island Generation:

Advice/Recommendations

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Background/Status:

- Along with debt servicing and finance expenses, energy acquisition from IPPs is a major driver of BC Hydro's costs and rates.
- As of October 2021, BC Hydro had 123 electricity purchase agreements (EPAs) with IPPs. These EPAs provide about 25% of BC Hydro's electricity supply on the integrated system, and account for about 30% of BC Hydro's total planned costs.
- As a major cost driver for BC Hydro, the acquisition of energy from IPPs was a key focus of Phase 1 of the Comprehensive Review of BC Hydro. In addition, the then-Minister of EMLI commissioned a review of BC Hydro's purchase of power from IPPs by Ken Davidson (the "Zapped Report").
- The Zapped Report concluded policy direction by the previous government led BC Hydro to procure too much lower-value intermittent energy from IPPs, much of which is delivered on to the system when BC Hydro least needs it (spring freshet). When comparing EPA prices with current export market prices, Mr. Davidson determined that the previous government's policies cost BC Hydro's rate payers at least \$16 billion over 20 years, equivalent to roughly \$4,000 per residential ratepayer over the same period.
- Phase 1 of the Comprehensive Review of BC Hydro found that there is little flexibility to make significant changes to the structure of existing EPAs. However, to reduce BC Hydro's future energy costs, Government approved:
 - the indefinite suspension of BC Hydro's Standing Offer Program (SOP), a continuous intake program for small clean energy projects of 0.1 to 15 megawatt (MW) in size. At the time the program was suspended, eligible projects were paid ~\$120 per MW hour, escalating with inflation, over a 20-year term; and
 - renewal of seven biomass EPAs, held mainly by forest companies, that were set to expire by January 2022, at, on average, ~80% of the original contract price and ~80% of the historically delivered volume of energy.
- In December 2021, BC Hydro filed its IRP for acceptance with the BCUC. The IRP forecasts that BC Hydro has sufficient energy to meet its customers' demand until Fiscal 2028, and sufficient capacity until Fiscal 2032, negating the need to acquire new resources for at least five years.
- At the same time, the IRP lays out BC Hydro's intent to renew 21 EPAs that expire before April 2026, including two that are not "clean and renewable" - Capital Power's natural gas-fired Island Generation facility in Campbell River, and the Greater Vancouver Regional District's SEEGEN facility in Burnaby which generates electricity as a by-product of municipal solid waste incineration.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- Indigenous Nations (INs) have significant interests in the expiring EPAs. In at least three cases, INs are the lead in the EPA or have significant equity participation in associated projects:
 - The China Creek (also known as Upnit) small hydroelectric facility on Vancouver Island is 72.5% owned by the Hupacasath First Nation and 10% owned by the Ucluelet First Nation.
 - The Walden North facility is 49% owned by Cayoose Creek Development Corp, which is the business arm of the Sekw'el'was Cayoose Creek Band.
 - Shishalh First Nation holds an equity interest in Sechelt Creek. While this facility is owned by an Ontario-based Company, Capstone Infrastructure, the Nation may have an equity stake in Capstone.
- While neither BC Hydro nor the Ministry have a line of sight into commercial arrangements between IPPs and INs, it is anticipated that other Nations have signed benefits agreements with IPPs on the other projects.

Rationale and Strategy for EPA Renewals

- By renewing EPAs, BC Hydro improves the likelihood that viable facilities continue operation and are able to provide relatively cost-effective energy when BC Hydro exits surplus.
- Until BC Hydro exits surplus, the energy from renewed EPAs would primarily be sold on export markets, where it typically sells for prices between \$20 and \$40 per megawatt hour (MWh).
- BC Hydro is proposing a market-based pricing approach for the renewals to protect ratepayers from losses in the event market prices remain low, while allowing IPPs to realize a fair price for their generation. This strategy also increases the probability the BCUC will approve the renewal EPAs.

IPPs and/or Indigenous Nations may raise concerns about BC Hydro's proposed pricing:

- While a market-based price protects BC Hydro's ratepayers, it is likely well below the price that most IPPs with expiring EPAs currently receive.
- Most of the expiring EPAs were originally signed between the late 1980s, or between 2000 and 2003.
- Government Financial Information
Government Financial Information The average price for EPAs signed in 2001 and 2003 is slightly below \$60 per MWh¹. Government Financial Information
Government Financial Information

¹ Based on data with the Zapped Report

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- BC Hydro began engaging with IPPs holding expiring EPAs in February 2022. To date, IPPs have not expressed significant concerns about BC Hydro's approach.
- However, it is possible some may raise concerns as the renewal process unfolds. For example, it is anticipated the Hupacasath Nation Government Financial Information
- In addition, many INs and Indigenous leadership have been seeking an immediate reinstatement of the SOP to enable INs to benefit economically from development of clean generation resources within their traditional territories.
- Advice/Recommendations
-
- The Ministry is currently exploring alternative options to address INs' concerns while avoiding ratepayer impacts. In addition, the Indigenous Clean Energy Opportunities engagement process, co-led by the Minister and the First Nations Leadership Council, provides an opportunity for a further dialogue between the Province and IN rightsholders on this issue.

Advice/Recommendations

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- Advice/Recommendations

Cross Reference: 12 - BC Hydro Integrated Resource Plan
15 - DRIPA Action Plan/Indigenous Clean Energy Opportunities
process

Contact:
Les MacLaren Assistant Deputy Electricity and Alternative Government
Minister Energy Division Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: BC Hydro Integrated Resource Plan

Drafted: March 16, 2022

Issue: BC Hydro has submitted its plan to meet its customers' needs for the next 20 years to the BC Utilities Commission.

Response:

- BC Hydro has submitted its Integrated Resource Plan (IRP) to the British Columbia Utilities Commission (BCUC). The BCUC will decide, after a public process, whether to approve BC Hydro's IRP.
- The plan includes a mix of energy efficiency measures, renewals of existing Electricity Purchase Agreements (EPAs), and new generation resources starting in fiscal 2031.
- While the IRP is based on a "Base Case" Load forecast that projects moderate growth in electricity demand, it also includes contingency resource plans to meet a range of needs, including accelerated demand driven by implementation of the CleanBC Roadmap to 2030.
- As a result, BC Hydro is well-positioned to pivot to support electrification as one of the three major pathways (energy efficiency, biofuels, and electrification, in that order) under the CleanBC Roadmap to 2030.
- The IRP takes a balanced approach to supporting CleanBC while enabling BC Hydro to keep its rates affordable.

Background/Status:

- BC Hydro's 2021 IRP sets out its plan to meet its customers' energy needs from 2020 to 2040.
- This is BC Hydro's first IRP since 2013, and the first that's been reviewed by the BCUC since 2008 (the 2013 IRP was reviewed by Cabinet, under now-repealed provisions under the *Clean Energy Act*).
- The IRP projects that its customers' demand will increase from just under 60,000 gigawatt-hours (GWh) per year today to nearly 76,000 GWh by fiscal 2041, an increase of approximately 25%.
- It proposes to meet this anticipated increase in electricity consumption through additional demand-side measures (DSM) (e.g., energy conservation), renewals of existing electricity purchase agreements, and new generation resources starting in Fiscal 2031.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- In the near to medium term, new DSM are the primary mechanism for meeting increased demand for electricity, with new generation resources assuming a larger role in later years.
- The IRP also includes a range of scenarios, including scenarios with stagnating electricity demand and multiple scenarios with higher and faster growth in electricity demand.
- Over roughly the next five years, none of these scenarios require additional new generation.
- A key feature of the IRP is that it provides BC Hydro the flexibility to respond to faster or slower growth in electricity demand by pursuing its contingency resource plans.
- BC Hydro proposes a number of Near-term Actions to enable it to implement elements of the Contingency Resource Plans on a timely basis.
- These Near-term Actions include: submitting planned DSM expenditures for Fiscal 2023 through Fiscal 2025 to the BCUC for review and approval; applying to the BCUC for approval of voluntary time-of-use rates for residential customers; and to study, consult on, and pilot utility-scale battery resources.

Criticism of the IRP

- Clean Energy BC, the Independent Power Producer (IPP) industry association and several environmental organizations have argued that the IRP's load forecast and associated Resource Plan should be based on an "accelerated electrification" scenario that assumes that British Columbia (BC) meets its CleanBC targets, rather than a more moderate load resource balance.
- The IRP reflects the reality that BC is currently in electricity surplus, as well as Government's commitment to affordability, but also provides flexibility to ensure our electricity needs would be met if demand grows more quickly than anticipated to meet CleanBC emissions targets.
- The 2021 IRP considers BC Hydro's 20-year projections of electricity demand in BC, including high and low load ranges and scenarios, to account for a range of potential impacts from electrification to achieve greenhouse gas reductions.
- Scenarios in the IRP look at provincial greenhouse gas (GHG) reduction targets being achieved through accelerated electrification and other emission reduction options driven by Government policies.
- While electrification is a critical component of reaching BC's climate action goals, it is not the only, or even the primary approach for meeting BC's legislated GHG emissions. In fact, CleanBC relies on a broader set of pathways – energy efficiency, biofuels and electrification, in that order.
- BC Hydro's IRP includes a contingency plan to ensure BC Hydro is prepared to meet customers' need for energy on a timely basis if CleanBC leads to

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

accelerated growth in the demand for electricity. The contingency plan includes a mix of reliance on market energy, additional DSM, and additional energy acquisition.

Consultation Informing the IRP

- BC Hydro consulted widely in developing the IRP – i.e., with 85 Indigenous Nations, Tribal Councils and Indigenous organizations. BC Hydro also heard from more than 6,000 British Columbians through surveys and virtual engagement sessions.
 - This included seeking feedback on the relative priority that should be placed on each of the following objectives as BC Hydro developed its plan:
 - keeping costs down for customers;
 - reducing GHG emissions through clean electricity;
 - limiting land and water impacts;
 - supporting reconciliation with Indigenous peoples; and
 - supporting the growth of BC's economy.
- Public and customer participants indicated that GHG reductions through clean electricity was the highest priority, followed by keeping costs down for customers and limiting land and water impacts.
- Feedback from Indigenous participants included strong interests in:
 - conservation, to protect the environment and Indigenous traditions and culture connected to lands and water;
 - Indigenous participation in future clean energy development including new EPAs with BC Hydro during the second 10 years of the planning outlook. There was also interest in net metering and other forms of customer generation such as rooftop solar; and
 - opportunities to participate in transmission upgrades and related transmission ownership opportunities. There were also concerns about wildfire risk from climate change and how this could affect reliability of electricity service. Some participants felt that BC Hydro should use its existing infrastructure, instead of building new infrastructure, in order to mitigate further environmental impact.
- During the engagement, BC Hydro also received feedback from Indigenous participants on certain issues that are outside the scope of the 2021 IRP. These included revenue sharing, and Indigenous-owned public utilities.
 - These items which fall outside the scope of BC Hydro's IRP process will likely be addressed further under Government's Indigenous Clean Energy Opportunities (ICEO) process.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Cross Reference: 11 – Electricity Purchase Agreements and Renewals
15 – DRIPA Action Plan/Indigenous Clean Energy Opportunities process

Contact:
Les MacLaren Assistant Deputy Electricity and Alternative Government
Minister Energy Division Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Industrial Electrification and CleanBC Industrial
Electrification Rates

Drafted/Revised: March 18, 2022

Issue: Government is working with BC Hydro to electrify new and existing facilities by reducing the capital and operating costs of connecting to the grid

Response:

- Electrification is one of the pathways identified in the CleanBC Roadmap to 2030 leading to reduced or avoided emissions in the industrial sector.
- The Province is encouraging existing and new BC Hydro industrial customers to electrify their operations, through CleanBC Industrial Electrification Rates.
- In addition to the GHG benefits, incenting industrial electrification helps keep rates affordable for everyone, while supporting economic development.
- Following from Phase 2 of the BC Hydro Review, government announced the CleanBC Industrial Electrification Rates comprised of two categories – clean industry / innovation, and fuel switching.
- The rates provide a 7-year discount from BC Hydro's standard industrial electricity rate: 20% for the first 5 years; 13% in year 6; and 7% in year 7.
- The Phase 2 Review also recommended that BC Hydro consider flattening its default industrial rate to encourage electrification. BC Hydro is continuing to work with industry on potential rate designs.
- Government also announced that it directed \$84.4 million from the Government of Canada's Investing in Canada Infrastructure Program (ICIP) to create the CleanBC Facilities Electrification Fund.
- The Fund helps reduce the capital costs of connecting to the electricity grid or upgrade existing connections in order to use more electricity and reduce or avoid greenhouse gas (GHG) emissions.
- BC Hydro's Electrification Plan, released in September 2021, has a significant industrial electrification focus with an expectation of adding 2,800 gigawatt-hours of incremental load from the industrial sector alone.
- In addition to the CleanBC Industrial Rates and the CleanBC Facilities Electrification Fund, through its Electrification Plan BC Hydro will provide:
 - Over \$60 million in incentives for industrial fuel switching;

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- Up to \$25 million in incentives and study funding for new customers; and
 - Up to \$20 million in incentives and study funding to support the production of hydrogen.
- The BC Hydro Electrification Plan will be reviewed by the British Columbia Utilities Commission (BCUC) as part of its revenue requirement application for fiscal years 2022/23 through 2024/25.
- With support from the federal government, BC Hydro is working to expand its transmission infrastructure to ensure that it has sufficient capacity to serve industrial facilities. For example:
 - The Peace Region Electricity Supply Project came into service in May 2021 with a capital contribution from the federal government under ICIP.
 - The North Montney Region Electrification Project is a proposed new transmission line in the northeast that was identified as a priority under the 2019 federal-provincial Memorandum of Understanding on Electrification. Work to advance this project is on pause as the Province completes its negotiations with the Blueberry River First Nation.

Background/Status:

- BC's industrial sector accounts for 40% of British Columbia (B.C.) GHG emissions, mostly due to compressors in the natural gas sector, diesel engines in mining and forestry, and process heat in the forest products industry. Industry represents the largest electrification opportunity to reduce emissions in B.C.
- Advice/Recommendations
 - To assist industry in transitioning to the use of clean electricity:
 - BC Hydro is offering CleanBC Industrial Electrification Rates and is also considering moving to a flat energy charge instead of the current default industrial two-tier rate;
 - Funding is available through the CleanBC Facilities Electrification Fund to help customers with the costs of connecting to BC Hydro; and
 - BC Hydro is planning to spend up to \$105 million through its Electrification Plan to provide incentives.

CleanBC Industrial Electrification Rates

- The CleanBC Industrial Electrification Rates are intended to help existing and new industrial customers connect to BC Hydro's grid by offering discounted rates to encourage the use of clean electricity.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- There are two categories of rates available to BC Hydro's transmission service customers: the Clean Industry and Innovation Rate (Rate Schedule 1894); and the Fuel Switching Rate (Rate Schedule 1895). At present there are no customers on these rates; however, BC Hydro has applications that are under review.
- These rates are available to customers until March 31, 2030. The rates will expire on March 31, 2037, at which time, customers will be moved to the standard transmission service rate.
- The Clean Industry and Innovation Rate is available to two types of new customers:
 - Clean industry customer: A new customer plant that uses a process to remove GHGs from the atmosphere or produces a renewable or low carbon fuel. This could include: the production of hydrogen via electrolysis; the production of synthetic fuels from hydrogen, carbon dioxide or biomass; or the capture and/or storage of carbon dioxide.
 - Innovation customer: A new customer plant that is a data centre composed of networked computers and data storage used to organize, process, store and disseminate large amounts of data.
- The Fuel Switching Rate is designed to encourage existing and new industrial customers to electrify their operations by connecting into BC Hydro's grid, instead of relying on fossil fuels. The rate is available to a broad range of customers, including new customers who can demonstrate that connecting to the grid will reduce GHG emissions.
- The rate is also available to existing customers that modify or expand their plant to take additional electricity supplied by BC Hydro, thereby eliminating, or reducing fossil fuel use for their energy needs. Oil pipelines, oil refineries, methanol production, and LNG facilities are not eligible for the fuel switching rate.
- There is an energy cap of 5,000 gigawatt hours (GWh) a year for all customers under these rates, of which 1,500 GWh/year is allocated to customers under the Clean Industry and Innovation Rate and 3,500 GWh/year to customers under the Fuel Switching Rate. BC Hydro may assess and adjust the energy participation cap and allocation, as needed.

Flattening the Default Industrial Rate

- As part of the BC Hydro Review Phase 2, it was recommended that BC Hydro should consider moving to a flat energy charge for industrial customers instead of the current two-tier rate.
- Under the current industrial rate structure (Rate Schedule 1823), any increase in electricity use is subject to a higher rate. A flattened rate will help reduce the disincentive to grow or electrify more of industrial customers' operations.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- BC Hydro is working with industry stakeholders to explore potential rate designs to support increased electrification while minimizing costs to existing customers.

CleanBC Facilities Electrification Fund

- As part of a MOU between the federal government and the province on electrification, the province allocated \$84 million of federal green infrastructure funding to create a CleanBC Facilities Electrification Fund in January 2021.
- The fund supports customers connecting to the BC Hydro grid who are proposing to fuel-switch existing or planned operations from carbon-based fuels. The fund is open to all customers including upstream oil and gas customers.
- Projects may receive funding to cover up to 50% of eligible costs to a maximum of \$15 million per project and must be completed by spring 2027. Projects must support public infrastructure, so ownership of customer connections must be transferred to BC Hydro. The fund is open to both industrial and commercial BC Hydro customers.

BC Hydro Electrification Plan

- To assist in transitioning industry to cleaner forms of energy, BC Hydro released its \$260 million Electrification Plan in September 2021.
- Of the additional 3,100 gigawatt-hours of load growth that is expected to result from the Electrification Plan, 2,800 gigawatt hours incremental load is anticipated in the industrial sector alone.
- The plan includes for industrial customers:
 - Over \$60 million in incentives for fuel switching.
 - Up to \$25 million in incentives and study funding for new customers.
 - Up to \$20 million in incentives and study funding to support the production of hydrogen.
- BC Hydro is continuing to implement the plan, and is in the process of having it considered as part of its revenue requirement application to the BCUC for fiscal years 2022/23 through 2024/25.

MOU on the Electrification of Natural Gas and Liquefied Natural Gas Sectors

- In 2019, the Canada and the Province signed the Memorandum of Understanding on the Electrification of the Natural Gas and Liquefied Natural Gas Sectors.
- One of the projects identified by the two governments is the North Montney Region Electrification Project, a 100 – 200 kilometer transmission line in northeast B.C.
- Ministry and BC Hydro staff are working with the federal government, including the Canada Infrastructure Bank to advance the financial modelling, however, that work is currently on hold as the Province continues its negotiations with the Blueberry

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

River First Nations and other Treaty 8 Nations following the June 2021 Yahey decision.

Contact:
Les MacLaren Assistant Deputy Electricity and Alternative Government Financial
Minister Energy Division Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Rates and Rate Design

Drafted: March 18, 2022

Issue: BC Hydro is planning to make a submission to the BCUC for an update to its residential rate design.

Response:

- Tiered electricity rates in British Columbia (BC) were designed to encourage electricity conservation, and they have accomplished that objective.
- As electricity prices increased, tiered rates have further increased the cost of electric heat and may discourage adoption of electric vehicles (EVs).
- Changes to rate structures are made through public processes before the British Columbia Utilities Commission (BCUC), to ensure that all ratepayers' interests are considered.

Advice/Recommendations

Background/Status:

- Both BC Hydro and FortisBC currently have two-tiered rates for residential customers based on electricity consumption, although FortisBC is currently in the process of transitioning to a single tiered flat rate.
- Customers are charged one rate for electricity up to a certain threshold in each billing period, and a higher rate for all electricity use beyond that threshold. This "tiered" rate was designed to reflect approximate long-term costs of new supply to encourage conservation, although in recent years the tiers have become significantly more expensive than the cost of new supply.
- Charges for FortisBC's Residential Conservation Rate (RCR) residential rates are as follows:
 - Customer Charge \$39.64 based on 60-day billing period;
 - First 1,600 kilowatt hours (kWh) are billed at 12.365¢ per kWh; and

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- Additional kWh are billed at 13.713¢ per kWh.
- This is similar in design and intent to BC Hydro's Residential Inclining Block (RIB) rate. BC Hydro's RIB rate is lower and is currently:
 - Customer basic charge of 20.77¢ per day (~\$12.67 per 2-month billing period);
 - Step 1 is 9.39¢ per kWh for the first 1,350 kWh in an average two-month billing period (22 kWh per day); and
 - Step 2 is 14.08¢ per kWh over the 1,350 kWh Step 1 threshold.

BC Hydro's rates increased by 1.16% on April 1, 2021 after a 1.62% rate decrease for Fiscal 2021.

- Single-family homes, those using electricity for space and water heating, and those with pools, hot tubs, EV service equipment, poor insulation, multigenerational families, and secondary suites are among the types of residences that are likely to use more power and experience higher electricity bills under tiered rates than under the flat rate charged by New Westminster's municipal utility.
- Natural gas utilities, such as FortisBC, advertise a cost comparison between natural gas and the second-tier electric rate to persuade customers to switch to natural gas for space and water heating.
- Some customers believe they are being penalized if they have consumption in the higher second tier. Customers can have considerable annual consumption at the higher Tier 2 rate (about 40%) and still be better off than under the former flat rate. Customers with a Tier 2 consumption greater than 40% of annual consumption are worse off.
- In its decision on FortisBC's 2017 Rate Design Application, and with the support of most of FortisBC's customer groups, the BCUC approved FortisBC's plan to phase out the RCR over five years resulting in a single flat rate by 2023.

Alternative Rate Designs:

- While the RCR and RIB rates are meeting their conservation objectives, evidence suggests that they are working against electrification by increasing the cost of high-efficiency electric heat in single-family homes and EV charging, thereby increasing a perception of a higher price for electricity relative to natural gas and other fuels.
- GeoExchange BC, an organization advocating for ground sourced heat pumps, has advocated for a flat rate in order to compete with natural gas space and water heating. Feedback on incentives through the Better Homes program also suggests that the RIB rate is a barrier to uptake of its keystone measure, incentives for high-efficiency air source heat pumps.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- The underlying conservation objectives and the design of the RIB and RCR rates, which were put in place in the early 2010s, were based on anticipated high load growth, cheap “heritage” electricity, and expensive new supply.
- With higher electricity prices, lower cost of new supply, and an emphasis on efficient electrification to reduce greenhouse gas (GHG) emissions, a high second tier no longer reflects the cost of new supply or Provincial energy policy. Furthermore, the effect of the RIB and RCR rates on conservation have largely been achieved with a limited ability to encourage more and on-going conservation.
- In its decision on BC Hydro’s Fiscal 2019/2020 and 2020/2021 Revenue Requirements Application, the BCUC noted it shared customer groups’ concerns that BC Hydro’s current rate design may be out of date and may no longer achieve the objectives that it was meant to achieve.
- As part of the second phase of the Comprehensive Review of BC Hydro (Phase 2), the Ministry of Energy, Mines and Low Carbon Innovation, Ministry of Environment and Climate Change Strategy, BC Hydro, and energy industry experts looked at rate designs that could support GHG emission reductions.
- Phase 2 found the two-tier rate structure made sense when BC Hydro was in deficit and cost of additional electricity supply was much higher than it is today.
- It also noted that optional rates, such as an optional time of use rate, an interruptible rate allowing BC Hydro to manage hot water heating, or a discounted rate for heat pumps, could provide customers with more choice, make electricity more affordable, and reduce emissions.

Advice/Recommendations

- - Mandatory time of use rates will not be brought forward.
 - It is ultimately a BCUC decision, informed by evidence and arguments, whether to approve BC Hydro’s rate design proposals.
 - However, to maintain affordability and support CleanBC, Government is considering a direction to:
 - Cabinet Confidences; Advice/Recommendations

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

○ Cabinet Confidences; Advice/Recommendations

Impacts of Tiered Rates at Different Household Incomes:

- While energy use is not strongly associated with income in BC, customers with higher energy use pay more under inclining block rates.
- The BCUC's 2017 Residential Inclining Block Rate report (RIB Report) found that most customers paid lower rates under the RCR in every income bracket, although a somewhat higher proportion of households with at least \$80,000 in household income paid higher bills under tiered rates.
- The same report found some correlation between income and electricity consumption across most income groups for BC Hydro.
- BC Hydro customers with household income of less than \$20,000 were likely to have lower than average consumption and households with income of \$120,000 or more were likely to have higher than average consumption; however, some customers in each income bracket consumed in the highest use bands.
- Overall, BC Hydro's input to the RIB Report found that nearly 90% of its low-income customers paid lower bills under the RIB rate, 7% paid higher bills, and 1% had bills more than 10% higher as a result of the RIB rate.
- However, the smaller group of BC Hydro customers with low incomes and high energy consumption are particularly impacted by the RIB rate. In BC Hydro's evaluation report for the first year of the Customer Crisis Fund (CCF), submitted to the BCUC in 2019, it noted that the average CCF applicant used over 15,000 kWh per year. For BC Hydro's customers, the average consumption was under 10,000 kWh per year.
- The majority of CCF applicants were among the highest-consumption quartile of BC Hydro customers while only 4% of applicants were among the lowest-quartile.
- When FortisBC applied to the BCUC to flatten its tiered rate structure in 2017, the BC Old Age Pensioners Association and other anti-poverty groups supported the proposal.
- In its decision to phase out FortisBC's tiered rate, the BCUC found that the bill impacts of moving to a flat rate were adequately addressed by FortisBC's proposed five-year transition plan.
- BC Hydro and FortisBC each have energy efficiency programs to help with low-income affordability.
- Both utilities offer free energy savings kits to help low-income homes reduce their energy use, as well as an Energy Conservation Assistance Program to provide advice on saving energy and free installation of energy-saving products.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- BC Hydro's CCF provides grants to qualifying customers experiencing a temporary financial crisis, such as loss of employment or benefit income, unanticipated medical expenses, or a death in the family and who have fallen behind on their BC Hydro bills.

Cross Reference: 9 – Affordability and BC Hydro Rates

Contact:

Les MacLaren	Assistant Deputy Minister	Electricity and Alternative Energy Division	Government Financial
--------------	------------------------------	--	-------------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: DRIPA Action Plan/Indigenous Clean Energy Opportunities process

Drafted: March 18, 2022

Issue: Indigenous Nations are calling upon Government to expand clean electricity economic opportunities to meet the Province's reconciliation objectives and *Declaration on the Rights of Indigenous People Act* (DRIPA) obligations

Response:

- Our Government is committed to advancing reconciliation with Indigenous people, and aligning provincial legislation with the United Nations Declaration on the Rights of Indigenous People (UNDRIP), as required under DRIPA.
- Our Government has also clearly heard the calls of individual Indigenous Nations, and Indigenous leadership organizations to remove legislative and policy barriers to Indigenous participation in the clean energy sector.
- Last November, the First Nations Leadership Council (FNLC) and I launched a co-designed and co-led Indigenous Clean Energy Opportunities engagement process, or "ICEO". Over 80 Indigenous Nations and organizations participated in this event.
- The ICEO implements action 4.34 under the Draft DRIPA Action Plan that was released in June 2021 for Indigenous feedback. That proposed action committed the Ministry to "engage First Nations to identify and support clean energy opportunities related to CleanBC, the Comprehensive Review of BC Hydro, and the British Columbia Utilities Commission (BCUC) Inquiry on the Regulation of Indigenous Utilities."
- The ICEO is intended to be an evergreen forum for collaborative dialogue between the Ministry, Indigenous leadership, Nations and organizations to:
 - position Indigenous Nations to fully participate in current and future opportunities in British Columbia's (BC's) clean energy sector, including clean electricity, gases and fuels; and
 - engage on related legislation and policies and align BC clean energy laws with UNDRIP.
- Discussions under the ICEO are expected to include the topics Indigenous parties have been raising, including on access to opportunities in the clean electricity sector.
- I look forward to a continued partnership with the First Nations Leadership Council under the ICEO, and to receiving the collaboratively developed advice and recommendations coming out of that process.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Background/Status:

- Through multiple Indigenous engagement processes and bilateral discussions over the past decade, many Indigenous Nations have expressed a strong interest in participation in the clean electricity sector to bring economic opportunities to their communities and/or become energy self-sufficient at the community level.
- Interests expressed by Indigenous Nations and/or leadership include, but are not limited to:
 - the sale of clean electricity to BC Hydro, either through an Independent Power Producer (IPP) partner, or a community-owned generation project;
 - access to BC Hydro transmission and/or distribution infrastructure to sell clean electricity directly to customers in BC;
 - the creation of Indigenous-owned distribution utilities to re-sell BC Hydro energy to residential, commercial and/or industrial customers located on their reserves or traditional territories; and
 - support to advance partnerships between Indigenous Nations and clean-electricity intensive operations such as data centres or cryptocurrency operations that wish to locate on Indigenous lands.
- Indigenous Nations and leadership have been critical about recent Provincial decisions, and existing legislation and policies, that they see as barriers to realizing clean energy-related benefits. These include:
 - the 2019 suspension of BC Hydro's Standing Offer Program for small-scale¹ clean generation projects, the last of BC Hydro's Province-wide electricity procurement programs;
 - the prohibition of "retail access" to BC Hydro's system for third party sales of electricity to individuals or companies that would otherwise be BC Hydro customers; and
 - the current *Utilities Commission Act*, which requires public utilities, other than those owned by local governments or otherwise exempted, to be regulated by the BCUC.
- Indigenous Nations and leadership have called upon the Province to remove these barriers as "required under DRIPA and UNDRIP."
- Section 3 of DRIPA requires Government to take all measures necessary to ensure the laws of BC are consistent with UNDRIP. Section 4 requires Government to "prepare and implement an action plan to achieve the objectives of the Declaration"

¹ 0.5-to-15-megawatt nameplate capacity

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

(the Action Plan"). Both obligations must be fulfilled in consultation and cooperation with the Indigenous peoples in BC.

- The first final DRIPA Action Plan, to be released in Spring 2022, is expected to contain a commitment for the Ministry to work with Indigenous partners "co-develop recommendations on strategic policies and initiatives for clean and sustainable energy." This includes identifying and supporting First Nations-led clean energy opportunities related to CleanBC, the Comprehensive Review of BC Hydro, and the BCUC Inquiry on the Regulation of Indigenous Utilities."
- The Ministry has already begun to implement this commitment. In May 2021, the Minister and FNLC executive met and agreed to co-design and co-lead a province-wide "Indigenous Clean Energy Opportunities" (ICEO) engagement process.
- The ICEO was officially launched by the Minister and FNLC, through its designate, the First Nations Energy and Mining Council (FNEMC), on November 17, 2021. Over 80 First Nations communities and organizations participated.
- In March 2022, the Ministry and the FNEMC co-hosted two regional workshops to seek Indigenous feedback on the first set of priority topics to be discussed under the ICEO. This feedback will inform recommendations on next steps, which will be tabled with the Minister and FNLC in the coming months.
- While no decisions have been made, it is anticipated that these next steps will include a fresh dialogue on electricity procurement opportunities, retail access, and/or Indigenous utilities. Engagement with Indigenous Nations and leadership on these topics could begin in fall 2022 or spring 2023.

Cross Reference: 11 – Electricity Purchase Agreements and Renewals
12 – BC Hydro Integrated Resource Plan
01 – UNDRIP Implementation (SIAD)

Contact:

Les MacLaren

Assistant Deputy
Minister

Alternative Energy and
Electricity Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: CleanBC Remote Community Energy Strategy

Drafted/Revised: March 21, 2022

Issue: Reducing GHG emissions from diesel electricity generation in remote communities

Response:

- Most remote off-grid communities in British Columbia (B.C.) rely on diesel for electricity generation. Under CleanBC, the Province aims to reduce emissions from diesel electricity generation in remote communities by 80% by 2030.
- The CleanBC Remote Community Energy Strategy (RCES) includes three streams of action to pursue this goal: (1) build remote community capacity to lead energy efficiency and clean energy projects; (2) support remote community efforts to improve energy efficiency and minimize greenhouse gas (GHG) emissions in new and existing buildings; and (3) implement renewable energy generation projects to displace diesel generation.
- As part of RCES, the Province launched the Renewable Energy for Remote Communities program in 2019 to contribute up to \$16.5 million toward the capital costs of construction-ready clean energy projects. These funds were invested in biomass, micro-hydro and solar projects that are reducing or replacing the use of diesel generators in Dzawadā'enuxw, Hesquiaht, Kitasoo/Xai'xais, Kwadacha, Lhoosk'uz Dene and Xeni Gwet'in communities. These projects moved the Province 5% toward the 80% diesel reduction target.
- Budget 2021 included a \$34 million investment in new RCES programs to support the capacity of Indigenous remote communities, and for the planning, development and implementation of diesel-displacing energy efficiency and renewable energy generation projects. These new programs will be delivered in partnership with Coastal First Nations – Great Bear Initiative, New Relationship Trust, the federal government, and BC Hydro. The new programs are expected to launch in Spring 2022.

Background/Status:

- The Community Clean Energy Branch (CCEB) is working to develop and implement RCES in collaboration with provincial ministries, Indigenous Nations, the federal government and BC Hydro.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- B.C. has the largest number of diesel-dependent remote communities of any province in Canada. RCES focuses on about 40 communities, most of which are governed by Indigenous Nations.
- Some remote communities own and operate the diesel generating stations that supply their micro-grids, while others are served by BC Hydro as non-integrated areas (NIAs). Most provincial diesel consumption for electricity occurs in NIAs.
- In 2019, BC Hydro NIA stations consumed about 19.1 million litres of diesel fuel, resulting in 51,784 tonnes of GHG emissions. In 2019, independently owned stations consumed approximately 2.7 million litres, resulting in approximately 7,218 tonnes of GHG emissions.
- The Ministry has established a RCES Working Group with seven remote Indigenous Nations to strengthen relationships and gain a further understanding of community priorities and effective program approaches. The Working Group is developing recommendations for provincial actions to achieve the CleanBC diesel reduction target.

Cross Reference: 15 - B.C. Indigenous Clean Energy Initiative

Contact:

Les MacLaren

Assistant Deputy
Minister

Electricity and Alternative
Energy Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Innovative Clean Energy Fund

Drafted: March 18, 2022

Issue: Innovative Clean Energy (ICE) Fund, a Special Account designed to support Government's energy and environmental priorities and advance British Columbia's clean energy sector

Response:

- Established in 2007, the Innovative Clean Energy (ICE) Fund is a legislated Special Account designed to support Government's energy and environmental priorities and advance British Columbia (BC)'s clean energy sector.
- Funding for the Special Account comes via a 0.4% levy applied to the final sale of specified "energy products" (primarily natural gas). The levy is forecast to generate approximately \$6 million (M) in 2022/23. The levy originally included electricity sales, which combined with higher natural gas prices, generated about \$25 M per year.
- In March 2017, Canada and British Columbia (BC) signed a memorandum of understanding (MOU) effective to March 2022 and executed a three-year, \$40 M Joint-Call Partnership for the development of pre-commercial clean energy projects and technologies. Each party committed \$20 M and are represented by Sustainable Development Technology Canada (SDTC) and the ICE Fund, respectively. In March 2022, BC met its \$20 M commitment with 16 approved projects to date. BC and SDTC are in the process of extending the MOU.
- In Budget 2022, the ICE Fund was approved for \$7.209 M over three years. The budget allocation is \$2.403 M in 2022/2023; \$2.403 M in 2023/2024; and \$2.403 M in 2024/25 as detailed in Appendix 1 – ICE Fund Approved Budget 2022.

Background/Status:

Current Status:

- Since 2008, approximately \$110 M has been allocated to support pre-commercial clean energy and technology projects and various programs and initiatives.
- Over the last 14 years, ICE Fund investments have leveraged projects worth \$551 M, creating or sustaining more than 1,000 direct jobs and more than 600 jobs in project construction.

Huron Clean Energy

In October 2021, \$2 M in funding from the ICE Fund was announced in support of a \$10.6 M preliminary engineering and design study of Huron Clean Energy's

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Electrofuels Plant in Merritt, B.C. The plant will use Carbon Engineering's Direct Air Capture and AIR TO FUELS™ technologies to combine atmospheric carbon dioxide with hydrogen to produce renewable fuel, such as gasoline, diesel, and jet fuel. With production capability of up to 100 M litres of fuel each year, the plant will make a significant contribution to the CleanBC renewable/low-carbon fuel production targets.

Pacific Regional Institute for Marine Energy Discovery

In October 2021, the Province and the University of Victoria (UVic) signed a MOU to jointly support the continuing development of the Pacific Regional Institute for Marine Energy Discovery (PRIMED). PRIMED is recognized as a marine commercialization centre that enables off-grid coastal communities and industries that are pursuing marine renewable energy alternatives to diesel-fueled energy generation. In 2021/22, ICE Fund provided \$300,000 to UVic, to evolve the capacity of PRIMED to use its human, computational and capital resources to: advance the understanding of wave, tidal and offshore wind resources for energy conversion; create the economic foundation for a provincial marine energy sector; attract federal investment; and stimulate job creation in the value chain of technology and service companies that comprise British Columbia's ocean industries.

Open Ocean Robotics Inc.

Open Ocean Robotics is based in Victoria and is developing solar-powered, uncrewed surface vehicles (USVs) and ocean data analytics platforms for maritime monitoring which can be used autonomously and deployed to continuously monitor risks to marine life and marine security. The company is developing two USV products called the Data Xplorer and Data Voyager.

This project is the 16th approved project under the ICE Fund / SDTC Partnership. ICE Fund's contribution of \$700,000 in 2021/22 will support the construction of four Data Xplorer USVs and one larger Data Voyager USV. In addition, the company will design and build a command-and-control portal for customers, improve visual and acoustic detection algorithms, and develop adaptive routing algorithms.

Attachments: Appendix 1 – ICE Fund Approved Budget 2022

Cross Reference: 18 - ICE Fund / SDTC Partnership
19 - \$25M Contingencies Access – Federal Partnerships

Contact:

Les MacLaren

Assistant Deputy
Minister

Electricity and Alternative
Energy Division

Government
Financial

Approved ICE Fund Projects / Special Account Administration

	2022/23	2023/24	2024/25
Forecast Balance at beginning of fiscal year	4.709	8.306	11.903
Levy Revenue Estimate	6.000	6.000	6.000
Total	10.709	14.306	17.903

Approved Budget 2022

Hydrogen Strategy	1.000	1.000	1.000
Trusted Partnerships	1.000	1.000	1.000
Special Account Administration	0.403	0.403	0.403
Total	2.403	2.403	2.403

Expenditures

	2022/23	2023/24	2024/25
Hydrogen Strategy	1.000	1.000	1.000
Trusted Partnerships (e.g., NGIF, PRIMED)	1.000	1.000	1.000
Subtotal	2.000	2.000	2.000
Special Account Administration	0.403	0.403	0.403
Total	2.403	2.403	2.403

2022/2023 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Partnership between Sustainable Development Technology Canada (SDTC) and the Innovative Clean Energy (ICE) Fund

Revised: March 21, 2022

Issue: Joint Call Partnership between SDTC and the ICE Fund to support the development of pre-commercial clean-energy projects and technologies

Response:

- On March 10, 2017, British Columbia (BC) and Canada signed a memorandum of understanding (MOU) effective to March 2022, for a \$40 million (M) partnership for the development of pre commercial clean energy projects and technologies.
- In March 2022, BC met its \$20 M commitment with sixteen approved projects to date. BC is in the process of extending the MOU with SDTC.
- The \$20 M provincial contribution is from the Innovative Clean Energy (ICE) Fund. The federal contribution is provided through the Clean Tech Fund (formerly known as the SD Tech Fund) managed by SDTC. The requirement was that at least a further \$20 M will be leveraged from the private sector.
- The parties launched the joint call partnership in March 2017 to seek out clean energy projects and technologies to mitigate or avoid provincial greenhouse gas (GHG) emissions, including prototype deployment, field testing, and commercial-scale demonstration projects.
- A streamlined and harmonized application process provides companies with a single-window approach to access funding from both the provincial and federal governments to support the development and demonstration of emerging clean technologies in BC.
- The ICE Fund exceeded the original target of a 1:1 leverage ratio for federal funds and a total of 2:1 combined federal and industry funding to provincial contributions. With BC's \$20.82 M, SDTC has committed \$81.5 M to these approved projects. Total project investments is \$334.9 M.
- The partnership with SDTC has leveraged significant federal and private investments into BC's clean energy technology innovation sector and is an example to other federal funding agencies (e.g. Natural Resources Canada; Innovation, Science and Industry Canada; Pacific Economic Development Canada) that the Province is interested in developing further partnerships to undertake investments in clean energy and GHG reduction projects.

Background/Status:

- The ICE Fund is a Special Account designed to accelerate the marketability of

2022/2023 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

emerging clean energy technologies with its own statutory funding authority.

- SDTC is a policy delivery foundation for the Government of Canada with a mandate to deliver environmental and economic benefits to Canada. Its focus is on the development and demonstration of technological solutions that address clean air, climate change, clean water and clean soil.
- Under the Government of Canada's foundational Climate Plan, the Pan-Canadian Framework on Clean Growth and Climate Change, BC and the Government of Canada agreed to work together to spur the development and commercialization of new technologies that will reduce emissions and create jobs for Canadians.
- In addition to enabling the ICE Fund to leverage federal investment, the partnership allows the Ministry to benefit from SDTC's additional resources for conducting due diligence and expert reviews during the project evaluation process, while maintaining independent decision-making authority and governance requirements.

Current Joint-Call Status

- The ICE Fund has committed \$20.8 M in funding through 2021/22 towards sixteen projects. SDTC has committed \$81.5 M to these approved projects. The total project cost exceeds \$334.9 M. Spending chronology and project details are provided in Attachment 1.

Attachment 1: Joint Call 2017/2018 to 2019/20 Overview; Tables A, B, C and D (ICE Fund 2019/2020 - 2022/23 Committed Project Expenditures); see next page

Cross Reference: 17 - Innovative Clean Energy Fund

Contact:

Les MacLaren

Assistant Deputy
Minister

Electricity & Alternative
Energy Division

Government
Financial

2022/2023 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

ATTACHMENT 1:

Table A: Joint Call 2017/2018 - 2020/21 Approved Projects

Sustainable Development Technology Canada (SDTC) Partnership	Project	Total ICE Fund Expenditure (\$ millions)
D-Wave Systems Inc. (2017/2018)	Next-Generation Quantum Computer	2.000
Canfor Pulp	Pulp Mill Biocrude	3.000
Clir Renewables	Software to increase energy production at Wind Farms	1.494
Consolidated Biofuels	Polyurethane from biobased organics	0.875
Ionomr Innovations Inc.	Membrane technology for clean energy systems	2.357
MineSense Technologies	Sensor systems and data optimization for mining	2. 000
Advanced Intelligent Systems	Autonomous, battery-driven cart puller for plant nurseries	0.950
Recyclesmart	Hardware system for optimizing garbage collection and diversion to recycling	0.606
Nano One	Low-cost high-performance battery materials for electric vehicles	3.033
Cryologistics	Cryogenic pallet container for cold storage	1.439
Miru (Formerly Click Materials)	Next-generation smart glass electrochromic windows that electronically tints windows	0.300
Pani Energy	Water treatment plant optimization using advanced artificial intelligence	0.838
Total		17.592

2022/2023 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

**Table B: ICE Fund Committed Project Expenditures - Treasury Board Decision
DATE May 28, 2021**

<u>Total Project Funding from Re-allocated Unspent Funds</u>	<u>Project</u>	<u>Expenditure (\$ millions)</u>
Miru Smart Technologies	Development of next generation electrochromic windows	0.300
Axine Water Technologies	Electrochemical oxidation of difficult to treat organic pollutants in industrial wastewater resulting in 20% - 30% lower costs than incineration	1.000
Ecoation Innovative Solutions	Robot and Artificial Intelligence enabled Farming as a Service platform for greenhouses that reduce pesticide use and increase grower yield by 5 per cent	0.200
Terramera	Plant Intelligence Engine for digital remote verification of soil carbon content increases from regenerative farming practices	1.000
Total Project Funding		2.500

Table C: Minister's Approval to Re-allocate Unspent Funds on February 22, 2022

<u>Total Project Funding from Re-allocated Unspent Funds</u>	<u>Project</u>	<u>Expenditure (\$ millions)</u>
Open Ocean Robotics	Development of autonomous solar-powered, un-crewed surface vehicles and ocean data analytics platforms for maritime monitoring for marine life and security monitoring	0.700
Total Project Funding		0.700

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: \$25 Million for Clean Tech Partnerships with the Federal Government

Drafted/Revised: March 17, 2022

Issue: \$25 million (M) to support Clean Technology Investments and Partnership Opportunities with the Federal Government

Response:

- British Columbia (BC)'s Budget 2022 provides Contingencies funding of \$25 M in 2022/23 to support clean energy/technology investments and partnership opportunities with the federal government to support CleanBC objectives.
- The intention of this funding is to leverage the unprecedented level of clean technology funding through the Government of Canada's *Healthy Environment and Healthy Economy* climate plan.
- The \$25 M in Provincial funding will leverage federal and industry funding to invest into the clean technology innovation partnerships in a variety of sectors.
- The purpose of these partnerships will be to enable shaping the priorities of decarbonization funding that supports provincial greenhouse gas (GHG) reduction objectives in CleanBC and net-zero by 2050.
- Building on the successful partnership between the Innovative Clean Energy (ICE) Fund and Sustainable Development Technology Canada (SDTC), these partnerships will accelerate technology development in B.C. and reinforce B.C.'s leadership in clean energy and technology innovation.
- Contingencies funding was originally provided in Budget 2021. Budget 2022 reprofiled the Province's \$25 M commitment for the clean energy/tech partnerships, and funding can be accessed from CleanBC Contingencies.

Background:

- In December 2020, Canada released its strengthened climate plan, *A Healthy Environment and a Healthy Economy* with \$15 billion in spending commitments. Canada's Budget 2021 committed a total of \$17.6 billion included government support for a range of decarbonization initiatives and investments.
- Examples of the significant investments in the Government of Canada's *A Healthy Environment and a Healthy Economy* climate plan include:

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- SDTC was recapitalized with \$750 M over seven years announced in December 2020.
- A total investment of \$8 billion Strategic Innovation Fund (SIF)'s Net-Zero Accelerator (NZA) over seven years.
- The Jobs and Growth Fund (JGF) administered by the newly created Pacific Economic Development (PacifiCan, formerly Western Economic Diversification), is a \$700 M federal program to support regional job creation and position local economies for long-term growth, including cleantech development.

Status:

- In order for BC companies to access this unprecedented investment in clean energy and clean technology development, the Province is currently developing a select number of high potential partnership opportunities with federal government agencies to use the \$25 M to leverage larger amounts of total funding to support CleanBC objectives.

Cross Reference: 17 – ICE Fund

Contact:

Les MacLaren	Assistant Deputy Minister	Electricity and Alternative Energy Division	Government Financial
--------------	---------------------------	---	----------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Geothermal Energy

Revised: March 21, 2022

Issue: Geothermal Energy Potential and Issues.

Response:

- British Columbia (BC) has several promising geothermal energy prospects.
- Exploration risk, high cost, and long development timelines have made geothermal development less attractive than other clean energy sources.
- BC Hydro is forecast to have a surplus of electricity into the 2030s. Electricity generated from geothermal resources could provide a significant source of both renewable energy and firm capacity for BC in the future.
- Direct-use projects, where heat is used directly for commercial or industrial purposes, can provide an alternative to natural gas combustion. Direct-use projects are limited to areas near geothermal prospects.

Background/Status:

- Under the *Geothermal Resources Act* (GRA) of 1982, geothermal resources are defined as water or steam that is greater than 80°C when produced at surface.
- The GRA and regulation:
 - vest ownership of all geothermal resources in BC with the Crown;
 - regulate exploration for, and the development and use of, these resources through permits and leases;
 - set out a framework for the disposition of geothermal resources based on a bid system similar to petroleum resources; and
 - allow geothermal resource tenures to be issued through an agreement approved by the Lieutenant Governor in Council (LGIC).
- Geothermal permits confer the subsurface rights to the tenure holder for the purposes of exploration. Geothermal permits are one year in length and may be renewed up to seven times through an administrative process. If a permit holder discovers a geothermal resource through the drilling of a well, they may apply for a geothermal lease which allows development and production of the resource.
- The BC Oil and Gas Commission (OGC) oversees the regulatory framework for exploration and development activities. Advice/Recommendations
Advice/Recommendations

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston
Advice/Recommendations

Notable Geothermal Projects

1. Clarke Lake - Fort Nelson

- This exploration permit was awarded to Deh Tai GP, a development corporation of the Fort Nelson First Nation (FNFN) through an agreement approved by the LGIC in January 2020.
- The proposal is to utilize the geothermal resource underlying the Clarke Lake Gas Field to generate 5 megawatts (MW) to 15 MW of electricity.
- In March 2021 the federal government announced \$40.5 million in funding for this project, primarily through the Natural Resources Canada (NRCan) Emerging Renewable Power Program.
- Fort Nelson is not integrated into the BC electricity transmission system, but has a small interconnection into Northern Alberta. A 73 MW combined cycle natural gas generator serves the Fort Nelson area. Any new renewable generation in the area would offset electricity generated by natural gas or imported from Alberta.
- Unlike most geothermal prospects in BC, the geothermal resource at Clarke Lake has been confirmed by data collected from past petroleum exploration and development wells.
- The FNFN requested an additional permit in June 2021 at Clarke Lake which would allow the project to consider direct-use geothermal opportunities as well. This permit is in process with an expected decision in mid-2022.

2. Cameron Lakes – West Moberly First Nation

- The West Moberly First Nation (WMFN) requested a geothermal permit near their home community to utilize a modest geothermal resource to heat a greenhouse.
- EMLI issued the geothermal permit through an agreement approved by the LGIC in March 2021.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

3. Canoe Reach – Valemount

- Borealis Geopower has a geothermal permit at the north end of Canoe Reach on the Kinbasket Reservoir that was issued in November 2017. This permit was also through an agreement approved by the LGIC.
- Advice/Recommendations

4. Lakelse - Terrace

- Borealis Geopower in partnership with the Kitselas First Nation acquired a geothermal permit at auction in January 2014 and formed a joint development company, Kitselas Geothermal Inc. (KGI).
- KGI has proposed to provide heat to the neighboring Skeena Industrial Development Park, Terrace city center, and the Terrace airport.
- Advice/Recommendations

5. Lillooet Valley – Mount Meager

- Tecto Energy acquired at auction the geothermal permit on the north side of Mount Meager near Pemberton in July 2011.
- The site is highly prospective and was first explored by BC Hydro in the 1980s.
- Advice/Recommendations
- The permit was renewed for a further one-year term in July 2021.

6. Lease at Mount Meager

- The only geothermal lease in BC was first issued in 1987 to BC Hydro on the south side of Mount Meager.
- Several wells have been drilled at Mount Meager, with the most recent in 2004. The wells have confirmed a heat resource but have not encountered a commercially viable reservoir.
- The lease was renewed in December 2017 under the terms of the lease for an additional 20-year term.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- The OGC has expressed concern that some of the wells may need remediation and that equipment is still on site.
- Ownership of the lease was recently transferred. The project developers are proposing to use the electricity generation to produce electrolytic hydrogen in the Pemberton Valley rather than pursue an electricity purchase agreement with BC Hydro.

Contact:

Les MacLaren

ADM

Electricity and Alternative Energy
Division

Government Financial
Information

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: CleanBC

Drafted/Revised: March 21, 2022

Issue: CleanBC Implementation – Roadmap to 2030

Response:

- British Columbia's (BC's) 2018 climate plan, CleanBC and the updated 2021 CleanBC Roadmap to 2030 (Roadmap), are detailed plans on how BC will create a vibrant, resilient, low carbon future and meet our greenhouse gas (GHG) emissions targets.
- The focus of CleanBC is on energy efficiency, clean fuels and electrification in order to reduce GHG emissions and overcome BC's dependency on fossil fuels.
- In Budget 2022, Government announced an additional \$1 billion in new funding to support CleanBC and the Roadmap.
- Under the Roadmap, in order to maximize reductions in greenhouse gas emissions, we are expanding clean transportation programs and the BC Low Carbon Fuel Standard, implementing a GHG emissions cap for natural gas utilities, implementing the BC Hydrogen Strategy, and continuing to build out the CleanBC Better Homes and Buildings programs.
- Our current forecast projects that the GHG emissions curve will have begun to bend downwards starting in 2020, thanks in part to CleanBC actions and temporary emissions reductions from the COVID-19 economic downturn.
- Overall, the carbon intensity of BC's economy has decreased 19% since 2007, and GHG emissions per capita has gone down 12% since 2007.
- The Climate Solutions Council provides independent advice to Government on CleanBC to strengthen our actions moving forward.

Background/Status:

- CleanBC and the Roadmap are a collaborative effort of many ministries across the BC Government.
- The Ministry plays a leading role in developing policies, programs and standards that improve energy efficiency and reduce GHG emissions.
- BC's legislated emission targets for 2030, 2040 and 2050 are 40%, 60% and 80% below 2007 levels, respectively. The Province has also set sectoral targets and will develop legislation to ensure BC reaches net-zero emissions by 2050.

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- In 2020, a new interim GHG reduction target was set at 16% below 2007 levels by 2025. It provides a benchmark on the road to 2030.
- Launched in December 2018, CleanBC set out the pathway to achieve 75% of the 2030 emission reduction target.
- The recently released Roadmap, together with CleanBC, set out actions to achieve 100% of the 2030 target.
- The Roadmap includes a wide range of accelerated and expanded actions that will be implemented in this mandate to reduce pollution and build a cleaner, stronger economy for everyone, including:
 - accelerated Zero Emission Vehicle Standard targets, a strengthened Low Carbon Fuel Standard, and a new emissions cap for natural gas utilities;
 - a revised carbon pricing system to meet or exceed the federal benchmark, with supports for people and businesses;
 - requirements for new industry projects to have enforceable plans to reach net-zero emissions by 2050;
 - near elimination of methane emissions by 2035 in oil and gas, mining, industrial wood waste and other sectors; and
 - a new program to support local government climate and resiliency goals with predictable funding.
- The Province conservatively expects the Roadmap to lead to gross domestic product increases of 19% by 2030 and job growth of 7% by 2030. The economic benefits could be greater if, for example, new clean technologies turn out to cost less than expected, or more jurisdictions act rapidly on climate change.
- In 2019, BC's net GHG emissions were 67.2 megatonnes (Mt) of carbon dioxide equivalent (Mt CO₂e). This represents a net increase of 2% from 2007 levels (1.5 Mt CO₂e) due to increased industrial and transportation emissions, as well as changes in the methodology to quantify deforestation and waste emissions.
- In 2021, Government released the annual Climate Change Accountability Report which outlines progress over the previous year of CleanBC implementation.

Transportation Successes:

- In 2019, transportation remained the largest source of BC's emissions. While emissions from this sector decreased slightly from 2018 (-0.2 Mt CO₂e), emissions since 2007 have increased 22%, largely due to increases from heavy-duty vehicles (+29%) and to a lesser extent from passenger vehicles (+14%).

2021/22 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- BC is a leader in clean transportation, with the highest zero emission vehicle (ZEV) adoption rate in North America in 2021 (13% of new light-duty vehicle sales), one of the largest public charging networks in Canada, the largest public hydrogen fuelling network in Canada, and a world-leading hydrogen and fuel cell industry.
- In May 2019, the Province passed the *Zero-Emission Vehicles Act* (ZEV Act) which requires automakers to meet increasing ZEV sales targets reaching 10% of new light duty vehicle sales by 2025, 30% by 2030, and 100% by 2040. The Roadmap accelerated the ZEV sales targets to 26% by 2026, 90% by 2030 and 100% by 2035, and announced the introduction of new ZEV targets for medium- and heavy-duty vehicles. The purpose of the ZEV Act is to ensure increased ZEV availability and choice at more affordable prices in BC.
- Budget 2022 includes \$66 million (M) for the CleanBC Go Electric Program, including: \$10 M for home and workplace charger rebates; \$20 M for investments in public charging; \$30 M for zero-emission commercial vehicle projects; and \$0.375 M for local and Indigenous government planning.
- The Roadmap committed to developing a Clean Transportation Action Plan to identify the next set of concrete actions across five foundational areas: vehicle kilometres travelled (VKT) reduction; mode shift to efficient modes; vehicle efficiency; ZEVs; and fuel efficiency - to ensure BC meets its legislated and Roadmap transportation targets.
- The BC Low Carbon Fuel Standard (LCFS) is the single largest contributor to meeting the targets set out under CleanBC.
- The LCFS was extended from a 10% reduction in carbon intensity in 2020 to a 20% reduction by 2030 which is expected to directly deliver 4.3 Mt of GHG emission reductions in 2030, representing 16% of CleanBC's current 2030 target.
- At a 30% reduction in 2030, as contemplated in the Roadmap, an additional 2.4 Mt of reductions is expected for a total of 6.7 Mt tonnes of reductions in GHG emissions in 2030, which represents 25% of CleanBC's current 2030 target.
- Additional policy changes to the LCFS that are supported by the Roadmap include:
 - Recognizing jet fuel as a new category of fuel, and enabling regulations to create other fuel categories, such as marine fuels; and
 - Providing compliance credits for direct air capture with geologic sequestration of eligible greenhouse gases, such as carbon dioxide.
- In order to meet the increased demand for cleaner fuels, the Roadmap committed the Province to ramping up new production of 1.3 billion litres of renewable fuels by 2030.

2021/22 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- LCFS Part 3 Agreements currently support projects that could result in the production of 880 million litres of low carbon renewable fuel by 2025. The Ministry will continue to work to ensure that these projects are successful, while working with industry to achieve the 1.3 billion litre production goal for 2030.

Clean Industry Successes:

- Emissions in the industry sector were largely flat in 2019 compared to the previous year and increased by 2% compared to 2007 levels.
- Emissions in the oil and gas sector have decreased slightly since 2007 (-1%). Venting and flaring emissions are down by 31% from 2007 levels, while oil and gas extraction emissions are up 10%.
- In January 2021, government announced the CleanBC Industrial Electrification Rates comprised of two categories – clean industry and innovation, and fuel switching. The rates provide a 7-year discount from BC Hydro's standard industrial electricity rate: 20% for the first 5 years, 13% in year 6 and 7% in year 7.
- On the capital cost side, government also announced in January 2021 that it directed \$84.4 M from the Government of Canada's Investing in Canada Infrastructure Program (ICIP) to create a new CleanBC Facilities Electrification Fund that will provide support to customers to reduce the costs of connecting to the electricity grid or upgrading their connections to use more electricity and reduce air pollution.
- The Province funded 22 emissions-reduction projects across the province together with industry in early 2021 through the CleanBC Industry Fund.
- The Province released the BC Hydrogen Strategy to accelerate the production, use and export of low carbon hydrogen.
- To lower carbon emissions and drive the transition from fossil natural gas to renewable gas, the Province is putting in place a new GHG emissions cap for BC's natural gas utilities. The cap will be set at 6 megatonnes of carbon dioxide emissions per year for 2030, which is 47% lower than 2007 levels. Gas utilities will have the flexibility to undertake a broad range of actions and investments to reduce the GHG emissions associated with the use of the natural gas they provide to their customers.

Buildings and Communities Successes:

- Emissions in the buildings and communities sectors have fallen by 12% compared to 2007 levels, driven by decreases in emissions from residential and commercial buildings (-8%).
- The CleanBC Better Homes and Better Buildings program provides financial incentives to help households, businesses and the public sector save energy and

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

reduce GHG through heating equipment replacement and building envelope improvements.

- CleanBC Better Homes and Better Buildings has \$71.6 M in base funding from fiscal 2023 through fiscal 2025.
- The program was expanded to include a stand-alone income qualified program, which launched in February 2022. The program provides high value incentives to low- and moderate-income households and is complementary to current residential and income-qualified rebates offered by the Province, BC Hydro and FortisBC.
- As of December 2021, the program has provided 30,500 residential retrofit rebates, approved pre-registrations for 436 residential new construction projects and disbursed 66 incentives, and approved 243 capital incentives for commercial, institutional, and multi-unit residential building energy efficiency and fuel-switching projects.
- Fifty-eight communities now reference the BC Energy Step Code in municipal policy or regulation for new building construction. The Step Code sets out a series of energy efficiency requirements beyond the base BC Building Code.
- The Roadmap announced new requirements for all new buildings to be zero carbon and new space and water heating equipment to be of the highest efficiency by 2030.
- By the end of 2021, the CleanBC Remote Community Energy Strategy (RCES) will have achieved 5% of the CleanBC commitment to reduce the GHG emissions from diesel electricity generation by 80% by 2030.
- RCES programs support the capacity of Indigenous remote communities, and the planning, development and implementation of diesel-displacing energy efficiency and renewable energy generation projects.

Cross Reference:

Zero Emission Vehicles Act/ Regulation
CleanBC Go Electric Program
Clean Transportation Action Plan
Low Carbon Fuel Standard
CleanBC Electrification Rates

CleanBC – Better Homes and Buildings
Renewable Gas Legislation
BC Hydrogen Strategy
Remote Community Energy Strategy

Contact:

Les MacLaren

ADM

Electricity and
Alternative Energy

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Decarbonizing BC's Natural Gas Distribution System

Drafted/Revised: March 21, 2022

Issue: Amending the *Utilities Commission Act* to Decarbonize the Natural Gas Distribution System in British Columbia

Response:

- To dramatically lower carbon emissions and drive the transition from fossil natural gas to renewable gas, we're putting in place a new GHG emissions cap for British Columbia (B.C.)'s natural gas utilities.
- The Greenhouse Gas Reduction Standard (GHGRS) implements a commitment in the CleanBC Roadmap to 2030.
- The standard will require gas utilities to further lower GHG emissions from fossil natural gas used to heat homes and buildings and power industry.
- Based on comprehensive modelling and analysis, and input from natural gas utilities and stakeholders, the cap will be set at 6 mega tonnes of carbon dioxide emissions per year for 2030, which is 47% lower than 2007 levels.
- Advice/Recommendations
- The GHGRS will stimulate the renewable and low-carbon gas industry and encourage innovation and the development of new technologies, opening new jobs and economic opportunities for Indigenous Nations and others.
- Advice/Recommendations

Background/Status:

- Under the CleanBC Roadmap to 2030 (Roadmap), Government has committed to implementing a legislated requirement for FortisBC and Pacific Northern Gas (gas utilities) to limit the GHG emissions of their buildings and industry (excluding Liquified Natural gas and upstream oil and gas) customers to 6.11 MT by 2030. This proposed emissions cap aligns with B.C.'s sectoral GHG targets.
- Advice/Recommendations

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Advice/Recommendations

-
-
- In January 2022, the Ministry engaged the Deetken Group to review and assess the estimated rate impacts from the GHGRS modelled under the model which informed development of the Roadmap and the gas utilities' own projections.

Advice/Recommendations

- Advice/Recommendations

-

- The GHGRS could also play a key role in the success of various other Government strategies under CleanBC, including the Hydrogen Strategy.
- The only other jurisdiction currently implementing a GHGRS-like approach is Colorado. In June 2021, Colorado introduced "Clean Heat Standard" legislation which requires gas utilities to develop cost-effective "Clean Heat Plans" to reduce GHG emissions in buildings and businesses by 4% by 2025 and 22% by 2030, with more ambitious targets to be set for future years. As with the proposed GHGRS implementation approach, Colorado's framework is administered by the Colorado Public Utilities Commission.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- The Ministry is working closely with the Climate Action Secretariat staff and will be bringing forward a Cabinet Submission this spring for approval to develop a Request for Legislation to implement the GHGRS.

Cross Reference: 21 - CleanBC

Contact:			
Les MacLaren	Assistant Deputy Minister	Electricity and Alternative Energy Division	Government Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: Enabling LNG Marine Bunkering at the Port of Vancouver

Revised: March 21, 2022

Issue: Advice/Recommendations

Response:

- LNG marine bunkering in British Columbia (BC) has the potential to bring broad economic benefits, increase the competitiveness at the Port of Vancouver, and improve the economic strength of the broader marine and natural gas sectors.
- Demand is estimated to be up to almost 1 million tonnes of LNG per year in 2030, with the Container and Tanker segments offering the biggest opportunity, potentially taking more than 50% of the FortisBC's planned Phase 1B capacity expansion of its Tilbury facility. FortisBC is also working to develop its export and shipping container market segments.
- The Port of Vancouver is well-positioned to establish a ship-to-ship LNG marine bunkering (fuelling) service, one of the first of its kind on the west coast of North America.
- LNG-fuelled ships are able to meet new international emission guidelines and this initiative would give BC and Canada a head-start on a competitive service that will have a positive environmental impact and provide significant benefits to the provincial economy.
- Work on the necessary components is underway: plans for the expansion of FortisBC's existing Tilbury LNG facility in Delta, including a fuelling jetty, are in the environmental assessment process; and support from an incentive available under the Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR) has allowed Seaspan to order three LNG fueling vessels.

Background/Status:

- The International Maritime Organization's January 1, 2020 Sulphur Cap bans ships trading inside Sulphur Emission Control Areas (those areas following coast lines and including ports) from using marine fuels with a sulphur content higher than 0.5%. The global impact of this cap makes switching to a low-sulphur fuel like LNG attractive to ship owners.
- Advice/Recommendations

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- Under the previous government, directions were made to the British Columbia Utilities Commission (BCUC) to support FortisBC in expanding its LNG facilities near the port to strengthen energy system resiliency and position BC for activities in LNG bunkering.
- For example, under Direction Number 5 to the BCUC (Direction 5), the Province has required the BCUC to allow FortisBC to spend:
 - up to \$425 million to expand its existing LNG liquefaction and storage facilities at Tilbury (Phase 1A). The direction also established a liquefaction tariff; and
 - an additional \$400 million to further expand Tilbury (referred to as Phase 1B), and

to recover these costs from its ratepayers.

- In addition to Direction 5, the previous government enabled FortisBC to spend up to another \$120 million to promote LNG for the marine sector under the GGRR, with up to \$50 million for a dedicated LNG powered marine bunkering vessel to kick start the LNG bunkering market.
- Exempting utilities from BCUC regulatory approvals has benefits:
 - Eases costly and time-consuming regulatory hurdles for utilities when making Final Investment Decisions (FID), and
 - Ensures Government objectives, such as GHG reduction, are at the forefront of the decision-making process.
- Advice/Recommendations

- Advancing the Phase 1B expansion is contingent on two separate elements: Business Information; Advice/Recommendations

- The Tilbury Marine Jetty includes the berthing and transferring of LNG via pipeline from the adjacent FortisBC Tilbury LNG Plant to marine barges and carriers for delivery to local fuel markets and offshore export markets. The

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

project will require the removal of existing abandoned marine infrastructure, the construction of a new marine jetty, the construction of LNG infrastructure to receive processed LNG for transfer to marine vessels, and safety and process control systems.

- Business Information; Advice/Recommendations

- FortisBC also intends to build a further expansion, Phase 2, under a non-regulated entity and submitted its application to the Environmental Assessment Office in March 2020 for the required environmental certificates. The application is now in the public comment phase.
- Concerns about the cumulative effects on the environment and Indigenous rights have been raised by Tsawwassen, Musqueam, Squamish and Tsleil-Waututh First Nations in the environmental assessment processes for the marine jetty and Phase 2 respecting the Tilbury expansion.
- A number of municipalities are opposed to the Phase 2 expansion of the Tilbury LNG facility in Delta. A 2021 Union of BC Municipalities resolution (NR32) called for an inter-agency, Fraser River Estuary Management planning process and collaboration with federal, provincial, municipal and Indigenous levels of government.

Attachments: Proposed Tilbury LNG Facility (see next page)

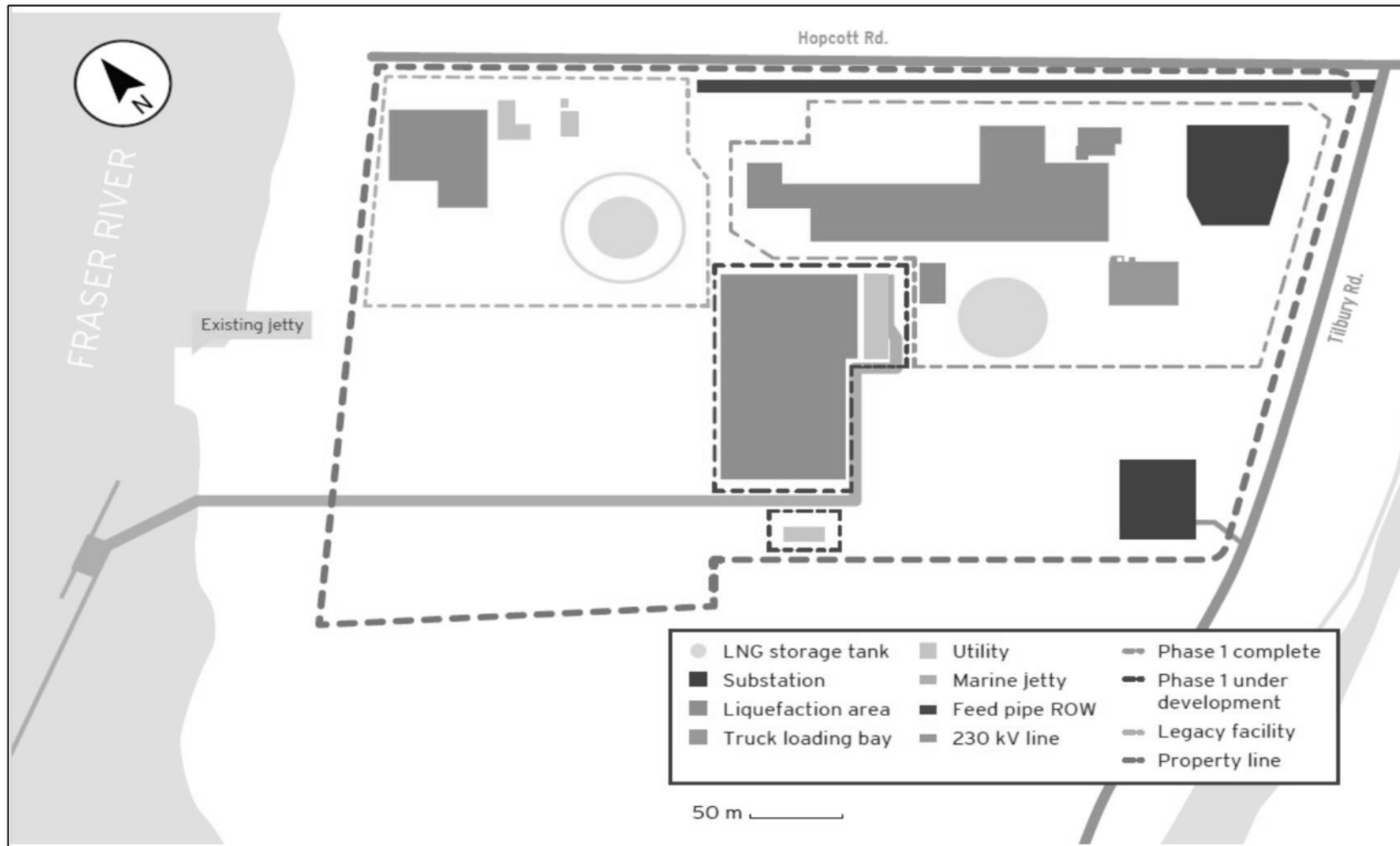
Cross Reference: n/a

Contact:
Les MacLaren Assistant Deputy Electricity and Alternative Government
Minister Energy Division Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Attachment: Proposed Tilbury LNG Facility



2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: B.C. Hydrogen Strategy

Drafted/Revised: March 21, 2022

Issue: B.C. Hydrogen Strategy

Response:

- CleanBC committed the Province to develop a hydrogen strategy (Strategy).
- Hydrogen will be required if the Province is to achieve net-zero greenhouse gas (GHG) emissions by 2050, as hydrogen is one of the only practical replacements for fossil fuels in the hardest-to-abate sectors.
- The Strategy highlights British Columbia's (B.C.) leadership in hydrogen and fuel cells and hydrogen's role in decarbonizing transportation, natural gas, and industry while creating clean jobs and economic opportunities across the Province.
- The B.C. Hydrogen Strategy includes 63 policy actions that support and promote the production, use and export of hydrogen in B.C. over the next 10 years, and beyond. The five initial priorities for 2022/23 are: Committing \$5 million to a \$15 million hydrogen blending study, establishing a declining carbon intensity threshold, planning hydrogen hubs, performing regulatory mapping, and developing a carbon dioxide storage atlas for Northeastern B.C.
- B.C. has proposed the establishment of a joint Federal-Provincial Inter-Agency Hydrogen Table to develop hydrogen projects in the Province.

Background:

B.C. Hydrogen Strategy Implementation:

- The Strategy builds upon B.C.'s globally recognized hydrogen and fuel cell leadership, and its abundant clean energy resources.
- The Strategy includes 63 policy actions that clarify how the Province will support and promote the production, use and export of hydrogen in B.C. over the next 10 years and beyond.
- Currently, B.C. is progressing five initial priorities that have been identified as key to growing B.C.'s hydrogen sector.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- These initial priorities are:
 - Committing \$5 million to a \$15 million hydrogen blending study jointly led by Enbridge, FortisBC and Pacific Northern Gas to examine the technical, economic, and regulatory requirements to introduce hydrogen into B.C.'s natural gas pipeline transmission and distribution network;
 - Establishing a declining carbon intensity threshold for low-carbon hydrogen production to align with our net-zero by 2050 target;
 - Developing Hydrogen Investment Blueprints to promote hydrogen commercialization in regional hydrogen hubs;
 - Identifying legislative and regulatory gaps for project development; and,
 - Developing a carbon dioxide storage atlas to quantify the geological storage capacity of Northeastern B.C. and enable the development of low-carbon hydrogen from natural gas.
- EMLI has signed a Trusted Partnership with the B.C Centre for Innovation and Clean Energy (Centre) to collaborate in areas that support the Province's clean energy objectives and more specifically, in areas that align with the initial implementation priorities of the Strategy.
- This partnership will enable the Province to leverage the Centre's ability to act with more autonomy and flexibility than the government to rapidly progress shared climate objectives, and the Centre to build its brand as a key contributor to decarbonization.
- The Centre is a member-based non-profit that became operational in October 2021.
- The Centre is funded by \$35 million from B.C., \$35 million from the federal government, and \$35 million from Shell for a total of \$105 million to support the growth of clean, innovative technologies, including hydrogen.
- A streamlined and harmonized regulatory framework is required to attract new investments and enable timely and successful development of hydrogen projects in B.C. To achieve this, the Province has proposed to Canada the establishment of a joint Federal-Provincial Inter-Agency Hydrogen Table with representatives of both government levels to:
 - Collaborate on investor/stakeholder relations for large, complex hydrogen projects;
 - Coordinate on the initial screening of projects to identify key projects with high domestic strategic value warranting Federal and Provincial support; and,
 - Advance an efficient regulatory and permitting framework.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Cross Reference: 25 - British Columbia Centre for Innovation and Clean Energy

Contact:

Les MacLaren	Assistant Deputy Minister	Electricity and Alternative Energy Division	Government Financial Information
--------------	------------------------------	--	-------------------------------------

202/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low-Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

Title: British Columbia Centre for Innovation and Clean Energy

Revised: March 21, 2022

Issue: Supporting innovation and the commercialization of clean energy projects to meet CleanBC targets

Response:

- In September 2021, as part of StrongerBC, the British Columbia Centre for Innovation and Clean Energy (CICE or Centre) was announced and became operational on October 25, 2021.
- CICE is funded by \$35 million from B.C., \$35 million from the federal government, and \$35 million from Shell, for a total of \$105 million.
- CICE's focus will initiate new technology pathways that accelerate larger reductions on the path to net-zero emissions by 2050.
- In February 2022, CICE and the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) established a five-year Trusted Partnership and Shared Cost Arrangement (SCA) to collaborate on implementation of the B.C. Hydrogen Strategy (Strategy).
- To achieve four objectives as part of the initial Strategy implementation, EMLI's financial contribution will support the development of the following four studies:
 1. Hydrogen Production Carbon Intensity Threshold Study;
 2. Hydrogen Investment Blueprint – Metro Vancouver Region “Hubs”;
 3. Regulatory Mapping Study; and,
 4. Northeast B.C. Carbon Capture and Storage (CCS) Atlas.
- EMLI has transferred \$998,000 to CICE for the purpose of hiring external consultants to complete the four deliverables on EMLI's behalf.

Background/Status:

- CICE is a member-based, non-profit corporation designed to support the development and global scaling of B.C. based energy technologies, including hydrogen, with the primary focus on commercialization.
- CICE provides early-stage opportunities in the following areas prioritized for funding and project delivery; the production, use and distribution of low carbon hydrogen, carbon capture, utilization and storage (CCUS); biofuels and synthetic fuels (including marine and aviation fuels); renewable natural gas; and battery technology, storage and energy management systems.

202/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low-Carbon Innovation
Minister Responsible: Honourable Bruce Ralston

- CICE's intent is to attract a wide range of companies and partners that share a common focus on low-carbon innovation and scaling up B.C.-based clean-energy technology.
- By design, CICE's mandate and priorities are very closely aligned with EMLI's work on decarbonization and energy system transformation, as well as the CleanBC Roadmap to 2030 objectives to build B.C.'s low carbon economy.
- EMLI and CICE officials agree that maintaining a consistent and open line of communication, such as that permitted through a Trusted Partnership agreement, will optimize progress towards shared priorities.

Cross Reference: 24 - BC Hydrogen Strategy

Contact:

Les MacLaren

Assistant Deputy
Minister

Electricity and
Alternative Energy

Government
Financial

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Title: Mining Regulatory Excellence

Revised: March 22, 2022

Issue: Advancing near term mining projects into FID and advance reconciliation with Indigenous Nations

Response:

- Budget 2022 provides \$18 million over the next three years to continue the Regulatory Excellence in Mining strategy and support robust and efficient decision-making processes across regulatory agencies
- Building on the government's commitments to advance Mining Jobs Task Force actions, EMLI is continuing to advance regulatory performance by:
 - Delivering more efficient and effective permitting to create quality economic growth opportunities;
 - Enhancing environmental sustainability and outcomes;
 - Implementing the Province's reconciliation goals by partnering with Indigenous Nations on mining related opportunities.

Background/Status:

- Building on the outcomes from the Mining Jobs Task Force and engagement with BCBC through the Low Carbon Industrial Strategy, EMLI is taking a renewed approach to regulatory performance in the mining sector.
- This approach is being overseen by an Executive Project Board (Board) made up of natural resource Deputy Ministers. The purpose of the Board is to ensure that permitting, environmental assessments (where applicable), and associated reconciliation efforts are conducted in a timely, coordinated and high-quality manner.
- Implementation of each regional strategy will be overseen by an Assistant Deputy Minister Committee and led by an Executive Lead.
- Key project activities include:
 - Enhanced project management approaches on major projects;
 - Advancing mining opportunities in partnership with Indigenous Nations;
 - Assessment of and improvements to the Province's statutory decision-making framework; and
 - Assessment of project specific economic barriers.

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

- This initiative will contribute to the Province taking advantage of opportunities to become a jurisdiction of choice to supply responsible low-carbon products and attracting investment from a growing pool of investors concerned about environmental, social and governance outcomes.
- Key outcomes to date include:
 - Establishment of the Southeast Secretariat (SE Secretariat) as a dedicated cross-agency team that acts as a single point of contact to manage the entire major mines regulatory process in southeast BC.
 - Secured incremental resources to add 38 new FTEs across mining regulatory agencies to ensure thorough and timely reviews and address backlogs in regional permitting (see Appendix 1 for full list of new positions).
 - Renewed investment of \$6.6M in the Ministry's technological systems to ensure internal major mine permitting processes are coordinated and efficient from FY22 through FY26.
 - The Province is negotiating a historic consent-based decision-making agreement based on Section 7 of DRIPA with the Tahltan First Nation on the Red Chris Expansion and Eskay Creek mines.
 - In 2021, EMLI approved several major mine expansion and restart projects:
 - Blackwater Gold Mine Early Works Project,
 - Bonanza Ledge Phase II Expansion,
 - Elk Gold Mine Restart,
 - New Afton B3 Zone Expansion,
 - Northeast Coal Stockpile Project at Wolverine Mine,
 - Gibraltar East Pit Expansion

Attachments: Appendix 1 – Distribution of incremental new resources across agencies

Cross Reference: Mining Jobs Task Force

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Appendix 1: Distribution of incremental new resources across agencies

Branch/Agency	Position
Regional Operations - ENV (7 FTEs)	Director (Band 5)
	Water Treatment Specialist (LSO3 DPE)
	Senior Biologist (Bio27)
	Research Officer (RO18)
	Policy Analyst (AO27)
	Senior Biologist Specialist (Bio27)
	Senior ENV Protection Officer (LSO3)
Mining Operations – EAO (3 FTEs)	Policy Director (Band 3)
	Project Assessment Officer (AO27)
	Project Director (Band 4)
South Area – FLNR (4 FTEs)	Water Officer (LSO3)
	Aquatic Biologist (Bio27)
	Habitat Biologist (Bio24)
	Stewardship Lead
Major Mines Office – EMLI (2 FTEs)	Senior Project Lead (LSO4)
	Senior ENV Geoscientist (LSO4)
SE Secretariat – EMLI/MIRR (3 FTEs)	Executive Lead (Band 6)
	Senior Advisor (AO27)
	Manager (Band 3)
Regional Operations – EMLI (6 FTEs)	First Nation Advisor (AO27)
	First Nation Advisor (AO27)
	Application Intake Specialist (AO21)
	Application Intake Specialist (AO21)
	Regional Inspector (STO27)
	Regional Inspector (STO27)
Regional Operations – EMLI (13 FTEs)	Senior Indigenous Relations Advisor (STO27)
	Permitting Inspector (STO27)
	Mines Authorizations Analyst (STO27)
	Senior Indigenous Relations Advisor (STO27)
	Permitting Inspector (STO27)

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

	Senior Indigenous Relations Advisor (STO27)
	Mines Authorizations Analyst (STO21)
	Senior Indigenous Relations Advisor (STO27)
	Mines Authorizations Analyst (STO21)
	Permitting Inspector (STO27)
	Mines Authorizations Analyst (STO21)
	GIS Team Lead (STO27)
	Project Management Analyst (AO21)

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Permitting Regional Mines- Standardization and Service Improvement Project

Revised: April 21, 2022

Issue: Industry concerns regarding timelines for processing applications for regional mines

Response:

- The Ministry is aware that industry is concerned about inefficiencies and long timelines for the processing of Notice of Work applications for permits on regional mines.
- Regional mines include mineral and coal exploration, placer, aggregate and stone quarries.
- The Ministry has worked with staff from EMLI and FLRN and with industry, with the help of an experienced consultant, to carry out a business process redesign for receiving applications.
- The revised process has been initiated and will reduce hand off delays in the process and get applications into the hands of the technical reviewers sooner.
- The Ministry is funding 19 new positions to help with regional permitting. Having all these positions filled and trained, along with the process improvements, is expected to improve permitting timelines.

Background/Status:

- The Ministry has also made improvements to application forms and has provided guidance to industry to assist them in submitting high quality applications that can be processed faster.
- The Ministry provided a virtual short course on permitting through AME, as additional guidance for proponents.
- The Ministry has filled 15/19 of the new positions to help with regional permitting. New staff are now going through the required Mines Inspector training for their role in the permitting process.
- As more of the positions are filled and training is completed, permitting is expected to become more efficient.
- Mineral exploration turnaround times are currently at a provincial average of 261 days, which is above the target of 190 days. The new Core IT system is allowing data to be collected and analyzed in a more timely manner so that adjustments can be made as needed.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Permitting timelines have been impacted by the volume of applications being submitted in this high cycle for mineral exploration, combined with a complex environment for Indigenous consultation and public expectation

Contact:

Peter Robb

ADM

MCAD

Government
Financial



British Columbia Geological Survey
Open File 2022-01



Mines, mine development, selected proposed mines, and selected exploration projects in British Columbia, 2021

Gordon Clarke, Bruce Northcote, Nate Corcoran, and Kirk Hancock

0 250
Kilometres

Property status (overlay on sector and predominant deposit group)

- Operating mine*
- Care and Maintenance**
- Mine development
- Proposed mine
- Exploration project
- Temporary shutdown

* Operated in, or for a portion of 2021
** Operated within the last 3 years

Sector and predominant deposit group (possible commodities listed beside)

Metal

- Porphyry - Cu, Mo, Au, Ag
- Vein, breccia, and stockwork - Au, Ag, Cu, Pb, Zn, Co, Te
- Sediment-hosted - Cu, Co, Pb, Zn, Au, Ag
- Epithermal - Au, Ag, Cu, Sn, Pb, Zn
- Marine volcanic association - Cu, Pb, Zn, Au, Ag
- Skarn - W, Cu, Fe, Au, Ag, Pb, Zn, Mo, Co
- Ultramafic/Mafic - Cu, Ni, PGE, Co, Au, Ag
- Manto - Ag, Pb, Zn
- Carbonatites - Nb, REE

Industrial

- Industrial rocks - Andesite, basalt, dimension stone, limestone, marble, pumice, shale, silica
- Sediment-hosted - Bentonite, magnesite, barite, kaolin, talc
- Chemical sedimentary rocks - Gypsum, diatomite, phosphate
- Continental sedimentary and volcanic rocks - Zeolite, silica
- Metamorphic-hosted - Graphite

Coal

- Metallurgical
- Thermal

Aggregate

- Aggregate

Miscellaneous

- Slag

Geology

Post accretionary assemblages

- Intrusives
- Supracrustal
- Neogene to Quaternary volcanic rocks

Terranes

- Outboard
- Alexander
- Wrangellia
- Cache Creek and affiliates

- Slide Mountain
- Stikinia
- Quesnellia
- Yukon-Tanana

Ancestral North America

- Cassiar
- Basinal strata
- Platformal strata
- Craton and cover

Mineral Development Office and Regional Geologist Contacts

Gordon Clarke, Director
604-660-2094
Gordon.Clarke@gov.bc.ca

Nate Corcoran
Northeast
North Central
250-645-9238
Nathan.Corcoran@gov.bc.ca
Fiona Katay
Southeast
250-952-0372
Geological.Survey@gov.bc.ca
Bruce Northcote
Southwest
604-660-2713
Bruce.Northcote@gov.bc.ca

- Vacant
- South Central
- Vacant
- Northwest

British Columbia Geological Survey

British Columbia Ministry of Energy, Mines and Low Carbon Innovation

Adrian Hickin, Chief Geologist and Executive Director
Yao Cui, Acting Resource Information Director
Neil Wildgust, Cordilleran Geoscience Director
Gordon Clarke, Mineral Development Office Director

Geological.Survey@gov.bc.ca
www.gov.bc.ca/geologicalsurvey

Clarke, G., Northcote, B., Corcoran, N.L., and Hancock, K., 2022. Mines, mine development, selected proposed mines, and selected exploration projects in British Columbia, 2021. British Columbia Ministry of Energy, Mines and Low Carbon Innovation, British Columbia Geological Survey Open File 2022-01.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: BC Geological Survey including critical minerals

Drafted/Revised: March 18, 2022

Issue: Update on the British Columbia Geological Survey

Response:

- British Columbia Geological Survey (BCGS) develops, disseminates, and acts as the custodian for British Columbia's (BC) geoscience data, information that attracts exploration and mining investment, increases exploration success, and informs nature resource decisions.
- BCGS is developing an inventory of 'critical' minerals to assess BC's potential to contribute to the global supply chain. These minerals are essential for the low carbon future, technology, and national defense.
- In addition to ongoing foundational geoscience activities, BCGS is a Canadian leader in geoscience digital transformation in support of developing innovative machine learning mineral potential information for land use decisions.
- BCGS continues to support economic development and recovery as public geoscience enhances a jurisdiction's competitiveness by reducing exploration risk. In BC, every \$1 provided to public geoscience typically results in \$5 of private sector investment.

Background/Status:

- BCGS's annual budget is approximately \$4.2 million.
- BCGS is compiling an inventory of critical minerals in BC to systematically review the significance of each to the BC economy and prioritise selected critical minerals for detailed assessment. Subsequent work will evaluate mineral potential for high priority minerals; the information will support policy development, evidence-based land use decisions, encouraging exploration investment, and support indigenous reconciliation.
- BCGS continues to support land use decisions by providing mineral potential assessments that ensure mining interests are included in land management strategies and negotiations.
- In December 2018, the Mining Jobs Task Force's (MJTF) final report recognized geoscience enhances BC's mineral exploration competitiveness, recommending an independent review of BC's delivery of geoscience through BCGS and Geoscience BC (March 2019).

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- To keep pace with other jurisdictions and maintain BC's status as a highly-competitive exploration destination, the independent review of BC's geoscience delivery found the dual-delivery model unsatisfactory and recommended increased base funding to BCGS and provide \$1-2 million/year of airborne geophysical and geochemical surveys.
- Public geoscience is a proven economic stimulant and the independent review noted that for every \$1 provided to public geoscience, it is expected that there will be \$5 of private sector investment. According to a recent Geological Survey of Canada evaluation of their programs, the return is >\$7 and audits of several Australian State public geoscience programs have realized >\$20 return on public geoscience funding.
- BCGS is the provincial agency that links the mineral industry, government, and British Columbians to the Province's geology and mineral resources. BCGS is governments geoscience agency with in-house expertise, whereas Geoscience BC is a non-government granting society. Both provide important geoscientific data in BC. However, Geoscience BC's activities are in addition to, and complimentary of BCGS's foundational public geoscience role.
- BCGS's key roles are to:
 - advise government on behalf of all British Columbians on the best use of the province's minerals resources;
 - create, maintain and deliver geoscience knowledge for informed decisions;
 - attract investment to explore BC for new mineral and coal resources;
 - act as the public steward of mineral resources for current and future generations; and
 - provide assessments on the nature and economic health of mineral exploration and the mining industry to guide government policy.
- BCGS is responsible for carrying out geological field surveys and publishing the resulting maps, data and reports, and providing geoscience expertise to support Government's objectives of responsible resource development and job creation.
- BCGS databases are world class and consistently rank in the top ten globally in the Fraser Institute's annual industry poll.
- BCGS leads the mining industry to frontier areas of BC with high mineral potential through strategic, multi-year geoscience projects.
- BCGS monitors industry activity, connects investment to BC's mineral resources and growth opportunities, and provides industry intelligence to government through the Mineral Development Office in Vancouver.

Cross Reference: Geoscience BC

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Geoscience BC

Drafted/Revised: March 18, 2021

Issue: Update on Geoscience BC

Response:

- Geoscience BC (GBC) has a mission to generate and publicly share high quality and unbiased earth science research and data that improves our collective level of geoscience knowledge; informs responsible natural resource development and investment decisions; catalyzes socio-economic opportunities; and stimulates innovation and geoscience technologies.
- GBC's most recent funding allocation from government was a \$5 million grant in 2019, and GBC has submitted additional funding requests annually.
- While no new funding was allocated to GBC in Budget 2022, the Ministry of Energy, Mines and Low Carbon Innovation will continue ongoing collaborations with GBC on projects related to minerals, water, wastewater, seismicity and clean energy.

Background/Status:

- GBC a non-government, not-for-profit society that has received \$76.8 million in grants from the British Columbia (BC) Government to fund mineral, oil and gas and water related geoscience activities since its inception in 2005.
- GBC provides geoscientific data support mineral and energy projects in BC. GBC's key roles are to:
 - take advantage of emerging opportunities by funding large, multi-million-dollar geoscience projects;
 - design and deliver high-profile geoscience programs in response to immediate industry needs and priorities;
 - rapidly release project results and data to industry, academia, governments, Indigenous Nations and communities; and
 - undertake community outreach, promote awareness of geoscience and attract investment.
- While originally focused on mineral geoscience, GBC now funds oil and gas, water quality, and energy projects.
- BC Geological Survey (BCGS) is the BC's government geoscience agency with in-house expertise whereas GBC is a non-government granting society. Both

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

provide important geoscientific data; however, GBC complements but does not replace or compete with the BCGS.

- Since 2012, the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) has undertaken extensive reviews of long-term funding options for GBC; however, no clear and practical options have emerged from analysis and industry consultation.
- An independent review of BC's current delivery of geoscience through BCGS and GBC was conducted in 2019 as recommended by the MJTF and concluded:
 - BC is falling behind other jurisdictions with respect to geoscience;
 - The current dual-delivery model is unsatisfactory;
 - Base funding to BCGS should be increased;
 - Coordination between GBC and the BCGS should be improved; and
 - \$1 to 2 million/year should be directed to airborne geophysical and geochemical surveys.
- In July 2020, a 3-year agreement was signed between GBC and BCGS detailing coordination and collaboration on mineral resources related geoscience. Despite this agreement, no new joint projects have been established and the Province has limited influence on GBC's future projects. In February 2022, GBC and the Geological Survey of Canada signed a similar 5-year memorandum of understanding.
- In the summer of 2021, GBC struck a funding task force to identify alternative options from the EMLI. GBC has applied to several strategic funds including PaciCan (formerly Western Economic Diversification) and Innovative Clean Energy Fund.
- GBC made a pre-budget submission to the Fed. Gov. in Aug. requesting:
 - core program funding of \$5 million per year to GBC for five years (a total of \$25 million).
 - Expanding the federal government's relationship with GBC to increase earth science research partnerships in Western Canada.
- Since the \$5 million grant in 2019, GBC has submitted regular funding requests to the Province. The most recent was received September 2021, and included:
 - Investing \$5 million annually in GBC; and
 - Assisting GBC to establish a sustainable long-term funding model.

Cross Reference: British Columbia Geological Survey

Contact:

Peter Robb

ADM

MCAD

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Mining Exploration Tax Incentive Programs

Revised: March 15, 2022

Issue: British Columbia's mining exploration tax incentive programs include the BC Mining Flow Through Share Tax Credit and the BC Mining Exploration Tax Credit. Both programs encourage exploration - a critical part of discovering sites for new mines.

Response:

- British Columbia's (BC) mineral exploration incentive programs include the BC Mining Flow-Through Share Tax Credit (MFTS) and the BC Mining Exploration Tax Credit (METC).
- Both programs encourage investment in mineral exploration, which is a critical part of discovering new mineral deposits which can lead to the development of new mines throughout the Province.
- The MFTS and the METC programs are highly competitive nationally and were made permanent in 2019 as recommended by the Mining Jobs Task Force (MJTF).
- At the beginning of September 2020, the eligibility period for flow-through share purchases was extended from 24 months to 36 months as a COVID-19 provincial support measure.
- Government will continue to evaluate the MJTF recommendation to increase the MFTS and METC.

Background/Status:

Provincial Exploration Tax Incentives

- The MFTS provides a 20 percent non-refundable tax credit to individuals who invest in flow-through shares associated with BC flow-through mining expenditures. The MFTS is completely harmonized with the federal Mineral Exploration Tax Credit for flow-through shares making the after-tax cost of qualifying flow-through share-financed grassroots exploration expenditures in BC among the lowest in Canada.
- The METC is a refundable tax credit equal to 20 percent of non-flow-through funded, eligible BC grassroots mineral exploration expenditures incurred after July 31, 1998. In Mountain Pine Beetle-affected areas, the METC has been increased by 10 percent to 30 percent for eligible exploration.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The MFTS and METC were made permanent as part of BC's 2019 budget. The credits had previously been renewed on an annual basis.
- At the beginning of September 2020, the eligibility period for flow-through share purchases was extended from 24 months to 36 months as a COVID-19 provincial support measure. This aligns with the Federal extension announced in July 2020. Extending the eligibility period provided exploration companies additional time to incur and renounce expenditures associated with flow-through share purchases made by investors in 2019 and 2020.
- Over the past five years (FY16/17 to 20/21), the METC and MFTS have been estimated to cost the Province \$32 million annually.
- BC had the third highest mineral exploration and deposit appraisal expenditures in Canada in 2021 at \$813 million. Ontario (\$878) and Quebec (\$965) are the only two provinces ranking higher than BC. Preliminary spending estimates published by NRCan project BC to surpass Quebec in expenditures in 2022.
- Both Quebec and Ontario have tax incentives for flow-through share investors while Quebec offers an additional tax incentive program similar to BC's METC program (Appendix 1).
- Advice/Recommendations

Federal Exploration Tax Incentives

- The federal Flow-Through Shares program allows companies to flow qualifying Canadian Exploration Expenses through to investors who can then deduct those expenses from otherwise taxable income. This encourages exploration by reducing the amount of funds the investor has at risk. Companies issuing the shares and their investors typically share any gains associated with exploration.
- The federal Mineral Exploration Tax Credit is a non-refundable, 15 percent tax credit for grassroots exploration expenses pursuant to a Flow-Through Share Agreement. The federal government announced in November 2018 that it would extend its METC credit for five years to 2024. The credit had previously been renewed on an annual basis.

Attachments: Appendix 1 – Exploration Tax Incentives in Canada
Appendix 2 – Exploration and Deposit Appraisal Expenditures

Contact:
Peter Robb ADM MCAD Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 1 – Exploration Tax Incentives in Canada

Jurisdiction	Incentive	Rate
BC	Mining Flow-Through Share Tax Credit (non-refundable)	20 percent (Mining Jobs Task Force proposed increase to 35 percent for 3-year trial)
	BC Mining Exploration Tax Credit (refundable)	20 percent to 30 percent (Mountain Pine Beetle-affected areas) (MJTF proposed increase to 30 percent for 3-year trial)
Ontario	Focused Flow-Through Share Tax Credit (refundable)	5 percent
	Ontario Focused Flow-Through Share Tax Credit (non-refundable)	5 percent
Alberta	Mineral Exploration Tax Credit	15 percent on eligible expenses
Saskatchewan	Saskatchewan Mineral Exploration Tax Credit (non-refundable)	10 percent
Manitoba	Manitoba Mineral Exploration Tax Credit	Progressive rates; 17 percent when total operator's profit is over \$105 million
Quebec	Tax Credit Relating to Resources (operators) (refundable)	12 percent 18.75 percent (Near and Far North)
	Tax Credit Relating to Resources (explorers) (refundable)	28 percent 38.75 percent (Near and Far North)
	Flow-Through Share deductions	Up to 20 percent
Yukon	Mineral Exploration Program – Hardrock (Total Program funding is approximately \$2.5 million)	100 percent up to \$15,000 (prospecting in new areas) 75 percent up to \$25,000 (under-explored areas) 50 percent up to \$40,000 (to develop project to advanced exploration stage, including placer)

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 2 – Exploration and Deposit Appraisal Expenditures in Canada, 2018-2022, \$M

Jurisdiction	2018	2019	2020	2021	2022 (estimate)
BC	427.9	388.7	513.5	813	851.9
Quebec	564.8	503.2	534.0	964.5	806.5
Newfoundland and Labrador	47.1	50.3	74.3	145.6	188.8
Nova Scotia	40.4	37.9	26.3	50.2	40.4
New Brunswick	25.6	12.7	14.1	21.1	27.4
Ontario	591.4	523.2	566.2	877.8	911.9
Manitoba	49.7	77.5	61.7	120.3	154.6
Saskatchewan	261.9	277.5	158.5	269.2	362.8
Alberta	26.6	53.2	46.6	25.9	26.4
Yukon	182.3	166.2	83.6	135.1	157.9
Northwest Territories	112	79.8	41.9	68.1	69.4
Nunavut	155.6	116.4	70.7	149.2	143.2

Source: Natural Resources Canada, from the federal-provincial/territorial Survey of Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures
 Quebec data are compiled by l'Institut de la statistique du Quebec

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Thor Project – Taranis Resources

Drafted/Revised: March 17, 2022

Issue: Taranis Resources felt that the technical review of their bulk sample application was not timely or fair

Response:

- The permit for the Thor Project was issued to Taranis Resources on July 21, 2021.
- The proponent had lodged complaints with the Ombudsperson and the Office of the Information & Privacy Commissioner.
- The Ombudsperson facilitated an agreement between the ministry and the proponent allowing the review to proceed and to refine the application process.
- The Ministry has reviewed the Mine Development Review process and has provided guidance for proponents on the ministry website. Information requirements in the application package are being streamlined.
- The Office of the Information and Privacy Commissioner suggested a guidance document to be produced for EMLI staff regarding process steps for reporting any alleged misconduct of Qualified Professionals. This document is now completed pending final internal approvals.

Background/Status:

- Taranis Resources applied for a Mines Act permit to extract a 10,000-tonne bulk sample on October 15, 2018.
- A Mine Development Review Committee (MDRC) was struck to review the joint application since the legacy mine site has significant issues surrounding water quality, acid rock drainage, recreational use and critical caribou habitat.
- After an extended review process that required the proponent to submit appropriate mine management plans, the Mines Act permit amendment was issued on July 21, 2021. An Environmental Management Act (EMA) discharge permit was issued on July 22, 2021.
- Business Information; Government Financial Information
-

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston
Business Information; Government Financial Information

Contact:			
Peter Robb	ADM	MCAD	Government Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Giant Copper Mineral Tenure Purchase

Drafted/Revised: March 9, 2022

Issue: Purchase of Mineral Tenures for the Giant Copper Exploration Project

Response:

- An agreement has been reached regarding historic mineral tenures, most recently held by Imperial Metals Corporation, in an area within the Silverdaisy watershed known as the Skagit River Donut Hole,
- The Province has entered into an agreement with Imperial Metals Corporation and the Skagit Environmental Endowment Commission (SEEC) in which Imperial Metals returned to the Province all its mining and related rights within the nearly 5,800-hectare Skagit River Donut Hole.
- The agreement will ensure the preservation and protection of the natural and cultural resources, as well as recreational opportunities within the headwaters of the Skagit River.

Background/Status:

- The Imperial Metal's application for mineral exploration work was submitted December 2018.
- There has been significant opposition to Imperial Metal's proposed mineral exploration work, both from stakeholder groups and Indigenous communities.
- The City of Seattle and Washington State government expressed their concerns through the referral process.
- The application had been subject to protracted consultation with Indigenous Nations, who were opposed to the project.
- Once the agreement is fully executed the application will be withdrawn.
- The funding for the agreement came from various parties as below:

Organization:	Contributions:
Additional Provincial Contribution	\$7 million
Nature Conservancy of Canada	\$5 million (Previously provided to NCC by BC for a similar buy back)
SEEC	\$3.4 million (BC provided SEEC \$2.4 M in 2019)

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

	to further their mandate in the Skagit and SEEC secured an additional \$1M)
Washington State	USD\$7 million (CDN\$8.6 million)
Total Contributions	\$24.0 million (Canadian dollars)

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: South Island Aggregates

Drafted/Revised: March 17, 2022

Issue: Update on *Mines Act* Orders on the South Island Aggregates Sites

Response:

- Closure activities have concluded on Lot 23 under a Ministry of Environment and Climate Change Strategy's (ENV) Spill Protection Order. The site is now in a care and maintenance/monitoring phase.
- No soil has been removed from Lot 21 to date. Mines Inspectors are considering additional compliance and enforcement actions that may need to be taken against the Named Parties associated with SIA for not complying with the Order to remove imported soil.
- In Jan 2020 the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) Compliance and Enforcement team issued a \$10K administrative monetary penalty against the Named Parties for failure to adhere to a Stop Work Order from 2017.
- As of Dec 2019, Cobble Hill Holdings has forfeited ownership of the land due to outstanding taxes.
- The Named Parties continue to be responsible for complying with all Orders associated with Lots 21 and 23.
- Business Information; Government Financial Information
- Both lots have *Mines Act* Permits and Inspectors will continue to monitor activities.

Background/Status:

- The South Island Aggregates (SIA) site consists of two lots each with its' own *Mines Act* Permit:
 - Lot 23 has a Spill Prevention Order in place under the Environmental Management Act (EMA) and an approved closure plan for the site that is overseen by ENV.
 - Lot 21 has been given an Order under the *Mines Act* to remove deposited soil and to remediate the site.
- SIA had until September 30, 2019 to comply with the Order on Lot 21, but no work has occurred and EMLI is considering an Administrative

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Monetary Penalty (AMP) for failing to comply with that Order. This is in addition to the AMP already issued for failing to adhere to a 2017 Stop Work Order.
- On December 4, 2019, the Province started the process necessary to take over ownership of the land owned by Cobble Hill Holdings near Shawnigan Lake due to unpaid taxes.
- The change in ownership does not impact the closure plan for the landfill.
- The properties are permitted under the *Mines Act* and closed to the public.
- On January 9, 2020 a \$10K AMP was issued under the *Mines Act* to SIA (c/o Cobble Hill Holdings) for failing to comply with a suspension of work order that was issued in 2017.
- SIA did not appeal the AMP. Payment was due by February 18, 2020, the AMP has not been paid to date.
- The company remains responsible for implementing a final closure plan for the landfill situated on the same property (lot 23) under the ENV Spill Prevention Order.
- Information regarding Lot 23, including sampling data, inspection reports, and orders & warnings are posted publicly on the ENV website.
- The Province continues to review and inspect the adjacent permitted mine site. (Lot 21).
- There is no change in the status of the permits or site since last year, however an interested party has recently met with local residents to discuss the feasibility of taking over the site.

Contact:

Peter Robb

ADM

MCAD

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Deasan Holdings Gravel Pit – Old Fort Landslide

Drafted/Revised: March 14, 2022

Issue: Pending decision on resumption of operations at the Deasan gravel pit in the vicinity of the community of Old Fort in northeast British Columbia.

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (EMLI) is working to determine if mining operations can safely resume.
- The application process has involved multiple professional assessments and reports on slope stability and precautions necessary to resume mining.
- An investigation of the landslide by the Chief Inspector of Mines has been completed as of October 2020. The investigation report was made public and is available on-line.
- The investigation concluded that there were several potential contributing factors to the landslide, but there is insufficient data available to definitively determine the cause of the 2018 Old Fort Slide.
- The Ministry of Transportation and Infrastructure is currently monitoring the slide area for movement using GPS technology and recently released a report with respect to access options for the Old Fort Community.

Background/Status:

- On September 29, 2018, a landslide occurred above the community of Old Fort near Fort St. John in northeastern BC. The landslide destroyed the only access road into the community of Old Fort and affected several houses and private properties.
- The Deasan Holdings mine site is situated above the landslide and portions of the mine site were affected by the slide.
- A suspension of work order was issued by the EMLI geotechnical inspector for the mine site and remains in effect.
- The Peace River Regional District issued an evacuation order for the area including the Deasan Holdings mine site. This order was rescinded on February 10, 2022.
- A Notice of Civil Claim has been launched by affected residents of Old Fort against the Peace River Regional District, the Province, Deasan Holdings and Golder and Associates.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The Chief Inspector of Mines' investigation of this incident has been completed and was released in October 2020.
- External geotechnical assessments did not conclusively determine the root cause of the 2018 Old Fort Slide and did not suggest that the mine site contributed to the slide.
- The investigation resulted in the identification of measures that can be employed to promote safety at the Deasan site and to reduce the risk of a similar event occurring at other mine sites.
- Deasan Holdings has applied to recommence mining operations and the application is currently under review by ministry staff.
- The mine plan has been evaluated by professional geotechnical engineers, including a third-party review that was undertaken to satisfy ministry information requirements. Additional information regarding water management on and off the site has been requested.
- Ministry staff have been assigned to review the external professional reports and to make an independent decision on the application for an amendment to the permit that would authorize resumption of mining activities at the Deasan site.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: OK Industries Proposed Quarry – Millstream Road

Revised: March 14, 2022

Issue: Opposition to Quarry Development on Millstream Road in Langford

Response:

- A *Mines Act* Permit and Reasons for Decision were released to the proponent and key stakeholders on March 18, 2020.
- The mine is currently operating in accordance with the permit
- The Statutory Decision Maker (SDM) completed a comprehensive review of the application and developed comprehensive reasons for decision.
- The SDM mitigated concerns about the application through site specific permit conditions.
- It is important that our SDMs are supported in the difficult job that they have and that their decisions are not subject to political interference.
- Those opposed to the project have sought intervention by the courts and that is their right.
- The Highlands District Community Association application for leave to appeal to the Supreme Court of Canada regarding their case against the province and OK Industries has been dismissed.
- A recent B.C. Court of Appeal decision has been helpful in clarifying the jurisdiction of municipalities and regional districts in relation to the regulation of mining activities, as being limited to matters that do not include whether or not mining can occur.

Background/Status:

- OK Industries was granted a *Mines Act* permit to construct a quarry in the Langford-Juan de Fuca riding. The proposed quarry is located on Millstream Road in the District of Highlands adjacent to Thetis Lake Regional Park, a hazardous waste disposal site, an industrial park, and another rock quarry.
- District officials have expressed concerns around the proposed quarry, particularly with respect to how it may impact local drinking water. A resident's group submitted a petition to the SDM requesting that the quarry not be granted a *Mines Act* Permit. The SDM's decision to permit the project was subsequently appealed to the courts.
- The SDM conducted a fulsome review of the project. The SDM considered available information from OK Industries, the District of Highlands, residents, local Indigenous groups and others. The SDM was aware of concerns raised surrounding the potential for contamination of drinking water, and the decision took these concerns into consideration.
- The Highlands District Community Association appealed the permit to the Chief

Inspector on April 16, 2020. The Chief Inspector ruled against the appeal.

- The Highlands District Community Association unsuccessfully applied for judicial review of the decision in the summer of 2020; the Court sided with the SDM in that review.
- Another appeal was filed by the Community Association alleging that climate change was not properly considered by the SDM. On November 10, 2021, the Supreme Court of Canada dismissed the application.
- On Jan. 23, 2022, The B.C. Court of Appeal handed down a mixed ruling giving the District of Highlands some authority over activities at the site but allowing the quarry to continue operation. The decision allows imposition of bylaws on soil deposit and removal, blasting, tree management and buildings provided that the bylaws do not preclude mining.

Contact:

Peter Robb

ADM

MCAD

Government
Environment

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Kisch Pit- East of Sumas Mountain

Revised: March 11, 2022

Issue: Opposition to Permit Amendment and Ongoing
Operations

Response:

- A permit amendment was issued to Carlum Developments Inc. for an existing aggregate quarry located at Quadling Road in Abbotsford, east of Sumas Mountain.
- FLNRORD has granted the permit holder authorization to remove a Peregrine Falcon nesting site.
- The EMLI SDM for this application conducted a thorough and comprehensive review including input from numerous parties and the results of consultation with Indigenous Nations.
- In response to public complaints regarding the operations, the Ministry has prioritized this site for inspections.
- The operator has complied with the inspectors' orders.

Background/Status:

- Carlum Developments has operated a quarry on Quadling Road in Abbotsford under a Mines Act permit since 1990.
- Due to ongoing mining and geotechnical issues, in November 2015, an order was issued for no further mining to occur until an updated mine plan/design was accepted by the Chief Inspector.
- On April 29, 2020, an EMLI Statutory Decision Maker (SDM) issued an amended permit to Carlum Investments.
- In reviewing the amendment application, the SDM considered that there was an existing Mines Act permit and that the updated mine plan addressed the orders issued in November 2015.
- There is local public opposition to this quarry as well as opposition from the Sumas First Nation.
- There have been numerous public complaints about this operation. Over the past 12 months there have been 9 inspections leading to several orders and advisories issued to the operator. The operator has been compliant.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Petroleum Resources
Minister Responsible: Bruce Ralston

Title: Steelhead Community Concerns

Revised: March 18, 2022

Issue: Impacts of Industrial Activity

Response:

- Highway access points are authorized by the owner of the road. EMLI understands that Dewdney Trunk Road is controlled by the District of Mission.
- The number of quarries and sand and gravel pits does not have a direct correlation with the volume of traffic. Traffic depends on the demand for aggregate by nearby projects – whether that demand is satisfied by a few operations or many.
- Both Davies S&G and Lafarge (Cannon pit) have installed wheel washes in the past year to reduce the potential for dirt and mud ending up on Dewdney Trunk Road.
- A crusher at 11546/11596 Dewdney Trunk Road had been set up outside of the permitted mine area, and close to the road. This has since been shut down and is being dismantled and removed from the site.

The sites are subject to regular inspections by the Mines Inspectors.

Background/Status:

- The Steelhead Community Association has been in discussions with the Ministry about concerns around increased industrial activity in the Dewdney Trunk Road area. There are currently five permitted operations in the area.
- The Community Association has expressed concerns that permit conditions are not being followed and that there is an overall lack of regulatory oversight.
- EMLI, with the cooperation of FLNR and ENV, works hard to ensure environmental standards are upheld. EMLI has worked with staff from both agencies over the past few years to respond to complaints regarding excess sedimentation entering local surface waters.
- In addition to regular compliance inspections, EMLI has responded to complaints in the past and will continue to do so. The operator is compliant with the inspectors' orders.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

Page 2 of 2

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Nuxalk Eviction Notice

Drafted/Revised: March 14, 2022

Issue: Nuxalk Nation issues eviction notice to mining proponent

Response:

- The Province has reached out to the Nuxalkmc Stataltmc to discuss their concerns with the mining exploration project and mining within their territory in general.
- Consultation between the Province and the Nuxalk FN regarding proposed exploration activities took place in accordance with the Coastal First Nations Reconciliation Protocol
- It is understood that Juggernaut Exploration Ltd. sought to engage with the Nuxalk Nation directly. Direct engagement of proponents with Indigenous nations is strongly encouraged.
- The permits that were issued are for limited helicopter supported exploration above the tree line.
- Any future proposal for more intensive mining activity would only be considered after significant consultation and would require the conservation and protection of social and cultural values.

Background/Status:

- Juggernaut Exploration Ltd. applied for permits to conduct exploration at two separate sites in the Bella Coola area: Gold Standard and Gold Star.
- The exploration permit for the Gold Standard property was issued November 13, 2020 and the exploration permit for the Gold Star property was issued on February 25, 2021.
- Both permits are Multi-Year Area Based (MYAB) mineral exploration permits that authorize up to 49 drill sites with a cumulative site disturbance area not to exceed 0.5 ha.
- All areas of disturbance are required to be reclaimed.
- Both permits are valid for a period of 5 years.
- Initial engagement letters were sent to the Nuxalk Nation in April 2020 and December 18, 2020 for the Gold Standard and Gold Star applications, respectively.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Additional correspondence through the Fall of 2020 and early 2021 occurred via telephone, emails and letters.
- In August 2021, Juggernaut initiated helicopter supported drilling operations.
- Soon after, Nuxalk Nation issued a statement to Juggernaut Exploration to cease operations and to leave Nuxalk territory.
- The company president reached out to the Nuxalk representative, but attempts to initiate discussions with the Chief were unsuccessful.
- In the meantime, Juggernaut continued with operations but made accommodations to minimize impacts on the community (i.e. not flying helicopters directly over the valley). To address complaints about the noise they took a longer, indirect route, with less impact on the community.
- Juggernaut continued communicating with local community members, as well as with representatives from the Nuxalk Development Corporation.
- Seasonal drilling was completed in Fall 2021.
- The ministry is not aware of the company's exploration plans for the upcoming season, but their 5 year permit is still valid.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Carlyle Commodities / Newton Project in Tsilhqot'in Territory

Drafted/Revised: March 17, 2022

Issue: Proposed Carlyle Commodities Application in Tsilhqot'in Territory. Tsilhqot'in are opposed. Carlyle has filed a petition for judicial review on the grounds of administrative fairness.

Response:

- On January 20th the proponent filed a petition with the Supreme Court of British Columbia in connection with the company's permit application.
- It is inappropriate to speak to an issue that is in front of the courts.
- Tsilhqot'in are not in favour of this permit and are concerned that it may become a mine.
- The Province is committed to a deep level of engagement with the Tsilhqot'in on mine development projects in their territory.

Background/Status:

- Carlyle Commodities submitted a Notice of Work in February 2021 for exploration work that included:
 - A 20-person camp (15 temporary buildings)
 - 50 drill sites
 - 140 km Induced Polarization lines
 - Approximately 5 hectares of impact
- The area has been partially disturbed in the past, with commercial logging and mineral exploration.
- Consultation and engagement with Tsilhqot'in Nation was initiated under the Tsilhqot'in Stewardship Agreement in July 2021.
- The Tsilhqot'in Stewardship Agreement (TSA) is a Strategic Engagement Agreement (SEA) between the Province and the Tsilhqot'in Nation that guides natural resource ministries, including the Ministry of Energy, Mines and Low Carbon Innovation (EMLI), in consulting with Tsilhqot'in.
- In response to Tsilhqot'in requests and interests, the Province elevated consultation from Level 2 (20 business days) to Level 3 (40 business days), to allow additional time for engagement.
- Through fall 2021, EMLI staff, along with the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR) and the Ministry of

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Indigenous Relations and Reconciliation (MIRR), led technical engagement to understand Tsilhqot'in interests and concerns.

- Questions and concerns from the Nation were responded to by the proponent and accommodations were made.
- In particular, the Nation had concerns with the proximity of the project to the Taseko River. In response, the proponent revised the project footprint so that any land disturbance would be kept a minimum of 1 km away from the river.
- The permitting inspector incorporated feedback from the Nation into a set of draft permit conditions for discussion (i.e. additional archaeological assessments, control of animal attractants to minimize impact to wildlife, access restrictions, etc.)
- Towards the end of the engagement period, the Tsilhqot'in Nation signaled a lack of community support for this project and expressed concerns that consensus had not been reached.
- The Nation chose to exercise a rarely used provision in the TSA to elevate Government to Government (G2G) discussions.
- A number of meetings were held with the Nation from November to February, with the latest on February 2, 2022, at which time EMLI staff inquired if further feedback pertaining to the file would be forthcoming, as the statutory decision maker (SDM) is actively reviewing the file and intends to make a decision soon.
- The Tsilhqot'in Nation requested that the SDM delay the decision until a leadership meeting could take place between their Chiefs and provincial leadership (Minister or Deputy).
- The ADM and DM of EMLI met with Tsilhqot'in Nation leaders on February 16, 2022.
- While the consultation process has been prolonged, the TSA processes have been followed, and the parties have made best efforts to preserve the G2G relationship.
- On January 20th the proponent filed a petition with the Supreme Court of British Columbia in connection with the company's permit application.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Flood Response

Drafted/Revised: March 17, 2022

Issue: EMLI response to support recovery efforts resulting from November 2021 Flooding.

Response:

- 34 quarry sites required new authorizations or had authorizations altered within the Southwest and South Central EMLI regions.
- 28 of those sites were privately operated and supported Trans Mountain, City of Abbotsford, City of Merritt, MOTI, and railways.
- Three of the privately operated sites obtained temporary authorizations to operate without a Mines Act permit. The remaining sites required temporary authorizations to operate outside of permit conditions for hours of operation and three sites required boundary expansions.
- Six sites were MOTI pits that do not require *Mines Act* permits.
- Turnaround times for the temporary authorizations during the state of emergency were 2 hours to 24 hours.
- Current turnaround time for temporary authorizations is 2-3 weeks as the state of emergency has been repealed.

Background/Status:

- Rain and subsequent flooding in November 2021 resulted in major damage to Highways 1, 3, 5, and 8.
- The damage resulted in disruption to trade routes and displaced people from their homes and communities. Several families are still displaced from their homes.
- The Province declared a state of emergency on November 17th, 2021.
- Immediate access to rock was required for repairs to transportation routes and bridge sites. The rock has also been used to protect areas from future damage.
- As stockpiles within existing quarries were quickly used, additional sites were required.
- EMLI immediately responded to requests from MOTI, Trans Mountain, the Spius Creek Hatchery, City of Abbotsford, and the City of Merritt with emergency authorizations.
- Emergency authorizations were issued for quarries with conditions that ensured compliance with health, safety and environmental legislation.
- The emergency authorizations were prioritized and expedited to reflect the state of emergency.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- There were also exceptions given to operation's hours of work to allow for the removal and distribution of more rock per day.
- Emergency authorizations granted for new quarries or expansions have expiry dates and those operations must submit an application before the authorization expires in order to continue to operate.
- EMLI inspectors have regularly been onsite conducting inspections for health, safety, and permit compliance.
- Regular meetings with the responsible ministries and Indigenous partners are being held to ensure good communication between all parties and the protection of resources.
- The spring freshet continues to pose a threat to infrastructure and EMLI continues to work closely with MOTI as they work to secure new sources of rock.
- Increased attention will be placed on this area for the next few years to ensure timely authorizations for required rock sources and to ensure compliance with rules and regulations.

Contact:

Peter Robb

Assistant Deputy
Minister

Mines Competitiveness (778)-698-7235
and Authorizations
Branch

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Watts Point Quarry - Squamish

Drafted/Revised: March 14, 2022

Issue: Opposition to expansion of quarry on Watts Point near Squamish

Response:

- I am aware that concerns have been raised by the Squamish Nation and local citizens.
- The Statutory Decision Maker (SDM) for this application is conducting a thorough and comprehensive review based on input from numerous parties and Indigenous nations.

Background/Status:

- Watts Point is located about 10 kilometers south of Squamish and 40 kilometers north of Vancouver, and just north of Britannia Beach. It has been the site of smaller-scale industrial activity, including rail transportation, log sorting, and quarrying for decades.
- In 2017 Westport Industrial Minerals submitted an application to EMLI for a substantial expansion of its quarrying operations including a production increase from 250,000 t/yr. to 750,000 t/yr. They also applied for term extensions to one or more leases. An EA is not triggered under the Reviewable Projects Regulation since the modified project would only increase the permitted disturbance area by 19% - well under the threshold of 50%.
- The place location has historical significance to the Squamish Nation people, including it being the site of the first contact between the Squamish Nation and Captain George Vancouver.
- The Squamish Nation is strongly opposed to the proposed operation in an area they deem to be culturally significant and an area for which they have a strong title claim.
- The Future of Howe Sound Society has raised concerns about the cumulative effects of more non-renewable resource extraction, impacts on wildlife, noise, and visual impacts.
- Production from this quarry could supply materials for several significant infrastructure projects in the lower mainland.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The Mines Inspector assigned to this application is diligently working through all the concerns and a decision is pending.

Contact:

Peter Robb

ADM

MCAD

Government

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Upland Concrete - Campbell River Landfill Site

Drafted/Revised: March 17, 2022

Issue: Residents concerned with impacts to drinking water supply

Response:

- I am aware that residents of Campbell River have expressed concerns regarding the potential risk to the community drinking water from the quarry and landfill site.
- The authorization for the landfill was provided by Ministry of Environment under the provisions of the Environmental Management Act.
- The statutory decision maker made an independent decision after thorough consideration of the relevant information.
- A professional assessment of sub-surface water flow was considered in the decisions.

Background/Status:

- Upland Concrete was issued an Operational Certificate on August 1, 2019, under the provisions of the Environmental Management Act that allows for a modernized landfill cell in an area covered by the Mines Act Permit.
- The site has been an active sand and gravel pit for over 40 years, with the current *Mines Act* permit initially issued in 1989.
- The permit was amended in 2020 to authorize an updated mine plan, and which also included the permitted landfill cell.
- The fill included in the landfill is considered in the reclamation plan for the site.
- The site is located approximately 7 kilometres (km) west of Campbell River city center.
- There is local concern that the mine site is hydrologically connected to Campbell River's water supply.
- Assessments by qualified professionals indicated the sub-surface water flows away from the water supply intake.
- This assessment was reviewed and accepted by Ministry of Environment staff as part of the decision to authorize the landfill.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Nicola Valley Aggregates Notice of Work Application

Drafted/Revised: March 16, 2022

Issue: Progress on the Nicola Valley Aggregates application – consultation and engagement

Response:

- The Nicola Valley Aggregate's proposed sand and gravel operation is located along highway 8 and adjacent to the eastern boundary of Lower Nicola Indian Band (LNIB) Indian Reserve No.1
- BC has engaged extensively with LNIB dating back to March 2019.
- LNIB's has expressed a range of concerns including archaeological, cultural heritage, dust, noise, and water issues as well as asserting their strong aboriginal title claim to the property.
- Due to a variety of factors such as COVID-19, wildfires, significant flooding, and evacuations, Lower Nicola Indian Band's capacity to participate has been limited throughout the process.
- EMLI continues to seek consensus-based resolution of concerns with the project with LNIB and the proponent.

Background/Status:

- The Nicola Valley Aggregates (NVA) proposed sand and gravel operation is on private property located along highway 8 and adjacent to the eastern boundary of Lower Nicola Indian Band (LNIB) Indian Nicola-Mameet Reserve No.1.
- Nicola Valley Aggregates Notice of Work application for a sand & gravel pit was submitted on December 7, 2018.
- Consultation between BC and LNIB was initiated on March 19, 2019
- Given the proximity of the sand & gravel operation to LNIB's reserve, the province has committed to a deep level of engagement on the application.
- LNIB has expressed a range of concerns from archaeological, cultural heritage, dust, noise, water, and community related concerns from band members.
- LNIB has claimed that they have a strong claim to Aboriginal title within the subject property.
- LNIB remains strongly opposed to this project and has secured legal representation to engage BC and the proponent on this file.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- LNIB was significantly impacted by state of emergencies related to flooding, wildfires, evacuations, and COVID-19 which have limited their capacity to participate fully throughout the application process.
- The proponent has worked to address concerns brought forward by LNIB; but is frustrated with the amount of time this application has been under review (~3 years).
- The regional office responsible for the application has undergone staff turnover since the application process began which contributed to the delays. New staff are now in place as well as additional advisory and technical staff to strengthen Indigenous engagement and commitments to UNDRIP and reconciliation.
- EMLI continues to seek consensus-based resolutions, as well as elevating this file to higher levels within the Ministry due to the sensitive nature of engagements with LNIB.
- The Statutory Decision Maker is working through their review to move this file toward a decision.

Contact:

Peter Robb

Assistant Deputy
Minister

Mines Competitiveness (778)-698-7235
and Authorizations
Branch

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Joe Rich Quarry application near Kelowna

Drafted/Revised: March 18, 2022

Issue: Status of the permitting processes for the Joe Rich Quarry

Response:

- I am aware that there are concerns regarding the proposed quarry in the Joe Rich area east of Kelowna.
- The Statutory Decision Maker (SDM) is awaiting further information from the proponent, technical experts, and Indigenous Nations before a decision can be made.
- It is important that our SDMs are supported in the difficult job that they have and that their decisions are not subject to political interference.
- A recent BC Supreme Court decision has clarified the jurisdiction of municipalities and regional districts in relation to the regulation of mining activities, as being limited to matters that do not preclude mining.

Background/Status:

- Joe Rich Properties Ltd. has applied to develop a new rock quarry in the Joe Rich area located east of Kelowna to meet a high demand for aggregate and stone products in the Okanagan area.
- The 4.46 ha site is on undeveloped private land in the vicinity of numerous rural residential properties.
- The applicant is proposing 245,000 tonnes of annual extraction over a 40-year duration.
- There has been considerable interest and opposition expressed by community members during the public review and comment period which has ended.
- In July 2021, the Regional District of Central Okanagan voted unanimously to not support the proposal citing concerns with respect to negative impacts to property values and the disturbance to residents over the 40-year span of the operation.
- The Black Mountain Irrigation District, which provides drinking water for 28,000 people and for more than 2,000 hectares of farmland, has expressed concerns over the potential for the company's rock blasting to destabilize the silt bluffs below the site and to contaminate the local water supply.
- On Jan. 20, 2021, the B.C. Supreme Court made a judgement in favour of OK Industries that confirmed that the Mine Permit and permit areas that fall under the

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Mines Act cannot also be regulated by municipal by-laws if those by-laws would serve to preclude mining.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: 2022 Ajax Notice of Work Application

Drafted/Revised: March 18, 2022

Issue: Submission of a new Notice of Work application for mineral exploration near the site of the previous Ajax mine proposal.

Response:

- I am aware that a small Notice of Work application has been submitted for works near, but not on the previously proposed Ajax site.
- The application is being reviewed by the ministry statutory decision maker (SDM) and the process will include input from local communities and consultation with Indigenous Nations.
- It is important that our SDMs are supported in the difficult job that they have and that their decisions are not subject to political interference.

Background/Status:

- A small mineral exploration Notice of Work application has been submitted to the the ministry for review and decision. The location of works is near, but not on, the previously proposed Ajax site.
- In 2017 the Environmental Assessment process for the proposed open pit Ajax mine on the outskirts of Kamloops and on the asserted traditional territories of the Stk'emlupsemc te Secwépemc Nation (SSN), Ashcroft Indian Band, Lower Nicola Indian Band and Whispering Pines/Clinton Indian Band was concluded.
- The ministers acknowledged the high importance of the area to the culture of SSN and agreed that the Ajax project would result in significant adverse effects to Indigenous heritage and to the current use of lands and resources for traditional purposes.
- The project was not issued an Environment Assessment Certificate and further work on the applications was suspended.
- Currently, Abacus Mining and Exploration Corporation holds a 20% interest in the Ajax project, with KGHM holding the remainder.
- Early in 2022 Abacus stated in a news release that "In a recent meeting, we were pleased to learn that KGHM plans to devote more attention to the project, including continued engagement with First Nations."
- The application for an exploration permit is being reviewed by a ministry statutory decision maker.
- The statutory decision maker must exercise their power to make an independent decision on whether to issue an authorization based on the site-specific

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

information and considerations within the jurisdiction of the *Mines Act*. This will include consideration of input from local communities and consultation with Indigenous Nations.

Contact:
Peter Robb Assistant Deputy Mines Competitiveness (778)-698-7235
Minister and Authorizations
Branch

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Pavilion Mine

Drafted/Revised: March 17, 2022

Issue: Ts'kw'aylaxw First Nation claims that the Province is derelict in its duties with respect to the reclamation and closure of Graymont Western Canada inc. Pavilion Mine

Response:

- The Province has committed to facilitating a tripartite review of the reclamation and closure plan including the BC Government, Ts'kw'aylaxw First Nation and Graymont Western Canada. Graymont has agreed, however there is still no response from Ts'kw'aylaxw First Nation.
- The Province is not a party to the lease arrangement between Graymont Western Canada and the Ts'kw'aylaxw First Nation and is not involved in any dispute regarding the lease.
- Graymont has not ceased operations at the site; therefore, full reclamation has not been required.
- In order to help address the Nation's concerns, EMLI is seeking to provide the Nation with \$Intergov through the Indigenous Funding Program to provide them with the capacity to participate on a Mine Reclamation Plan Review Committee for the Pavilion Mine.

Background/Status:

- The Pavilion Mine is located on the Reserve lands of the 'Tskwaylaxw First Nation (TFN) and on lands to which the TFN asserts Aboriginal Title and Rights. The Pavilion Mine occupies approximately 102 Hectares of Reserve Lands.
- The Pavilion Mine is a limestone quarry with associated kiln processing plants which commenced operations in 1974.
- The mine is still in operation selling limestone to customers. The processing facility has been dismantled and removed from the site.
- The current lease for the lands was made effective as of May 1st, 2005 and was signed between TFN as the landlord and Graymont as the tenant for a term of 20 years. The Province is not a party to the lease.
- The Province continues to monitor the site with the last inspection being conducted on December 3, 2021. The next inspection is planned within the next month. There are no open orders for this site.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The TFN commenced litigation in 2018 against Graymont and the Province. TFN sought damages from Graymont for breach of the lease of the mine site (which is on the Indian Reserves of the FN) between Graymont and TFN.
- There was a provision in the terms of the lease that the parties to the lease would arbitrate any disputes that arose, prior to commencing litigation. Graymont went to court to enforce the arbitration requirement and was successful in obtaining a court order putting the litigation into abeyance pending the outcome of the arbitration. TFN did not seek to appeal the order.
- TFN sought damages from the Province for failure to properly regulate the mine and the reclamation of the site, as the Province has exerted regulatory authority over the mine since approximately 2008.
- Preceding BC counsel filed a basic response to the TFNs' Notice of Civil Claim, generally denying the TFNs' claims, including a denial that the Province had any regulatory responsibility for the mine as it was located on the TFNs' Indian Reserves which are federal lands.
- Notwithstanding the Province's earlier position, and despite the mine being wholly on Indian Reserve lands, the Province has acted as the regulator of the mine site in the past and may hold regulatory authority for the site.

Contact:

Peter Robb

Assistant Deputy
Minister

Mines Competitiveness (778)-698-7235
and Authorizations
Branch

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Goat River Area - near Creston, BC

Drafted/Revised: March 17, 2022

Issue: The Ktunaxa member band, Yokan Nukly (Lower Kootenay) oppose any new or permitted mineral exploration activity in the Goat River watershed.

Response:

- EMLI is working with FLNR and MIRR to find resolution to the situation with both the Ktunaxa Nation Council and Yokan Nukly.
- Further meetings with BC and the Ktunaxa Nation Council are being planned for the near future.
- EMLI is also working with impacted proponents to find solutions to avoid mining being interrupted during the summer season of 2022.

Background/Status:

- Yokan Nukly has expressed concern regarding cumulative effects and degradation of the watersheds in their area due to industrial impacts including exploration and logging.
- The Chief and Council declared a moratorium of any further mining activities permitted or new applications in November 2021.
- They have indicated that they will blockade any activity when mining commences in the spring.
- The Ktunaxa Nation Council supports this action and EMLI is waiting for a letter and detailed map outlining the specific issues and area of concern. There is only a broad general map at this time.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Hole in the Wall Provincial Park Expansion and Nearby Rock Quarries (Sukunka Limestone and Lime Stone Cowboys)

Drafted: March 11, 2022

Issue: Concerns regarding the proximity of a limestone quarry to BC Parks proposed expansion of Hole-in-the-Wall Provincial Park

Response:

- EMLI is aware that BC Parks is pursuing a 14 ha. expansion to Hole-in-the-Wall Provincial Park to cover the “hole in the wall” spring and cave feature which is located outside of the current park boundary.
- There is no overlap of the quarry with the current or proposed Park expansion boundaries.
- An independent study prepared by a qualified registered professional concluded that quarrying activities at the Sukunka Limestone Quarry would have no effect on the hole in the wall spring and cave feature.
- Neither the Sukunka Limestone Quarry nor the proposed park expansion will change the public’s ability to access the hole in the wall feature.
-

Background/Status:

- Hole-in-the-Wall Provincial Park was established in 2000 with an intent to protect a spring and cave feature, the “hole in the wall”. The feature is a unique water spring appearing from a cave at the base of a limestone cliff near the Sukunka River.
- BC Parks is seeking to amend the western boundary of Hole-in-the-Wall Provincial Park because the actual hole in the wall feature was inadvertently excluded from the park when it was established.
- In 2020, a member of the McLeod Lake Indian Band expressed a concern that the important feature was outside of the park and inquired how it could be protected.
- A 14 ha addition to Hole-in-the-Wall Park was included in Bill 3, Protected Areas of British Columbia Amendment Act, 2022, which passed Third Reading on February 15, 2022, but had not yet received Royal Assent as of March 9, 2022.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Expansion of the park will mean the park and the quarry are located adjacent to one another; the quarry is approximately 500 m from the hole in the wall feature.
- The park boundary was not extended to include the quarry.
- The Sukunka Limestone Quarry was approved by EMLI for mining and reclamation activities in 2020 for 5 years
- With the proposed park expansion, there is renewed attention on the Sukunka Limestone Quarry's proximity to the Hole-in-the-Wall Provincial Park, the hole in the wall feature and the potential impacts from mining.
- In 2021, EMLI required an independent study to ascertain whether mining activities posed a risk to springs and caves in the area, including the hole in the wall feature. The independent study prepared by a qualified registered professional concluded that quarrying activities at the Sukunka Limestone Quarry would have no effect on the hole in the wall spring and cave feature.
- The Sukunka Forest Service Road, which runs "through" the park, has been excluded from the park and there will be no change in access to the hole in the wall feature with the proposed park boundary adjustment
- Any environmental risk posed by the mining operation will be addressed through permit conditions, as well as compliance and enforcement oversight.
- EMLI requires mitigation of potential impacts such as noise and dust from mining activities; various management plans are required by permit condition for the Sukunka Limestone Quarry, including for water management and monitoring, caribou mitigation measures, ML/ARD, erosion and sediment control, vegetation and invasive plant control, blasting, hydrocarbon management and reclamation.

Lime Stone Cowboys Quarry:

- A second quarry, the Lime Stone Cowboys Quarry, is located approximately 4 km from the Sukunka Limestone Quarry and the Hole-in-the-Wall Provincial Park.
- Lime Stone Cowboys Industries Ltd. applied for an expansion of their quarry in October 2020.
- In 2021, concerns were raised regarding allegations of unequal treatment during the permitting process between the Sukunka Limestone Quarry and the Lime Stone Cowboys Quarry expansion; with EMLI's recent approval of the Lime Stone Cowboys Quarry expansion, any concerns regarding the permitting process are considered to be resolved.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- First Nations consultation on the quarry was concluded in 2021 and following FLNR's issuance of the License of Occupation required for the quarry expansion on January 28, 2022, EMLI approved the quarry expansion on March 3, 2022. Both authorizations were issued for a term of 10 years.
- Cumulative effects were considered in EMLI's Mines Act decision to allow expansion of the quarry. Concerns raised throughout the consultation process were mitigated or avoided.
- The quarry is considered an important source of agricultural lime for use in improving crop soil quality and is one of only a few sources of durable rip rap for use in infrastructure maintenance in the region.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

Mine Development Projects

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
Significant Active Projects (in pre-application or review) [>300 employed]						
Blackwater	Gold and Silver	825 construction 457 operations	Vanderhoof	<ul style="list-style-type: none"> Federal EA issued April 15, 2019 Provincial EAC issued June 21, 2019 Early Works Permits issued in June 2021. Major Works applications are currently in the application screening phase. Decisions are anticipated in the fall of 2022. 	\$810M	Artemis Gold Inc.
Yellowhead (formerly Harper Creek)	Gold-Silver	Previous Project Description (PD) indicated 600 construction jobs and 450 permanent jobs.	150 km northeast of Kamloops	<ul style="list-style-type: none"> Initial Project Description in early development. 	Previous PD estimated ~\$1B	Taseko Mines Ltd.

Mine Development Projects

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
Wolverine Hermann Pit Expansion	Coal	300 employees (currently employed at Wolverine). May expand to 400 during construction of Hermann Pit.	Tumbler Ridge	<ul style="list-style-type: none"> EAC Amendment issued February 2021 Joint Permitting Application (MA/EMA) submitted June 14, 2021. Proponent has been working on Round 1 responses for over 5 months affecting permitting schedule. Early works Mines Act application for harvesting related to the access road issued June 2021. 	\$68M	Conuma Resource Ltd.

Mine Development Projects

Cariboo Gold	Gold	333 During Mine Life	Wells near Barkerville	<ul style="list-style-type: none"> • EA (2018 Act) underway; Application Development and Review phase completed early 2022. Proponent must prepare a revised Application that addresses outstanding issues. Proponent anticipates submission of revised Application May 2022 and if accepted, EA decision likely by late 2022. • EMLI has initiated discussions with the Proponent regarding permitting including both early works and major works applications. While a review of permitting applications can occur at the same time as EA, a permit decision cannot occur until a favourable EA Certificate decision is made. 	\$306M	Osisko Development Corporation
---------------------	------	----------------------	------------------------	---	--------	--------------------------------

Mine Development Projects

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
Active Projects (in pre-application or review) [<300 employed]						
Red Mountain	Gold	TBD	Stewart	<ul style="list-style-type: none"> EA granted on October 5, 2018; EAC amendment will be required to transport ore to process at Premier Proponent plans to process Red Mountain ore at Premier in Year 2 of Premier Operations. This would require an EA amendment. 	Unknown	Ascot Resources Ltd.
Tenas Coal	Coal	100 construction 90 – 110 operations	Smithers	Application screening currently underway for EA (under 2002 Act). Permitting is in the pre-application stage with initial documents yet to be submitted by Proponent.	\$84.2M	Telkwa Coal Limited (wholly-owned subsidiary of Allegiance Coal Ltd.)
Eskay Creek	Gold/Silver	250 during operations	Stewart	<ul style="list-style-type: none"> EA in Early Engagement phase Technical sample application anticipated to be submitted by end of June 2022. Pre-application on permitting for the Revitalization period to begin in Q4 2022. 	Unknown	Skeena Resources Ltd.

Mine Development Projects

Michel Coal	Coal	500 full time jobs construction; 300 full time jobs operations; 24 year mine life	Sparwood	<ul style="list-style-type: none"> In EA Early Engagement; Application expected earliest Q4 2022. 	\$358M	North Coal
--------------------	------	---	----------	--	--------	------------

Mine Development Projects

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
Forecast but No Current Permitting Applications						
Sukunka Project	Coal	250 construction 543 operations	Tumbler Ridge	<ul style="list-style-type: none"> EA is in Technical Review EA has been on hold since 2019 	\$444M	Glencore
Murray River	Coal	780 jobs (including construction and operations)	Tumbler Ridge	<ul style="list-style-type: none"> Permits issued in 2018; and Proponent considering final investment decision 	\$555M	HD Mining Inc.
Kerr-Suphurets – Mitchell (KSM)	Gold and Copper	1,800 people during its 5-year construction and approximately 1,040 jobs during its 52-year mine life	65km NW of Stewart	<ul style="list-style-type: none"> Provincial EA issued July 20, 2014 Federal EA issued December 19, 2014 Provincial EA granted extension to July 29, 2026 Seabridge indicates planned permit applications in Q2 2022. 	\$5.5B	KSM Mining ULC (Subsidiary of Seabridge Gold)

Mine Development Projects

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
Giscome Quarry and Lime	Lime	215 person-years of direct and indirect labour	27 km east-northeast of Prince George	<ul style="list-style-type: none"> MA permit and Environmental Management Act (EMA) Permit Issued in the summer of 2018 EMLI is not aware of any plans to commence construction. In October 2021, the EA Certificate was extended to Dec 2026, by which time the project must be substantially started. 	\$150M	Graymont Western Canada Inc.
Kutcho	Copper and Zinc	250 Construction 250 Operations	100 km east of Dease Lake	EA in Pre- Application	\$287.8M – 345M	Kutcho Copper Corp (KCC)
Crown Mountain	Coal	Expected employment numbers not known/16-year mine life	Sparwood	EA Application expected April 2022	Unknown	NWP Ltd

Mine Development Projects

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
---------	---------	------------	----------	---------------	---------------	-----------------

Mine Development Projects

New Prosperity Stand Down Agreement	Copper and Gold	700 jobs over 33 year mine life	Williams Lake	<p>Post EA/Permitting</p> <ul style="list-style-type: none"> • In December 2019, the Tsilhqot'in and Taseko asked the Province to facilitate a process to resolve the long standing conflict over the New Prosperity project. Tsilhqot'in and Taseko made a joint request for a 12 month extension to all New Prosperity permits and to the EA Certificate as part of that process. • In December 2020 Tsilhqot'in and Taseko asked to extend the facilitated process. • In January 2021, regulatory approvals, permits and licences, including the EA Certificate were extended by 12 months. • In December 2021 a renewed request by the Tsilhqot'in and Taseko was made for a further 12 month extension to authorizations, permits and the EA Certificate. • The request to renew the EA Certificate was not granted and the EA Certificate expired on January 14, 2022. • Tsilhqot'in and Taseko have agreed to pause litigation 	Unknown	Taseko Mines
--	-----------------	---------------------------------	---------------	---	---------	--------------

Mine Development Projects

				<p>and regulatory matters while discussions continue to reach a long-term solution. A facilitated negotiation process is ongoing.</p> <ul style="list-style-type: none">••		
--	--	--	--	---	--	--

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Cariboo Gold Project

Drafted/Revised: March 15, 2022

Issue: Status of the Environmental Assessment and Major Mine permitting processes for Cariboo Gold Project (Cariboo Gold).

Response:

- Osisko Development Corporation (ODV) proposes to develop Cariboo Gold, located near the Town of Wells, BC.
- The Environmental Assessment (EA) process for Cariboo Gold began on May 14, 2020 under the new *Environmental Assessment Act* 2018 and a Notice of Application Review was sent by Environmental Assessment Office (EAO) on January 24, 2022.
- Cariboo Gold is in the Application Development and Review phase of the EA with a revised application by ODV expected in late May 2022. The legislated timeline of this phase is complete and proponents have up to one year to submit a revised application. If the revised application is deemed complete by EAO, the project would move into the Effects Assessment phase in June 2022, and an EA decision would be possible in December 2022.
- Cariboo Gold will require a number of permitting authorizations and a coordinated authorization permitting process will be led by the Major Mines Office of EMLI.
- ODV has indicated they will be submitting their joint application for *Mines Act* and *Environmental Management Act* permits in July 2022.
- Government agencies have made the EA and permitting of Cariboo Gold a priority and EMLI has dedicated resources to the Project.

Background/Status:

- Osisko Development Corporation (ODV) proposes to develop Cariboo Gold, an underground gold mine with a production capacity of 4,750 tonnes per day, near Wells, BC.
- Cariboo Gold is anticipated to produce 25 million tonnes of ore with an operating mine life of 16 years, in addition to construction (2 years) and site decommissioning and reclamation (2 years) at a capital cost of \$900 million.
- ODV indicates that Cariboo Gold would have a construction employment peak of 245 workers and an estimated 350 direct employees plus 50 contractors and consultants during operations.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Lhtako Dene Nation, Xat'sül First Nation, and Williams Lake First Nation are participating Indigenous nations in the EA and reached consensus on the Readiness Decision. It is anticipated that these same nations will participate in the permitting processes.
- Nazko Indian Band and Tsilhqot'in National Government are being notified of key milestones during EA.
- Major Mines Office (MMO) and ODV are currently working on a project charter and schedule for the coordinated permitting process.
- MMO will lead discussions with Lhtako Dene Nation, Xat'sül First Nation, and Williams Lake First Nation regarding collaborative engagement for permitting.
- ODV has indicated interest in pursuing an Early Works permit to be decided upon shortly after the EA Certificate. MMO and ODV will be working on identifying what could be included in the Early Works application.
- ODV submitted a Licence of Occupation application to FLNR in July 2021 for a 69-km transmission line. MMO and FLNR are in discussions with respect to bringing that application into the MMO coordinated authorization process.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Petroleum Resources
Minister Responsible: Hon. Bruce Ralston

Title: Blackwater Gold Project

Drafted: March 14, 2022

Issue: Status of Blackwater Gold Project

Response:

- The Blackwater Gold Project (Blackwater) received an Environmental Assessment Certificate on June 21, 2019, following substantial collaborative work with Indigenous Groups.
- On June 9, 2020, Artemis Gold Inc. announced the purchase of Blackwater from New Gold Ltd., in a deal worth C\$190M.
- Blackwater will see the creation of 457 direct jobs created for Life of Mine (LOM) with an additional 825 direct jobs created during construction/expansion phases.
- Over LOM, there is projected to be \$13.2 billion in value added in British Columbia, and \$2.3 billion in Provincial Government Revenues.
- The Province has an Economic and Community Development Agreement (ECDA) with the Lhoosk'uz Dené Nation (LDN) and Ulkatcho First Nation (UFN) and a Pathways Agreement with the Carrier Sekani First Nations that provides for revenue sharing and collaborative decision-making processes.

Background/Status:

- The Blackwater Project is located in central BC, approximately 112 km southwest of Vanderhoof, and is accessed via the Kluskus Forest Service Road (FSR), the Kluskus-Ootsa FSR and an exploration access road. The Kluskus FSR joins Highway 16 approximately 10 km west of Vanderhoof. Blackwater is comprised of an open pit gold and silver mine, with ore processing facilities, commencing with a nominal milling rate of 15,000 t/d (5.5 Mtpa). The ore processing facilities will be expanded to achieve 33,000 tpd (12 Mt/y) starting in Year 6 with a final expansion to achieve 55,000 t/d (20 Mt/y) starting in Year 11 of operation. The total LOM is expected to be 23 years.
- The Blackwater project includes the construction, operation, and closure of an open pit gold and silver mine and ore processing facilities. Gold and silver will be recovered by a combination circuit of gravity and whole ore leaching to produce a gold-silver doré. The mine life is expected to be 23 years, including processing of low-grade stockpile.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Petroleum Resources
Minister Responsible: Hon. Bruce Ralston

- The Mine site is located within the traditional territories of LDN and UFN. Other components of Blackwater, including the FSRs and transmission line, cross the traditional territories of Nadleh Whut'en First Nation, Saik'uz First Nation, and Stellat'en First Nation (collectively, the Carrier Sekani First Nations).
- The Province has an Economic and Community Development Agreement (ECDA) with the Lhoosk'uz Dené Nation (LDN) and Ulkatcho First Nation (UFN) that provides for revenue sharing of the mineral tax collected from Blackwater.
- The Province also has a Pathways Agreement with the Carrier Sekani First Nations that provides for revenue sharing and collaborative decision-making processes in four main areas: economic development, socio-cultural programming, governance, and environmental stewardship.
- Federal and Provincial Environmental Assessment (EA) certificates were issued for the Project on April 15, 2019 and June 21, 2019 respectively.
- Blackwater was sold by New Gold Ltd. to Artemis Gold Inc. in June 2020, for \$190 million.
- Artemis released a Definitive Feasibility Study on October 25, 2021 which resulted in revisions to the project design. The revised design does not require a Provincial EA amendment; however, a Federal decision regarding potential amendments to the Federal EA certificate is outstanding.
- Blackwater's capital expenditure is estimated at \$1.5 billion with average annual operating costs estimated at \$284 million. During the construction phase, Blackwater is projected to generate an estimated \$810 million in value for the BC economy and an estimated \$12.4 billion in revenue tax over the 23-year mine life.
- The Ministry of Indigenous Relations and Reconciliation, LDN and UFN have negotiated an ECDA which will provide for 35 percent mineral tax revenue sharing generated by Blackwater over LOM.
- Major Mines Office and all five Nations impacted by Blackwater have finalized a permitting collaboration plan and will also develop a LOM Framework agreement to structure engagement during Project construction, operation, and closure.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation.
Minister Responsible: Bruce Ralston

Title: Giscome Quarry and Lime Project

Revised: March 22, 2022

Issue: Update on Progress of Giscome Quarry and Lime Project

Response:

- Graymont Western Canada Inc. holds a Mines Act Permit issued in August 2018 and an Environmental Assessment (EA) Certificate issued in December 2016.
- Construction has not started on the permitted limestone quarry project.
- In October 2021 the EA Certificate was extended to December 14, 2026 by which time the project must have been substantially started.

Background/Status:

- The proposed Project is located near the community of Giscome, approximately 27 kilometers east of Prince George.
- The project proposal includes a limestone quarry located on Crown land with a 4.3-kilometer conveyor belt to transport the limestone to a lime processing plant site located on private land owned by Graymont
- Graymont Western Canada Inc. (Graymont) received their Environmental Assessment (EA) Certificate on December 14, 2016.
- Graymont received their Mines Act Permit on August 1, 2018.
- In October 2021 the EA Certificate was extended to December 14, 2026 by which time the project must have been substantially started.
- The Proponent, Graymont, is a family-owned company that has been in the lime business for over 60 years.
- The proposed Project is within the asserted territory of the Lheidli T'enneh First Nation (LTFN) and a Mutual Benefits Agreement between Graymont and the LTFN was established in September 2014.
- Initial construction of the lime plant with 1 kiln and quarry is expected to employ 40 to 60 people. Additionally, 10 to 15 permanent positions could be created for operation of the plant site and quarry.
- Estimated initial capital cost of first phase is \$150 million and \$100 million to construct additional kilns and ancillary equipment (2017 estimates).

2020/21 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Petroleum Resources
Minister Responsible: Hon. Bruce Ralston

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Operating Coal Mines in British Columbia

Revised: March 15, 2022

Issue: Summary of coal mines currently operating in British Columbia

Response:

- There are currently seven metallurgical coal mines operating in British Columbia (BC), employing approximately 4,300 workers.
- BC remains Canada's largest exporter of coal with primary production being metallurgical coal used for steelmaking.
- The estimated value of the coal produced in BC in 2020 was US \$2.8 billion, down from \$4.9 billion in 2019.
- Over 80 percent of the mineral tax the Province collected from BC mines in 2019/20 came from coal operations (\$202million). This number is significantly lower than previous years due to lower production and prices.

Background/Status:

- The following coal mines are currently operating in BC:

Operation	Company	Community	Est. Employees ¹
Elkview	Teck	Sparwood	1,080
Fording River	Teck	Elkford	1,342
Greenhills	Teck	Elkford	683
Line Creek	Teck	Sparwood	490
Wolverine	Conuma Coal	Tumbler Ridge	355
Brule	Conuma Coal	Tumbler Ridge	280
Willow Creek	Conuma Coal	Tumbler Ridge	220

- The estimated value of the coal produced in the Province in 2020 was \$2.8 billion, down from \$4.9 billion in 2019, and represents 42 percent of BC's total mining production value.
- Over 81 percent of the mineral tax the Province collected from BC mines in 2019/20 came from coal operations (\$202 million of \$250 million). Forecasted net coal mineral tax revenue in 2021/22 is \$371 million.

¹ As reported by the companies.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Four of BC's seven operating coal mines are located in the southeast corner of BC:
 - These mines are owned by Teck and are a significant part of the regional economy and provincial economy, employing nearly 3,600 people.
- In April 2020, Teck submitted an Initial Project Description as the first step in its Environmental Assessment (EA) Application for the Ford River Extension (FRX) Project at the Fording River site. FRX is in the early engagement phase of the EA process. Three of BC's seven operating coal mines are located in the Peace River Coalfield near Tumbler Ridge. These are owned by Conuma Coal and employ approximately 800 people from the communities of Tumbler Ridge and Chetwynd.
 - In February 2021, the Chief Executive Assessment Officer issued an amendment to the EA Certificate for the Wolverine Mine Project and its Wolverine-Hermann Extension that would extend its life by seven years.
 - The Willow Creek Mine reopened as of January 2021 due to optimism regarding coal prices. It had previously been shuttered since June 2020.
- Coal produced at BC mines is transported by rail to shipping terminals in Vancouver (Port Metro, Westshore or Neptune Terminals) and Prince Rupert (Ridley Terminals).
 - Teck completed construction at North Vancouver's Neptune Terminals in the first quarter of 2021.
- Proposed coal projects in the pre-application phase for EA include Crown Mountain (Jameson Resources), Michel Coal Project (North Coal), Fording River (Teck) and Tenas Coal (Allegiance Coal).
- Due to COVID-19 related demand suppressions and reductions in industrial activity, metallurgical coal prices fell nearly 20 percent to a low of US \$50/tonne in Q2 2020.
- 2021 saw demand rebalance and supply recalibration with prices rising 11.2 percent between Q3 2021 and Q1 2022 as major steelmaking countries began to ease restrictions. Coal prices reached all-time highs in early October 2021 of US \$298/tonne. Overall, the average price in 2021 was US \$183.2/tonne. Prices remain strong in Q1 2022 at US \$291/tonne as of March 9, 2022. Consensus Economics is predicting a 32 percent decline in coal prices from Q2 2022 to Q2 2023.

Contact:

Peter Robb

ADM

MCAD

Government Financial
Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Operating Metal Mines in British Columbia

Revised: March 15, 2022

Issue: Summary of metal mines currently operating in British Columbia

Response:

- There are currently eight metal mines operating in British Columbia (BC), employing approximately 4,700 workers.
- The key metals mined in BC are copper, gold, silver and molybdenum.
- BC is Canada's largest producer of copper and Canada's only producer of molybdenum.
- Metal mines are forecasted to account for \$5.46 billion of all mine production in 2021, representing about 43 percent of total output.

Background/Status:

The following metal mines are currently operating in BC:

Operation	Company	Community	Est. Employees ¹	Commodities
Brucejack	Pretium Resources Inc. (Pretivm)	Stewart	570	Gold/Silver
Copper Mountain	Copper Mountain Mining Corporation	Princeton	490	Copper/Gold/Silver
Gibraltar	Taseko Mines Limited	Williams Lake	700	Copper/Molybdenum
Highland Valley Copper	Teck Resources Limited	Logan Lake	1,270	Copper/Molybdenum
Mount Milligan	Centerra Gold Inc.	Prince George	485	Copper/Gold/Silver
Myra Falls	Nyrstar	Myra Falls	320	Copper/Gold/Zinc
New Afton	New Gold Inc.	Kamloops	500	Copper/Gold/Silver
Red Chris	Newcrest Mining Limited	Iskut	380	Copper/Gold

¹ As reported by the companies.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Metal mines accounted for a forecasted \$5.46 billion of all mine production in 2021.
- The Province collected \$48.4 million in mineral taxes from BC metal mines in the 2019/20 fiscal year. The Province is forecasted to collect \$114 million in 2021/22.
- Eight metal mines operated in 2021. Proposed upcoming metal mines include the Eskay Creek, Blackwater, Cariboo Gold, and Premier Gold Projects.
- BC's mining sector saw near record levels of investment in mineral exploration in 2021, totalling nearly \$660 million. More than half of that spending was in advanced exploration by mining companies.
- 2021 saw significant investment in BC's major metal mines with approximately Government invested in mines and advanced projects such Kutcho, Balorne, and Tatogga. See Appendix 1 for details of recent investments in BC .
- Metal prices continued to be strong through 2021, where average annual prices for molybdenum, zinc, lead, silver and copper all recorded growth exceeding 20 percent in 2021 compared to 2020. The price of gold grew modestly in 2021 at 1.7 percent compared to the average prices in 2020 and remains at an elevated level. Metal prices are forecasting strong gains in 2022 to meet a post-COVID surge in demand and rising demand for some metals to build clean energy infrastructure.

Attachment: Appendix 1 – Recent investments in BC's operating and proposed mines.

Contact:

Peter Robb

ADM

MCAD

Government Financial
Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 1 – Recent investments in BC’s operating and proposed metal mines

- In November 2021, Wheaton Precious Metals offers \$178 million for silver stream from Artemis Gold as additional funding for the Blackwater Project. Under the terms of the silver stream agreement, Wheaton will purchase 50 percent of the silver production from the mineral reserves of Blackwater until approximately 18 million ounces of silver have been delivered, after which the stream reduces to 33 percent of the silver production for the life of mine.
- In November 2021, Newcrest Mining buys Pretium Resources for \$3.5 billion. Pretium owns the Brucejack gold property near Stewart.
- In April 2021, Seabridge sells residual Red Mountain Interest to Sprott Resource Streaming and Royalty for \$22.5 million.
- In April 2021, New Gold Announces 14.9 percent Investment in Talisker Resources for total consideration of approximately \$13.8 million. Talisker owns the Bralorne Gold Project near Lillooet, BC.
- In April 2021, Yamana acquires approximately a 6.4 percent interest in Ascot Resources Ltd., for \$20.64 million.
- In March 2021, Newmont acquires the remaining 85.1 percent of shares of GT Gold for \$393 million. As part of the deal, Newmont acquires the Tatogga copper gold mine in Northwest BC.
- In May 2021, Skeena Resources entered into an agreement with a syndicate of underwriters led by Raymond James Ltd. and Canaccord Genuity Corp., under which the underwriters have agreed to buy on a bought deal basis 16,129,033 common shares for gross proceeds of approximately C\$50.0 million.
- In June 2021, Kutcho Copper Corp announces a non-brokered private placement valued at \$2.5 million to advance development of its Kutcho Copper Project.



British Columbia Geological Survey
Open File 2022-01



Mines, mine development, selected proposed mines, and selected exploration projects in British Columbia, 2021

Gordon Clarke, Bruce Northcote, Nate Corcoran, and Kirk Hancock

0 250
Kilometres

Property status (overlay on sector and predominant deposit group)

- Operating mine*
- Care and Maintenance**
- Mine development
- Proposed mine
- Exploration project
- Temporary shutdown

* Operated in, or for a portion of 2021
** Operated within the last 3 years

Sector and predominant deposit group (possible commodities listed beside)

Metal

- Porphyry - Cu, Mo, Au, Ag
- Vein, breccia, and stockwork - Au, Ag, Cu, Pb, Zn, Co, Te
- Sediment-hosted - Cu, Co, Pb, Zn, Au, Ag
- Epithermal - Au, Ag, Cu, Sn, Pb, Zn
- Marine volcanic association - Cu, Pb, Zn, Au, Ag
- Skarn - W, Cu, Fe, Au, Ag, Pb, Zn, Mo, Co
- Ultramafic/Mafic - Cu, Ni, PGE, Co, Au, Ag
- Manto - Ag, Pb, Zn
- Carbonatites - Nb, REE

Industrial

- Industrial rocks - Andesite, basalt, dimension stone, limestone, marble, pumice, shale, silica
- Sediment-hosted - Bentonite, magnesite, barite, kaolin, talc
- Chemical sedimentary rocks - Gypsum, diatomite, phosphate
- Continental sedimentary and volcanic rocks - Zeolite, silica
- Metamorphic-hosted - Graphite

Coal

- Metallurgical
- Thermal

Aggregate

- Aggregate

Miscellaneous

- Slag

Geology

Post accretionary assemblages

- Intrusives
- Supracrustal
- Neogene to Quaternary volcanic rocks

Terranes

- Outboard
- Alexander
- Wrangellia
- Cache Creek and affiliates

- Slide Mountain
- Stikinia
- Quesnellia
- Yukon-Tanana

Ancestral North America

- Cassiar
- Basinal strata
- Platformal strata
- Craton and cover

Mineral Development Office and Regional Geologist Contacts

Gordon Clarke, Director
604-660-2094
Gordon.Clarke@gov.bc.ca

Nate Corcoran
Northeast
North Central
250-645-9238
Nathan.Corcoran@gov.bc.ca
Fiona Katay
Southeast
250-952-0372
Geological.Survey@gov.bc.ca
Bruce Northcote
Southwest
604-660-2713
Bruce.Northcote@gov.bc.ca

Vacant
South Central
Vacant
Northwest

British Columbia Geological Survey

British Columbia Ministry of Energy, Mines and Low Carbon Innovation

Adrian Hickin, Chief Geologist and Executive Director
Yao Cui, Acting Resource Information Director
Neil Wildgust, Cordilleran Geoscience Director
Gordon Clarke, Mineral Development Office Director

Geological.Survey@gov.bc.ca
www.gov.bc.ca/geologicalsurvey

Clarke, G., Northcote, B., Corcoran, N.L., and Hancock, K., 2022. Mines, mine development, selected proposed mines, and selected exploration projects in British Columbia, 2021. British Columbia Ministry of Energy, Mines and Low Carbon Innovation, British Columbia Geological Survey Open File 2022-01.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Mineral Tax Revenue Forecast/Revenue Sharing with First Nations

Revised: March 15, 2022

Issue: BC's Mineral Tax forecast and Revenue Sharing with First Nations through Economic Community Development Agreements.

Response:

- Mineral tax revenue depends on the level of mineral production in BC's mining sector along with commodity prices. Mineral tax revenues are mainly supported by coal, copper, and gold sales in the province.
- With the significant increase in metallurgical coal prices caused by strong global steel production and domestic supply tightness in China, the Ministry of Finance (FIN) forecasts mineral tax revenues to increase from approximately \$75 million in 2020/21 to \$526 million in 2021/22.
- Up to 37.5 percent of incremental mineral tax is shared with First Nations (FN) for new mines and expansions with \$28 million shared in 2020/21.
- Economic Community Development Agreements (ECDA) representing 48 individual mineral tax revenue streams have been signed with 48 FNs and further are underway or planned.
- The province recognizes that FNs have been requesting amendments to revenue sharing policy. The Ministry of Energy, Mines and Low Carbon Innovation (EMLI) and the Ministry of Indigenous Relations and Reconciliation (MIRR) continue to evaluate ECDA policy improvements as part of the new fiscal relationship with Indigenous nations. This has resulted in the inclusion of mines coming out of care and maintenance as of 2020 and removing fiscal tiering provisions by 2023.

Background/Status:

BC Mineral Tax

- The mineral tax is a profit-based tax payable by the mines and quarries operating in BC. The tax was enacted in 1990.
- The program applies a tax on prescribed commodities:
 - Coal (Business Information Metallurgical, Thermal, PCI (Pulverized Coal Injection)

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Base and Precious Metals Business Information – Copper, Molybdenum, Zinc, Gold and Silver
- Other (Business Information – Industrial Minerals, Gemstones, rare elements and dimension stones)
- The Mineral Tax Revenue projections are based on forecasted commodity prices, various economic indicators and knowledge of the industry. EMLI is responsible for providing commodity price forecasts while FIN is responsible for the Mineral Tax Revenue projections. EMLI subscribes to a publication called Consensus Economics to generate its price forecasts (Appendix 1).
- There are two tiers of mineral tax:
 - The lower tier is called the net current proceeds tax and is calculated at 2 percent of operating cash flows (i.e. revenues plus recoveries minus operating expenditures for the period). This tax is paid before recovery of all operating and capital costs and other deductions.
 - The higher tier is called the net revenue tax and is calculated at 13 percent of profits over the life of the mine (i.e. cumulative revenue minus cumulative operating and capital costs and other tax-related deductions). The higher net revenue tax is only paid after recovery of all operating and capital costs and other deductions.

Mineral Tax Revenue Sharing

- In 2008, BC became the first province in Canada to introduce a policy to share with FNs direct provincial mineral tax revenue from new and expanded mines.
- ECDAs secure support for mining projects, increase process certainty for the Province, FNs and industry, and reduce litigation risks for the life of the agreement.
- MIRR leads the negotiation of ECDAs, and FNs receive a percentage of up to 37.5 percent of incremental mineral tax revenue from mine developments in FNs traditional territories.
- The Province's ECDA's represent Intergovernmental mineral tax revenue sharing streams to FNs which cover Intergovernmental metal and coal mines in BC.
- Agreements for mines which have recently come out of care and maintenance (Brule, Wolverine, Willow Creek) were signed at the end of March 2020.
- Other agreements, including those for Myra Falls, Fireside Barite and Kootenay West Gypsum are underway, with further negotiations planned for the near future.
- ECDA payments have been made to FNs on Intergovernmental mineral tax revenue sharing streams established under ECDAs (Appendix 2). The Intergovernmental revenue sharing streams where payments have not been made include:
 - Advice/Recommendations

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Advice/Recommendations; Intergovernmental Communications
-
-

Attachments: Appendix 1 – EMLI's Price Forecast
Appendix 2 – Payments to FNs through ECDAs in 2020/21

Contact:
Peter Robb ADM MCAD Government
Financial

Appendix 1 – EMLI's Price Forecast

	Actual 20/21	Forecast (as of March 2022) 21/22
Metal Prices (US\$)		
Copper (\$/lb)	3.12	4.26
Lead (\$/lb)	0.85	0.99
Zinc (\$/lb)	1.10	1.44
Molybdenum (\$/lb)	9.10	16.70
Gold (\$/oz)	1,822	1,753
Silver (\$/oz)	22.80	22.19
Coal Contract Prices (US\$/mt)		
Metallurgical Coal	117	240
Low Vol PCI Coal	84	172
Thermal Coal	68	121
Mineral Tax (\$'000s)		
Metals	67,901	142,215
Coal	7,594	384,171
Total	75,495	526,386

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 2 – Payments to FNs through ECDAs in 2020/21

Mine	FNs	ECDA Payments Made in 20/21	Total Payments to FNs since conclusion of ECDA
Brucejack	Intergovernmental Communications		
Copper Mountain	[
Elk Valley	[
Gibraltar	[
Highland Valley Copper	-	-	-
Huckleberry	-	-	-
Mt. Milligan	[
Mt. Polley	[
New Afton	[
Quinsam Coal	-	-	-
Red Chris	[
NE Coal	-	-	-

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Financial Security for Mines

Revised: March 15, 2022

Issue: The purpose of mine reclamation security and an update on the Ministry of Energy, Mines and Low Carbon Innovation's work related to updating the reclamation security policy.

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (EMLI) requires security at the time of mine permitting and conducts regular reviews of the amount held as conditions change throughout the life of the Mine.
- Engagement with industry, environmental organizations and Indigenous groups has been conducted in recent months, and EMLI is positioned to release an Interim Reclamation Security Policy in the next several weeks.
- The policy will protect BC taxpayers while ensuring that mining in BC continues to be nationally and globally competitive.
- EMLI is working to close the historic gap between reclamation liabilities and the amount of reclamation security held in order to reduce the risk to BC taxpayers, and to limit the potential for mine sites to impact the environment.
- One of my mandate commitments includes supporting the Minister of Environment and Climate Change Strategy (ENV) to ensure owners of large industrial projects are bonded moving forward so they – not BC taxpayers – pay the full costs of environmental cleanup if their projects are abandoned. Work is already underway between EMLI and ENV staff in efforts to satisfy this mandate through the *Better Bonding Strategy*. The interim policy will help to inform this work, and the policy will be reviewed and updated as necessary following the conclusion of that work.

Background/Status:

- The interim policy seeks to ensure that permittees for major mines pay the full cost of environmental cleanup and reclamation for their mine.
- Under the *Mines Act*, the Chief Permitting Officer sets the financial security requirements at the permitting stage, regularly reviews them during mine operations, and can adjust them as liability or other factors change at any point during the mine's life.
- Acceptable forms of security include cash, surety bonds, qualified environmental trusts, and irrevocable standby letters of credit.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- From 2016 to 2020, financial security at major mines has increased from Government Financial Information and the differential between the amount of financial security and the amount of the reclamation liability has fallen from \$Government Financial Information
- Lack of clear policy and insufficient security has been identified in several recent AG reports across the country (Ontario 2015, Alberta 2015, Nova Scotia 2014). This is an evolving area of policy development, and BC is at the forefront of this with the Interim Reclamation Security Policy and the Better Bonding Strategy..
- EMLI's interim policy will be based on current best practices as informed by the Ernst and Young report, the Stantec report and input from industry, environmental organizations and Indigenous Organizations. Primary objectives of the interim policy include:
 - Enhance the environmental sustainability of the mining sector;
 - Provide transparency with respect to how reclamation liability cost estimates are to be calculated;
 - Reduce the differential between the mining sector's reclamation liabilities and the reclamation securities held by the Province for existing mines;
 - Promote on-going exploration to reduce the risk of default and to promote stable mining communities;
 - Encourage progressive reclamation and proactive source control measures to reduce the need for long-term water treatment and other environmental liabilities;
 - Maintain and enhance BC's strong practices and reputation with respect to Environmental, Social, and Governance factors;
 - Support the continued competitiveness of BC's mining industry to ensure that this critical industry continues to thrive in BC.
- EMLI is working to close the historic gap between reclamation liabilities and the amount of reclamation security held in order to reduce the risk to BC taxpayers, and to limit the potential for mines sites to impact the environment.
- One of the Minister's mandate commitments includes supporting the Minister of ENV to ensure owners of large industrial projects are bonded moving forward so they – not BC taxpayers – pay the full costs of environmental cleanup if their projects are abandoned. Work is already underway between EMLI and ENV staff in efforts to satisfy this mandate through the *Better Bonding Strategy*. The interim policy will help to inform this work, and the policy will be reviewed and updated as necessary following the conclusion of that work.
- Total security for both major and regional mines held by the Province has risen from \$Government Financial Information (Appendix 1).

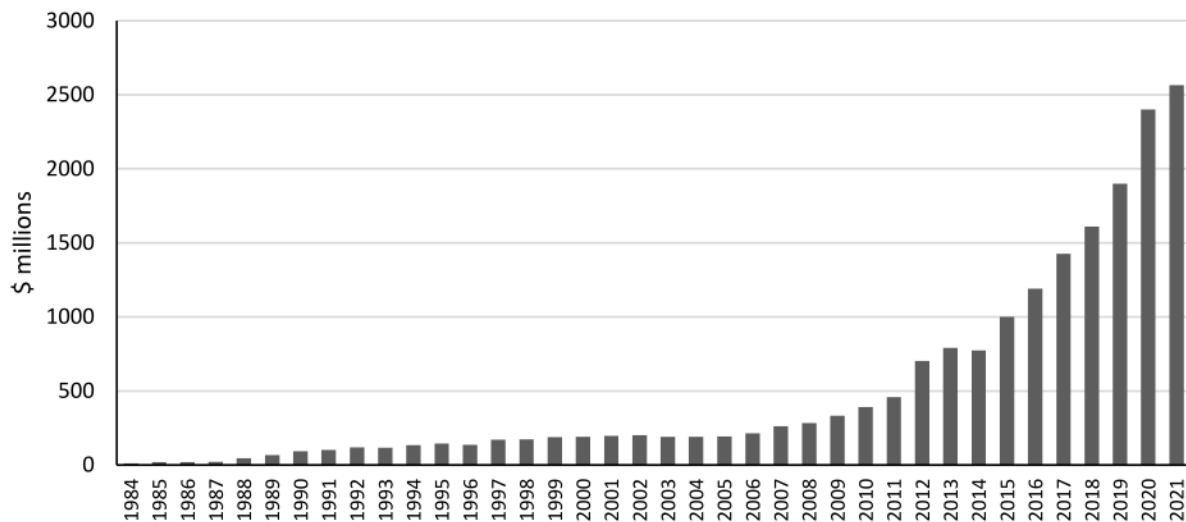
2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Attachments: Appendix 1 – Reclamation Security Deposits held by the Province

Contact:
Peter Robb ADM MCAD Government
Financial

Appendix 1 – Reclamation Security Deposits held by the Province



Major Amendments

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
Mine Expansion Amendments						
Bonanza Ledge/QR	Gold	Government Financial Information	Wells	Permitting Review - MA permit issued Oct. 18/21 - EMA anticipated to be issued Q2 2022.	Govern	Barkerville Gold Mines
Highland Valley Copper 2040	Copper-Molybdenum	Government Financial Information	Logan Lake	EA (transitioning to 2018 Act). Single process discussions for EA and MA and EMA permit amendments initially proposed to meet Teck timelines. EA and permitting in pre-application stage. Initial pre-application documents (project description and information requirements table) anticipated in April 2022.	Govern	Teck Resources
Eskay Creek	Gold/Silver	Government Financial Information	Stewart	- EA in Early Engagement phase - Technical sample	Unknown	Skeena Resources Ltd.

Major Amendments

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
				<ul style="list-style-type: none"> application anticipated to be submitted by end of June 2022. - Pre-application on permitting for the Revitalization period to begin in Q4 2022. 		
New Afton – C Zone Amendment	Copper-Gold-Silver	Government Financial Information	Kamloops	<ul style="list-style-type: none"> - Application review of C zone expansion ongoing with permit Decisions anticipated by the fall of 2022. 	Unknown	New Gold
Teck Fording River Extension (FRX)	Coal	Government Financial Information	Elkford	<ul style="list-style-type: none"> - EA Early Engagement; Readiness Decision targeted for June 2022. 	Unknown	Teck Coal Limited (Fording River Operations)
Red Chris	Copper-Gold	Government Financial Information	80km south Dease lake	<ul style="list-style-type: none"> EA and Permitting • Pre-Production Application is currently in screening review for underground block cave mine. Decisions are anticipated mid July 2022. 	Unknown	<p>Newcrest Mining Limited (70%) owner/operator</p> <p>Imperial Metals Corporation (30%) owner</p>

Major Amendments

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
				<ul style="list-style-type: none"> Pre-application for Production Applications will begin in the summer of 2022. Current mine is an Open Pit. 		
Copper Mountain	Copper, Gold, Silver	Government Financial Information	20 km from Princeton, BC	<ul style="list-style-type: none"> Applications for New Ingerbelle have been put on hold by the mine for the near term in order to allow the mine to work on their relationship with Indigenous Groups. Significant exploration ongoing 	Government	Copper Mountain Mining Ltd.
Other Major Amendments						
Silvertip	Silver-Lead-Zinc	Government Financial Information	16km south of the Yukon border (90km SW of Watson Lake)	<ul style="list-style-type: none"> Mine went into care and maintenance on February 19, 2020 and Proponent has indicated their 	N/A	Coeur Silvertip Holdings Ltd.

Major Amendments

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
				<p>intention to restart the mine.</p> <ul style="list-style-type: none"> Two applications are under review: one for NPAG rock for construction and one for Phase 1 underground exploration. Major works application for Phase 2 to facilitate underground exploration beyond the limits of the existing mine plan and water management capacity is anticipated, possibly in late spring / summer 2022. 		
Gibraltar	Copper, Molybdenum	Gover	19 km from McLeese Lake, BC	<ul style="list-style-type: none"> Pre-application for amendments to MA and EMA 	Governmen	Taseko Mines

Major Amendments

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
				<p>Permits for a water treatment plant in pre-application. Decisions anticipated in early fall in 2022.</p> <ul style="list-style-type: none"> Amendment to the EMA for discharges to the Fraser River in pre-application. Decisions anticipated in fall of 2022. 		
Teck Coal – Water Treatment Projects	Water treatment facilities	Unknown	Elk Valley	<ul style="list-style-type: none"> Fording River – North Saturated Rock Fill in permitting review 	Government Financial Information	Teck Resources Limited
Brule	Metallurgical Coal	Government Financial	Chetwynd/Tumbler Ridge	Application Review for MA/EMA amendment completed; decision materials being drafted for referral to SDMs.	Government Financial Information	Conuma Resources Ltd.

Major Amendments

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
					unknown with respect to amendment	
Kenville Mine	Gold	Government Financial	In Blewett, 6 km from Nelson BC	<ul style="list-style-type: none"> • Application Review for MA/EMA completed; decision materials being drafted for referral to SDMs. • FLNRORD issued an Order on October 21, 2021, under the Water Sustainability Act for the Proponent to submit an application for a Water Licence for possible groundwater diversion associated with their mining 	Govern	Ximen Mining Corporation

Major Amendments

Project	Product	Employment	Location	EA/Permitting	Cap. Costs	Proponent/Owner
				project. FLNRORD identified the project presents a risk of significant adverse impact on the flow of water in Eagle Creek. There are 78 water licenses on Eagle Creek downstream of the project.		

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Red Chris Mine Project

Drafted/Revised: March 14, 2022

Issue: Status of Red Chris Block Cave Project

Response:

- Newcrest Red Chris Mining Limited (NRCM) became owner and operator of the Mine on August 15, 2019, after entering into an asset purchase agreement with Imperial Metals Limited to acquire 70 percent of the Mine.
- Currently, approximately 500 people are employed at the Red Chris mine. Approximately 40 percent of NRCM's employees are from northwestern BC communities, including 220 members of the Tahltan Nation.
- Newcrest is currently transitioning from the current open pit operation to a block cave underground mining method to access higher grade ore at depth as the open pit resource nears depletion. The transition is expected to be complete in 2027 and the mine life is estimated to be about 30 years.
- The Province and Tahltan Central Government (TCG) are in the process of negotiating a consent-based decision-making agreement based on Section 7 of the Declaration of the Rights of Indigenous Peoples Act (DRIPA) for the upcoming amendments to the EAC.

Background/Status:

- The Red Chris property is situated approximately 18 km southeast of the village of Iskut, 80 km south of Dease Lake, and 450 km north of the town of Smithers.
- The Red Chris Mine has been in continuous operation since February 2015 and has an existing annual operating expenditure of approximately \$46 to 52 million.
- In August 2019, Imperial Metals Limited (Imperial) and Newcrest Mining Limited formed a joint venture worth US\$806.5 (~CAN\$1,074.7) million for the operation of the Red Chris mine. NRCM, acting as operator, holds a 70 percent interest and Imperial retains a 30 percent joint venture interest.
- The Project is within the territory of the Tahltan Nation. BC's and Tahltan's engagement is guided by the Tahltan – Province Government-to-Government Red Chris Mine Management Agreement dated January 24, 2017.
- Negotiations are ongoing with the Province and Tahltan Nation for a shared decision-making agreement under Section 7 of the *Declaration Act* for all *Environmental Assessment Certificate* amendments.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- NRCM is transitioning from the current open pit operation to a block cave underground mining method to access higher grade ore at depth as the open pit resource nears depletion.
- NRCM was permitted through *Mines Act* and *Environmental Management Act* permit amendments to construct an underground exploration decline in March 2020. The exploration decline is currently under construction.
- NRCM submitted a *Mines Act* amendment application to the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) for proposed block cave mining pre-production work on February 15, 2022. The proposed pre-production work includes extending the exploration decline and the construction of a conveyor decline. The pre-production application is currently under review by EMLI and is expected to be referred to Provincial decision makers this summer.
- The next step for Newcrest in permitting block cave mining at Red Chris is to permit production and other underground mining activities through *Mines Act*, *Environmental Management Act* and *Environmental Assessment Certificate* amendments in 2023.
- Beyond 2023, Newcrest anticipates submitting applications to permit the expansion of block cave mining production and the tailings impoundment area in 2034.

Contact:

Peter Robb

ADM

MCAD

778 698-7235

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Eskay Creek Revitalization Project

Drafted/Revised: March 10, 2022

Issue: Eskay Creek Mine Revitalization Project

Response:

- Skeena Resources Ltd., a Vancouver-based junior exploration and development company, is proposing the revitalization of the former Eskay Creek Mine.
- The Eskay Creek Project (the Project) is located in the Golden Triangle region of British Columbia, 83 km northwest of Stewart.
- Since the Eskay Mine was put into production in 1994, over \$2 billion has been invested in infrastructure in the area. The mine site has the benefit of excellent infrastructure including all-weather road access and close proximity to the 287-kV Northwest Transmission Line.
- The Project anticipates a 13 to 16-year mine life (construction to closure inclusive) with annual employment of 250 people during operation.
- The Project requires a federal and provincial Environmental Assessment Certificate (EAC), as well as amendments to the current *Mines Act* permit and *Environmental Management Act* authorizations.
- The Project lies within the Tahltan Territory and asserted traditional territory of the Tsetsaut Skii Km Lax Ha. Concentrate transported to the Stewart Port via Highway 37 and 37A will pass through the Nass and Nass Wildlife Areas of the Nisga'a Nation and the asserted traditional territory of the Gitanyow Nation.
- A MOU has been signed between the Province, Tahltan and Skeena to set out efficiencies for the regulatory review and approvals processes. EAO and Tahltan are developing a consent based decision-making process pursuant to Section 7 of the *Declaration Act*.

Background/Status:

- The Eskay Creek Project (the Project) is a former operating mine, located in the Golden Triangle region of British Columbia, 83 km northwest of Stewart. Access to Eskay Creek is via the Eskay Mine Road that connects to Highway 37 – Stewart Cassiar Highway, approximately 135 km north of Meziadin Junction.
- Skeena Resources Ltd., a Vancouver-based junior exploration and development company, is proposing the revitalization of the Eskay Creek Mine.
- Commissioned in 1994, the Eskay Creek Mine produced approximately 3.3 million ounces of gold and 160 million ounces of silver at average grades of 45 g/t gold

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

and 2,224 g/t silver and was once the world's highest-grade gold mine and fifth-largest silver mine by volume. Over the 14-year mine life, approximately 2.2 million tonnes of ore was mined with cut-off grades ranging from 12-15 g/t gold equivalent for mill ore and 30 g/t gold equivalent for smelter ore.

- Since the Eskay Creek Mine was put into production, over \$2 billion has been invested in infrastructure in the area. The mine site has all-weather road access and is near the 287-kV Northwest Transmission Line. The Volcano Creek Hydroelectric Power Station is 7 km away from Eskay.
- The Project considers an open-pit mine with on-site processing of the mined material by conventional milling and flotation to recover a gold-silver concentrate for provision to third-party smelters.
- The open-pit resource includes 5.1 million ounces at 4.2 g/t AuEq in the total Measured plus Indicated category. The anticipated mine lifespan is 13 to 16 years (including construction and closure) and the mine will employ 250 people during the 8 to 11 years of operation.
- The Project lies within the Tahltan Territory and within the asserted traditional territory of the Tsetsaut Skii Km Lax Ha. Concentrate transported to the Stewart Port via Highway 37 and 37A will pass through the Nass and Nass Wildlife Areas of the Nisga'a Nation and the asserted traditional territory of the Gitanyow Nation.
- The Project will require a federal and provincial EAC with the federal EA occurring via the Provincial EA substitution process. Amendments to the existing *Mines Act* permit and *Environmental Management Act* authorizations will also be required.
- The Environmental Assessment Office (EAO) and Tahltan Nation are developing a Decision-Making Agreement that sets out a consent based decision-making process for the Eskay Creek EA Certificate, pursuant to s. 7(1)(b) of the *Declaration on the Rights of Indigenous Peoples Act* (Declaration Act).
- The EA process is in the Early Engagement Phase and Skeena plans to submit the Detailed Project Description at the end of May 2022. Skeena plans to conduct a Technical Sample program prior to starting the Revitalization Project. The company will submit a MA/EMA Joint permit application for the Technical Sample program at the end of June 2022, and plans to start the pre-application phase for the Revitalization project in January 2023.

Contact:

Peter Robb ADM

MCAD

778-698-7235

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Title: Bell/Granisle – Glencore

Revised: March 21, 2022

Issue: Media reports of Bell and Granisle Mines leaking copper into Babine Lake

Response:

- As with any operational or closed mine site, we take concerns about water quality in nearby lakes and rivers very seriously.
- Both the Bell and Granisle mines have Mines Act (MA) permits and ongoing requirements to reclaim and mitigate impacts to the receiving environment.
- Both the Bell and Granisle mines have Environmental Management Act (EMA) effluent discharge permits and ongoing requirements for monitoring and reporting.
- Both mines are complying with their MA and EMA permits, and all available data indicates they are meeting B.C.'s Water Quality Guidelines for the protection of aquatic life in Babine Lake.
- Water quality in Babine Lake has improved since a Water Treatment Plant was installed at the Bell Mine in 2015 to treat site contact water prior to discharge to Babine Lake.

Background/Status:

- On Jan. 25, 2021, media reported that Bell and Granisle mines were leaking copper into Babine Lake which was entering the Skeena watershed, affecting sockeye salmon. This stemmed from a report in which the SkeenaWild Conservation Trust and the Lake Babine Nation suggest that monitoring data shows wastewater from both mines has contained copper contamination up to 20 times greater than provincial water quality guidelines.
- Compliance and Enforcement activities at operating mines is conducted by both EMLI and ENV. EMLI is responsible for regulating on-site activities, and ENV has responsibility for regulating the off-site discharge of air or water.
- Both mine sites have Environmental Management Act (EMA) effluent discharge permits with requirements to undertake monitoring of effluent discharges, ground water, Babine Lake water quality, and to implement an aquatics effects monitoring program (AEMP). The results of the last AEMP conclude that discharges from the mines are not having a significant negative effect on aquatic life in Babine Lake.

- Both Mine sites have Mines Act (MA) permits with requirements to reclaim the mine sites and actively monitor and mitigate any impacts to the receiving environment.
- For the Bell Mine, there are no existing compliance issues related to site water quality or the water treatment plant under the *Mines Act*.
- For the Granisle Mine, under the *Mines Act* there are no concerns that the site is impacting Babine Lake; however, there are two open inspection orders related to monitoring and demonstrating an understanding of the long-term evolution of site water quality. The proponent is actively working with EMLI Inspectors to address and close these orders.
- Staff from ENV and EMLI met with the Lake Babine Nation to discuss the SkeenaWild report on February 24, 2021. Follow-up meetings were held through 2021 to discuss additional water quality monitoring in Babine Lake and to coordinate LBN-EMLI joint inspection.
 - 2021 inspections were deferred due to Covid and will be revisited in 2022.
 - ENV and LBN continue to work toward the development and implementation of a monitoring program for Lake Babine.

Contact:

Peter Robb

ADM

MCAD

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Mining Competitiveness

Drafted/Revised: March 14, 2022

Issue: Challenges and opportunities for British Columbia's mining sector competitiveness

Response:

- The competitiveness of British Columbia's (BC) mining sector is key to attracting investment to mineral exploration and mine development.
- The 2020 Fraser Institute's Annual Survey of Mining Companies concluded that BC's score for Investment Attractiveness increased slightly from 2019.
- The Province's tax incentives, rich mineral deposits, world-class infrastructure and abundant source of clean and affordable energy continue to make BC an attractive jurisdiction for mine investors with approximately \$4.1 billion invested in BC companies and assets in 2021.
- The Ministry of Energy, Mines, and Low Carbon Innovation (EMLI) is implementing actions identified by the Mining Jobs Task Force (MJTF) to enhance mining sector competitiveness in a staged approach.
- The Province is advancing initiatives to leverage and promote BC's Environmental/Social/Governance (ESG) strengths such as low carbon footprint, commitment to reconciliation and strong regulatory regime.
- Budget 2022 provides \$18 million over the next three years to continue the Regulatory Excellence in Mining strategy and support robust and efficient decision-making processes across regulatory agencies.

Background/Status:

- EMLI service plan highlights EMLI's commitment to position BC as an attractive, responsible and competitive jurisdiction for investment in the mining sector.
- On February 23, 2021, the Fraser Institute released its annual report ranking jurisdictional investment attractiveness. BC ranked 17th out of 77 jurisdictions for overall investment. In 2019, BC ranked 19th out of 76 jurisdictions.
- The Mining Association of BC (MABC) and independent studies commissioned by EMLI have noted the carbon tax as impacting the competitiveness of BC operations, in addition to low ore grades, distance of mines to tidewater, challenging relationships with Indigenous Nations and regulatory complexity.
- To address these challenges, support growth and competitiveness more broadly and support economic recovery from the COVID-19 pandemic, the Province has implemented a wide range of initiatives to support mining in BC.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Incremental resources have been secured to add 38 new FTEs across mining regulatory agencies to ensure thorough and timely reviews and address backlogs in regional permitting.
- The Climate Action Secretariat has implemented the CleanBC Industrial Incentive Program to support industrial emissions reductions and minimizes carbon leakage by supporting industrial competitiveness.
- The CleanBC Industry Fund (CIF) invests a portion of carbon tax revenues into businesses working on emission reduction projects, including mining companies. Approximately \$40 million of funding was invested in all CIF projects for 2021/22. While 2021 totals have not yet been released, funding allocations to mining have been substantive in previous years with approximately \$23 million across 6 projects in 2020.
- \$1 million in 2018/19 Contingencies was granted to MABC to lead development of the BC Mining Innovation Roadmap in partnership with EMPR. Released in March 2020, the Roadmap sets out a pathway to increase the competitiveness, sustainability and resilience of BC mining through innovation. In February 2022, government made a mandate commitment to establish a Mining Innovation Hub.
- In 2019, the Province committed \$1 million over three years to support the work of the BC Regional Mining Alliance. This unique collaboration promotes BC's mining opportunities to the international investment community with a focus on the Golden Triangle and Indigenous partnerships.
- The BC Mining Customer Payment Plan (2016-21) enhanced BC's competitiveness by allowing mines to defer electricity payments during low commodity price cycles. EMLI is now evaluating reimplementing this program and making it permanent as recommended by the MJTF.
- The MJTF recommended that EMLI review its fiscal incentives to ensure competitiveness. In response, Budget 2019 made the Mining Flow-Through Share tax credit and the BC Mining Exploration Tax Credit permanent incentives, and Budget 2020 removed location restrictions on pollution control and waste management machinery/equipment from the Provincial Sales Tax exemption.
- EMLI is working to position BC as a leading jurisdiction to attract Environmental/Social/Governance (ESG) investment capital that has been valued at over \$100 trillion globally through branding efforts and a digital platform to surface relevant ESG data in a verifiable way. The Mines Digital Trust pilot is underway in partnership with the Ministry of Citizen Services.
- A Responsible Mining Action Plan Advisory Committee has convened and is anticipated to deliver recommendations to government by May 2022. The Advisory Committee is advancing findings from the BC Responsible Minerals and Metals Summit which government held in Fall 2020.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

2021/22 Investment in mining and mineral exploration in BC

- 2021 saw significant investment in major BC assets with approximately \$4.1 billion spent investing in mines and advanced projects.
- Exploration expenditures in BC totalled \$659.8M in 2021 which was up from \$422M in 2020. This is the second highest amount on record for the province. Approximately 55 percent of these expenditures were made in northwest BC.

Contact:

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: BC's Transboundary Relations with Neighbouring States

Drafted/Revised: March 15, 2022

Issue: Ongoing transboundary mining concerns and heightened pressure in the southeast for a referral to the International Joint Commission

Response:

- B.C. is committed to ensuring the Province remains a world leading jurisdiction in mining regulation, oversight and health and safety.
- B.C. is committed to ongoing collaboration, information sharing and engagement with our US transboundary neighbours.
- B.C. continues to strive to be a globally attractive and competitive mining jurisdiction and recognizes the importance of building on our strong relationship with our US neighbours.
- B.C. is committed to a science-based process informed by best available data across all our transboundary waterways and will continue to collaborate with local Indigenous Nations in identifying target levels for constituents of concern within particular areas.
- B.C. communicates regularly with Montana and the U.S. EPA on both the implementation of the Elk Valley Water Quality Plan (EVWQP), as well as the Lake Koocanusa selenium water quality objective.

Background/Status:

- B.C.'s approach to transboundary engagement is designed to be transparent, to share information and to engage US agencies/Tribes in regulatory processes and transboundary initiatives where appropriate.
- On mineral development, B.C.'s relationship with Global Affairs Canada (GAC) has typically been strong and mutually supportive, however since October 2021, tensions have been consistently mounting on the U.S. side to the point where GAC is now actively discussing a role for the International Joint Commission (IJC) a Canada/U.S. federal regulatory body on transboundary water.
- Existing transboundary forums have proven effective at addressing technical problems however B.C. continues to face opposition to its transboundary mining projects, particularly along the southern boundary with the U.S.

Montana-B.C.:

- The foundation of B.C. and Montana's collaboration on regional ecosystems and shared protection of transboundary waters is captured in the 2003 Environmental Cooperation Arrangement and underpinned by the Memorandum of

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Understanding and Cooperation on Environmental Protection, Climate Action and Energy, which also provides for reciprocal opportunities for Montana to participate in B.C.'s environmental assessment process.

Montana - Elevated Selenium Levels in Southeast B.C.:

- In 2014, the Elk Valley Water Quality Plan was approved as an Area Based Management Plan by the Minister of ENV to improve environmental outcomes downstream of Teck's coal mines in the Elk Valley and Koocanusa Reservoir, requiring Teck to construct several innovative water treatment facilities. Two of these water treatment facilities are now operational, along with one Saturated Rock Fill (SRF) and a further SRF being built out. While these efforts are leading to positive results, time is required to improve the overall water quality.
- B.C. remains committed to a science-based process and working collaboratively with the state of Montana and the EPA on selenium water quality objectives/criteria for Koocanusa Reservoir.
- B.C. continues to advance the renewal of the Area Based Management Plan for the Elk Valley and a reassessment of the Lake Koocanusa Water Quality Objective with Ktunaxa Nation Council.
- B.C. has encouraged GAC to identify what the key areas of concern are that they are trying to address with DoS in an IJC reference-to date this has had limited success. B.C. does not see what value an IJC reference would bring to the already existing technical tables and efforts to collaborate with the U.S. EPA, MT, and Ktunaxa Nation Council.

Alaska-B.C.:

- The Province and Alaska signed the Memorandum of Understanding and Cooperation Between the State of Alaska and the Province of British Columbia (MOU) in 2015. The MOU is being implemented through a Statement of Cooperation (SoC) on the Protection of Transboundary Waters.
- The SoC is overseen by a Bilateral Working Group (BWG) of B.C. Deputy Ministers and Assistant Deputy Ministers from the Ministry of Energy, Mines and Low Carbon Innovation and the Ministry of Environment and Climate Change Strategy (ENV), as well as the recent addition of the Environmental Assessment Office (EAO) and Alaska department commissioners of Environmental Conservation, Fish and Game and Natural Resources.
- The BWG meets on a bi-annual basis to discuss transboundary matters and developments on projects proximate to the Alaskan border.

Alaska-Tulsequah Chief Mine (Tulsequah):

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Tulsequah is a source of historical contamination concerns and a key focus for the collaborative work between B.C. and Alaska. Efforts advanced through 2020-21 to undertake water quality studies and physical works for reclamation of the site will continue in the 2022 field season. B.C. is cautiously undertaking site remediation while also working to hold past owners responsible. B.C. staff continue to work closely with our Alaskan neighbours and progress is being made on this key issue.

Washington-B.C.:

- B.C. and Washington State have enjoyed a collaborative working relationship since the creation of the Environmental Cooperation Agreement in 1992. The Agreement and the Environmental Cooperation Council have a successful history of promoting and coordinating mutual efforts to ensure the protection, preservation and enhancement of our shared environment.

Washington State - Imperial Metal's Mines Act Application within Skagit Valley:

- The *Mines Act* application respecting the Donut Hole within E.C. Manning Park is no longer active. Mineral tenures were surrendered in January 2022 after the successful conclusion of negotiations with Imperial Metals. Imperial Metals was allocated \$24M in the negotiated outcome and BC will now consult with First Nations on how to best protect this area which may result in it being added to the existing Skagit Valley and E.C. Manning park areas.

Cross Reference: 1) Tulsequah Chief Mine
2) Active Projects (Fording River Extension/Michel Creek)
3) Major Amendments (Teck Coal Water Treatment Projects)

Contact: Peter Robb

Peter Robb

ADM

MCAD

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Mining Jobs Task Force

Drafted/Revised: March 15, 2022

Issue: Status Update on Mining Jobs Task Force implementation

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (EMLI) is implementing Mining Jobs Task Force (MJTF) actions through a collaborative approach involving multiple agencies and external partners.
- All MJTF actions have now been either completed or substantially started, with progress continuing in 2021/22.
- Recent implementation highlights include the establishment of a Responsible Minerals and Metals Action Plan Advisory Committee, and advancement of the Training Roadmap with final reports to be delivered in May 2022.
- The 2022 Ministry mandate letter included a commitment to continue the implementation of MJTF recommendations to strengthen this important sector and create good jobs for people.

Background/Status:

- The MJTF was mandated to work with the mining industry, workers and mining communities to make jobs secure and mines viable as commodity prices fluctuate.
- The MJTF Final Report (Appendix 1) was delivered to government in December 2018 and included 25 recommended actions.
- Since 2019, all MJTF actions have been completed or substantially started and implementation will continue through 2022 in partnership with other government agencies and external partners. A status summary is attached (Appendix 2).
- Highlights of MJTF implementation include:
 - The Mining Flow-Through Share tax credit and the BC Mining Exploration Tax Credit made permanent incentives to support investment (Budget 2019).
 - \$20 million investment in EMLI (Budget 2019).
 - Launch of a Standing Code Review Committee (Budget 2019).
 - \$1 million for the Regional Mining Alliance (2018/19 Contingencies).
 - \$5 million in funding for Geoscience BC (2018/19 Contingencies).
 - Location restrictions on pollution control and waste management machinery/equipment removed from the Provincial Sales Tax exemption (Budget 2020).
 - A five-year extension of the New Mine Allowance (Budget 2020).

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Recent MJTF developments include:
 - In March 2021, the Mining Association of BC and the Province released the Mining Innovation Roadmap, funded by a \$1 million grant from the Province.
 - The Roadmap sets out a pathway to increase the competitiveness, sustainability and resilience of BC mining through innovation including the priority one recommendation to establish a Mining Innovation Hub.
 - A ministry mandate commitment has been made to create a Mining Innovation Hub that will identify and support innovation, training for workers in new technologies and regulatory excellence (February 2022).
 - In December 2021, a \$150,000 Mining Innovation Challenge: Reducing Water Use was announced by the Mining Association of BC and Foresight Canada, with support from EMLI.
 - In December 2021, a Responsible Mining Action Plan Advisory Committee (APAC) was convened to develop recommendations for BC to capitalize on responsible metals market opportunities.
 - The APAC is expected to deliver recommendations for consideration across six areas of focus to the Minister by Summer 2022.
 - This work advances the outputs of the BC Responsible Minerals and Metal Summit, a MJTF recommendation, which attracted over 75 attendees from across the mining value chain in Fall 2020.
 - In December 2020, the Ministry of Advanced Education and Skills Training has, with EMLI support, contracted the Center for Training Excellence in Mining through the Sector Labour Market Plan program to develop a cohesive set of roadmaps for enhanced mine sector careers, skills and training.
 - The roadmaps are anticipated to be delivered in May 2022.

Attachments: Appendix 1 – MJTF Final Report
Appendix 2 – MJTF Status Table

Contact:

Peter Robb

ADM

MCAD

Government
Financial Information



BRITISH
COLUMBIA

DECEMBER 19, 2018

MINING JOBS

FINAL REPORT

TASK FORCE





TABLE OF CONTENTS

INTRODUCTION pg 1

MINING JOBS TASK FORCE ACTION PLAN pg 2

BACKGROUND pg 4

HOW WE GOT HERE pg 6

OVERVIEW OF THE MINING JOBS TASK FORCE STRATEGIC FRAMEWORK pg 8

THE OPPORTUNITY pg 11

ACTIONS pg 15

Supporting a healthy and diverse workforce pg 15

Realizing community benefits pg 22

Enhancing BC’s fiscal and regulatory competitiveness pg 30

Fostering innovation pg 47

Building awareness of mining’s role in a prosperous BC pg 50

NEXT STEPS pg 54

IN CONCLUSION pg 56

INTRODUCTION

One of government's key commitments is to build a strong, sustainable, innovative economy and create good-paying jobs in every corner of British Columbia (BC); a healthy and growing mining sector is foundational to achieving that goal. To this end, the Minister of Energy, Mines and Petroleum Resource's mandate letter included a commitment to establish a Task Force to identify measures to create and sustain good jobs in this important industry.

Launched on February 26, 2018, the BC Mining Jobs Task Force (Task Force) was created to work with Indigenous peoples, labour, educators, the mining industry, communities and other concerned constituencies to develop actions government should take to grow the mining sector and create good jobs for people across the Province today, tomorrow and beyond. The mining industry spans a range of activity from early stage, grassroots exploration to mature, operating mines through to reclamation of impacted environments. These activities in turn create good jobs for thousands of workers, provide benefits through partnerships with Indigenous groups and form the foundation of healthy, vibrant communities across the province.

The mining sector is in a time of transition. With transition comes great opportunity, as well as risk. The Task Force commends the Minister for the foresight to assemble, for the first time, such a diverse Task Force representing all constituents at such an important juncture.

To capitalize on this opportunity, the Task Force focused not only on the current state of industry, but also on identifying a long-term vision to reach a desired future state: British Columbians are proud of our growing mining industry as the backbone of an inclusive, progressive and low carbon economy.

Driven by this desired future state, the Task Force has crafted a suite of innovative and impactful actions to support a healthy and growing industry in BC. These actions are wide-ranging and deeply interconnected, representing the diversity of the constituencies, communities and segments of industry that make up BC's world class mining industry. If not embraced as a whole, the Task Force believes this vision cannot be realized – there is no one discrete initiative, but rather a suite of fundamental actions that if implemented collectively will succeed in moving the sector and BC's reputation forward. Furthermore, if these actions are not implemented there is real risk of a contraction of this mining sector and the foundational benefits and opportunities it brings to the people of British Columbia.

Achieving this vision will take considerable work, but successful adoption of these actions will drive a progressive, inclusive and competitive sector that maintains its place as a leader in innovation and environmental best practices, supports job creation and ongoing socio-economic development, and meaningfully contributes to advancing reconciliation with Indigenous peoples.

MINING JOBS TASK FORCE VISION:

British Columbians are proud of our growing mining industry as the backbone of an inclusive, progressive and low carbon economy.

MINING JOBS TASK FORCE ACTION PLAN

The Task Force's actions have been summarized in the placemat graphic on the next page (Figure 1), to visually represent the holistic suite of actions, strategic areas of focus, goals and ultimate vision for the sector. These actions are diverse and interlinked, with multiple interdependencies existing between each. The greatest dependency is the existence of a thriving sector

needed to provide the strong economic foundation with which to drive increased and wider-reaching benefits. Ensuring a competitive and healthy sector is first and paramount to achieve enhancements to job growth, skills and training, benefit sharing, community sustainability, innovation and increasing the positive impact of the mining sector throughout the province.



MINING JOBS TASK FORCE ACTION PLAN

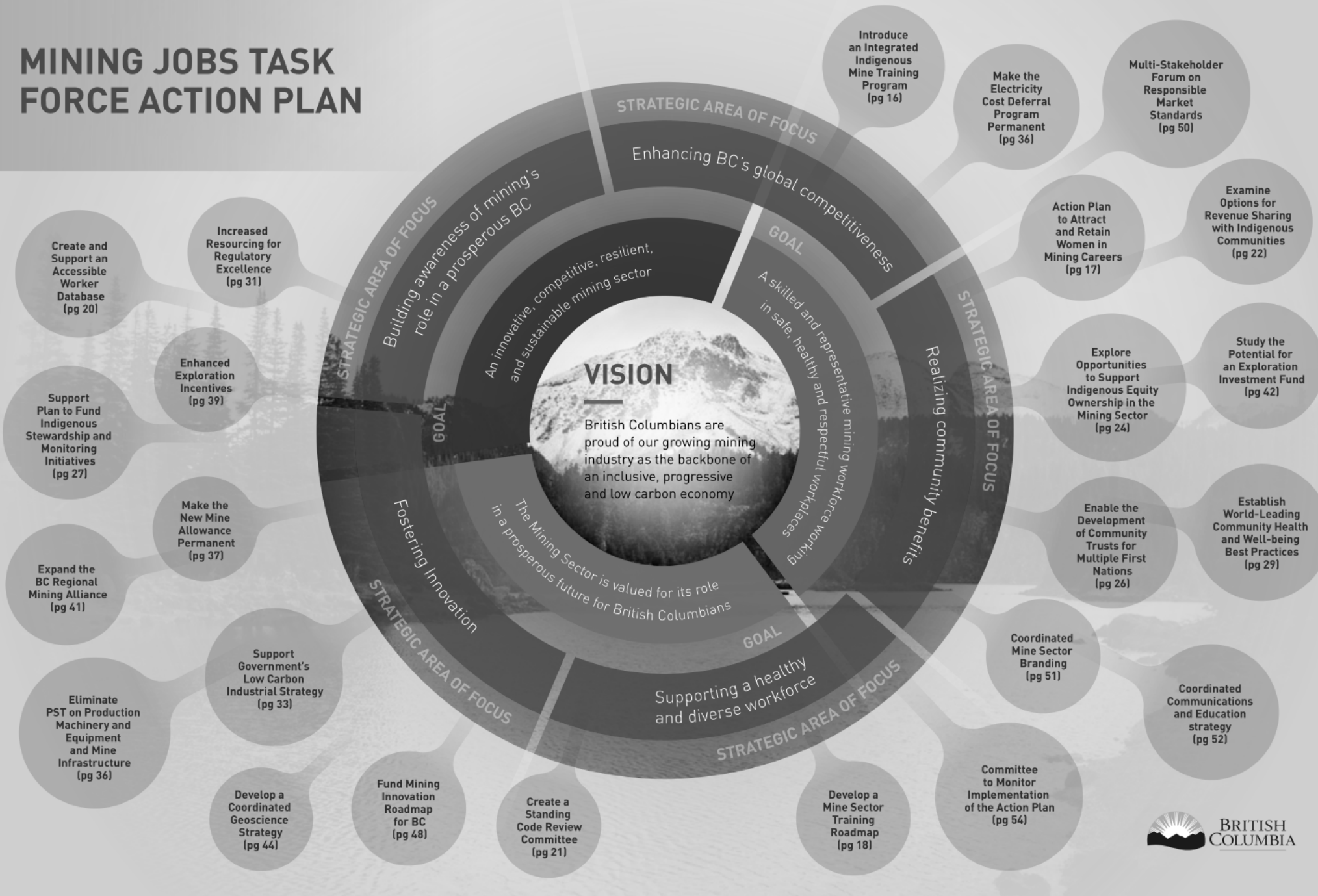


FIGURE 1: Mining Jobs Task Force Action Plan

BACKGROUND

BC's mining sector directly employs over 30,000 workers and thousands more through indirectly-related employment. In 2017, the sector contributed an estimated \$9.9 billion to the BC economy while generating economic spin-offs in local communities throughout BC, including expenditures by suppliers and mine employees. The mining sector is consistently a top exporter, bringing into the province 'first dollar' resources that drive a myriad of different activities – from service sectors to innovation funding to local benefits.

Mining is at the forefront of advancing reconciliation with Indigenous peoples and implementation of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Mining is a key employer of Indigenous people in rural and remote communities, and benefit agreements and revenue sharing provide revenue streams to advance community priorities. The mining sector has been and continues to be a leader in developing and implementing collaborative decision-making and including Indigenous communities in compliance monitoring and verification.

The sector also provides the minerals, metals and steelmaking coal needed for the growth of emerging technologies such as electric cars, wind turbines and transit systems necessary for a low carbon future. Global demand for metals will rise to support this transition, and BC is well-positioned to meet these needs due to the Province's existing competitive strengths, including a low greenhouse gas (GHG) profile globally, strong infrastructure network, rule of law, skilled workforce and commitment to reconciliation with Indigenous groups.

While there is much to celebrate about British Columbia's mining industry, there are also challenges that must be addressed if we are to achieve our collective vision. Government has a critical role to play in ensuring that the standards that regulate the industry are kept up to date, and that in addition to the economic benefits mining provides British Columbians, its social and environmental impacts are accounted for and properly managed. Investment in enhancing regulatory oversight, transparency, community engagement, reconciliation and driving technological innovation will assist the sector in improving public trust and moving toward a cleaner, safer sector.

United Nations Declaration on the Rights of Indigenous Peoples

The Province of British Columbia has committed to the full implementation of the UN Declaration, an international human rights instrument adopted by the United Nations which was fully endorsed by Canada in 2016. The rights affirmed in it "constitute the minimum standards for the survival, dignity and well-being of the indigenous peoples of the world" (Article 43).

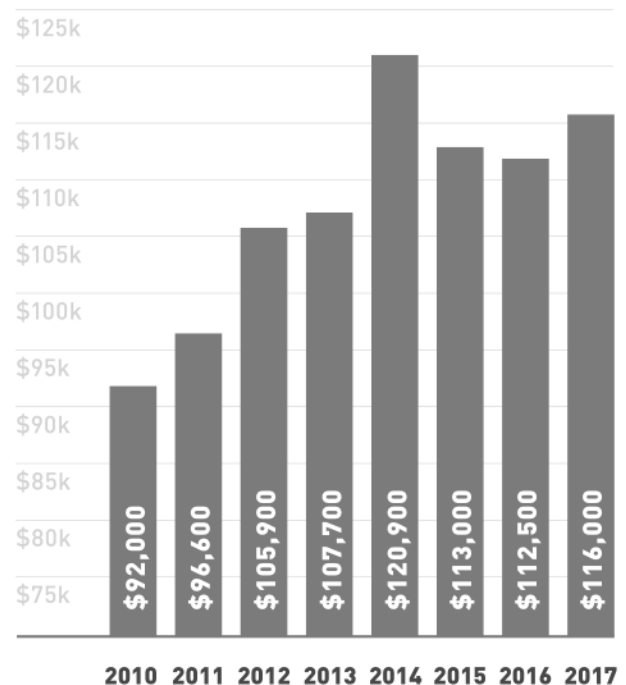
TABLE 1: 2017 B.C. Minerals Sector Employment (Stats Canada)

INDUSTRY	JOBS
Metal Mining	3,420
Coal Mining	4,745
Industrial Minerals and Construction Aggregates	1,345
Exploration	4,125
Total Direct Exploration and Mining Employment	13,635
Mineral Refining and Smelting	4,990
Downstream Minerals Processing	19,815
Total Direct Minerals Economy Employment	24,805

To remain competitive relative to other jurisdictions and make BC an attractive jurisdiction for investment in Canada, there are several key gaps identified by the Task Force, supported by an independent review, that need to be addressed. Overall, BC has been at risk for several years to eroding market share and competitiveness challenges from both regulatory and cost perspectives. While these challenges are not unique in a global context, there is evidence that BC is falling behind. Over the past decade BC's share of investment in the mining sector, both nationally and globally, has declined.

As an inherently cyclical industry, fluctuating commodity prices force the sector to cut costs at times, and in some cases, put projects and job creation on hold until markets improve. As a mining jurisdiction, BC's risk increases due to a profile that is largely mid-to low tier in grade and scale, this creates unique challenges for the sector.

The Task Force has focused on areas that can help the sector maintain its current strength, mitigate impending risk and grow into the future to become an even stronger economic driver, benefitting all corners of the province. The mining sector provides vital economic contributions in rural BC, but also supports a significant service and supply sub-sector providing well-paying jobs in the province's urban centres. For every direct job in the BC mining industry there are at least two jobs in mining supply and services. In addition to direct and indirect employment, the mining sector represents hundreds of millions of dollars in taxes. This vital contribution to the provincial treasury funds progressive initiatives in health care, education and broader economic development. Mining is truly a province-wide industry supporting the growth of a modern British Columbia.

TABLE 2: Average earnings of mine-site full-time employees in BC (Stats Canada)

HOW WE GOT HERE

Since its launch in February 2018, the BC Mining Jobs Task Force has worked to identify a desired future state for the BC mining sector. Actions to reach this desired future state were collaboratively developed through the Mining Jobs Task Force Strategic Framework (the Framework) (detailed in Section 5). The Task Force used this consensus tool to develop actions to bring more certainty to the mining sector and create good jobs today and into the future. In developing the Framework, the Task Force reviewed British Columbia's diverse mining sector, highlighting key drivers of change and strategic areas that will enable BC to undeniably state that we are the most attractive jurisdiction for investment in Canada.

The Task Force represents a diversity of constituents unprecedented in a mining task force, including members from: Indigenous groups; labour; an environmental non-governmental organization; post-secondary/training; financial sector; municipal government; and industry. This diverse group brought unique perspectives and ideas to the table, but all Task Force members shared a common goal – a desire to produce consensus based, realistic, innovative and implementable actions that will support the long-term growth of mining jobs in BC. The full membership of the BC Mining Jobs Task Force is as follows:

- **Keith Bertrand**, Mayor, District of Tumbler Ridge
- **Bryan Cox**, President and CEO, Mining Association of British Columbia
- **Earl Graham**, Staff Representative, United Steelworkers
- **Michelle Laurie**, Staff Representative, United Steelworkers
- **Don McPherson**, Past-Mayor, District of Tumbler Ridge
- **Codie Morigeau**, Director of Education and Employment, Ktunaxa Nation Council
- **Mark Podlasly**, Senior Adviser, First Nations Energy and Mining Council
- **Neil Pogany**, Partner, Deloitte LLP (operating in his personal capacity)
- **Peter Robb**, Assistant Deputy Minister, Ministry of Energy, Mines and Petroleum Resources
- **Regina Saimoto**, Associate Dean, Coast Mountain College, Eastern Region
- **Tom Syer**, Head of Government Affairs, Teck Resources Limited
- **Edie Thome**, President and CEO, Association for Mineral Exploration
- **Richard Tremblay**, Vice-President and General Manager, Taseko Gibraltar Mine
- **Alan Young**, Director, Materials Efficiency Research Group



The Task Force met in-person for ten full-day sessions, in-addition to regular teleconference calls. Highlights of these working sessions include the development of the Framework, constituent engagement strategy and an intertwined suite of actions. The Framework was developed by the Task Force to provide context and clear pathways for action that align with long-term strategies, goals and an overall vision for mining in BC. The Framework is explored in detail in Section 5.

The Task Force was supported in its work by Ministry of Energy, Mines and Petroleum Resources (EMPR) staff, whose responsibilities included providing technical expertise and secretariat support, coordinating Task Force activities, background research and fact-finding and liaising with other agencies on complementary initiatives. The Task Force invited presentations from key stakeholders, such as the BC Geological Survey and Geoscience BC. The Ministry also engaged Ernst & Young LLP (EY) to develop a report including baseline data metrics and a jurisdictional competitiveness review to inform the Task Force's work: BC Mining Industry Assessment – Performance and Competitiveness.

EY's report assessed BC's investment attractiveness based on the major drivers of investment returns, geology and geography, fiscal policy and regulatory framework. EY compared the conditions in BC to our major competitors for metallurgical coal, copper and gold, which include Chile, Queensland (Australia), Western

Australia, Ontario and Quebec. They concluded that our competitors have an edge in geology and geography leaving fiscal policy and regulatory framework as the levers that government can pull to improve competitiveness. For fiscal policy EY identified that, in general, BC's fiscal regime is competitive for exploration, mine development and operating mines with exception of the BC carbon tax.

EY also noted the rapid pace of change seen in the sector due to a number of disruptive technological, social and demographic forces. This rapid pace of change means that the mining industry of the future will look considerably different than it does today, presenting challenges but also exciting opportunities. The BC sector has the opportunity to take proactive steps to lead the way in advancing innovation, workforce inclusion and training, Indigenous partnerships, regulatory agility and the shift to a low-carbon economy.

Task Force members solicited input from constituents to inform their work. A designated engagement period took place in September and October 2018, and included conversations with constituencies represented on the Task Force including Indigenous groups, industry, labour, communities and stakeholders with an interest in the matters contained within the Terms of Reference. The Task Force also presented the Framework findings to key target audiences to gather information to enhance recommended actions for the Province.

BC Mining Industry Assessment - Performance and Competitiveness Report

The *BC Mining Industry Assessment – Performance and Competitiveness* report provided to the Task Force by Ernst & Young LLP concluded that the primary policy levers that government can pull to improve mining sector competitiveness are fiscal policy and regulatory framework. It also noted that one area of fiscal policy that stood out as a challenge is the BC carbon tax, but highlighted the opportunity for the BC's mining sector to be a leader in the shift to a low-carbon future.

OVERVIEW OF THE MINING JOBS TASK FORCE STRATEGIC FRAMEWORK

Introduction and Purpose of the Framework

As a part of fulfilling its mandate, the Task Force chose to adopt a strategic approach to addressing the areas in their Terms of Reference for which they were asked to provide recommended actions. The result of this approach is the development of the Framework.

The Framework (Figure 2 on page 10) describes the desired future state for mining in British Columbia, along with specific areas of focus for realizing the desired future state. Additionally, the Framework outlines short and long-term drivers of change in BC's environment and guiding principles.

To capitalize on the opportunities provided by these drivers of change, the Task Force identified five key strategic areas of focus to create good, sustainable jobs for British Columbians and make BC the most attractive mining jurisdiction in Canada. For each strategic area, core areas were identified where concrete action is necessary to ensure a healthy, sustainable and competitive sector. Through the Framework, Task Force actions feed into each of these strategic areas, while at the same time addressing drivers of change and targeting desired outcomes, goals and, ultimately, the vision.

The Framework was developed by the Task Force through a consensus-based approach and all members are in support of it. The Task





Force worked to table all issues and ideas and debate their suitability for inclusion. The Framework represents a balanced collection of the drivers and principles informing the essential strategic areas of focus and desired outcomes identified as important by the Task Force. This process and Framework were a significant achievement and provided the foundation for the Task Force's collaborative development of these actions.

The Framework supported the development of the actions by providing a strategic lens. This lens ensured that the actions address current challenges while also considering downstream implications and, concurrently, advance the sector towards the desired future state. Finally, this approach allows Task Force members to develop actions from a holistic perspective and consider how potential actions influence or impact others.

How the Framework was used to develop Actions

As outlined above, the Framework provided a strategic lens to the development of the actions. As actions were developed, each was assessed from a number of perspectives outlined in the Framework prior to finalization for inclusion in this report and submission to the Minister, including but not limited to:

- How the action supports realizing the goals and desired outcomes;
- How the action considers or addresses environmental factors, such as drivers of change;
- How the action aligns with the guiding principles;
- How the action supports the areas of focus and the available data that underpins and validates the action.

This assessment provided a level of certainty beyond what was originally contemplated in the Terms of Reference and ensures that all actions are strategic, synergistic and forward thinking in nature while based on available evidence.

Mining Jobs Task Force Strategic Framework

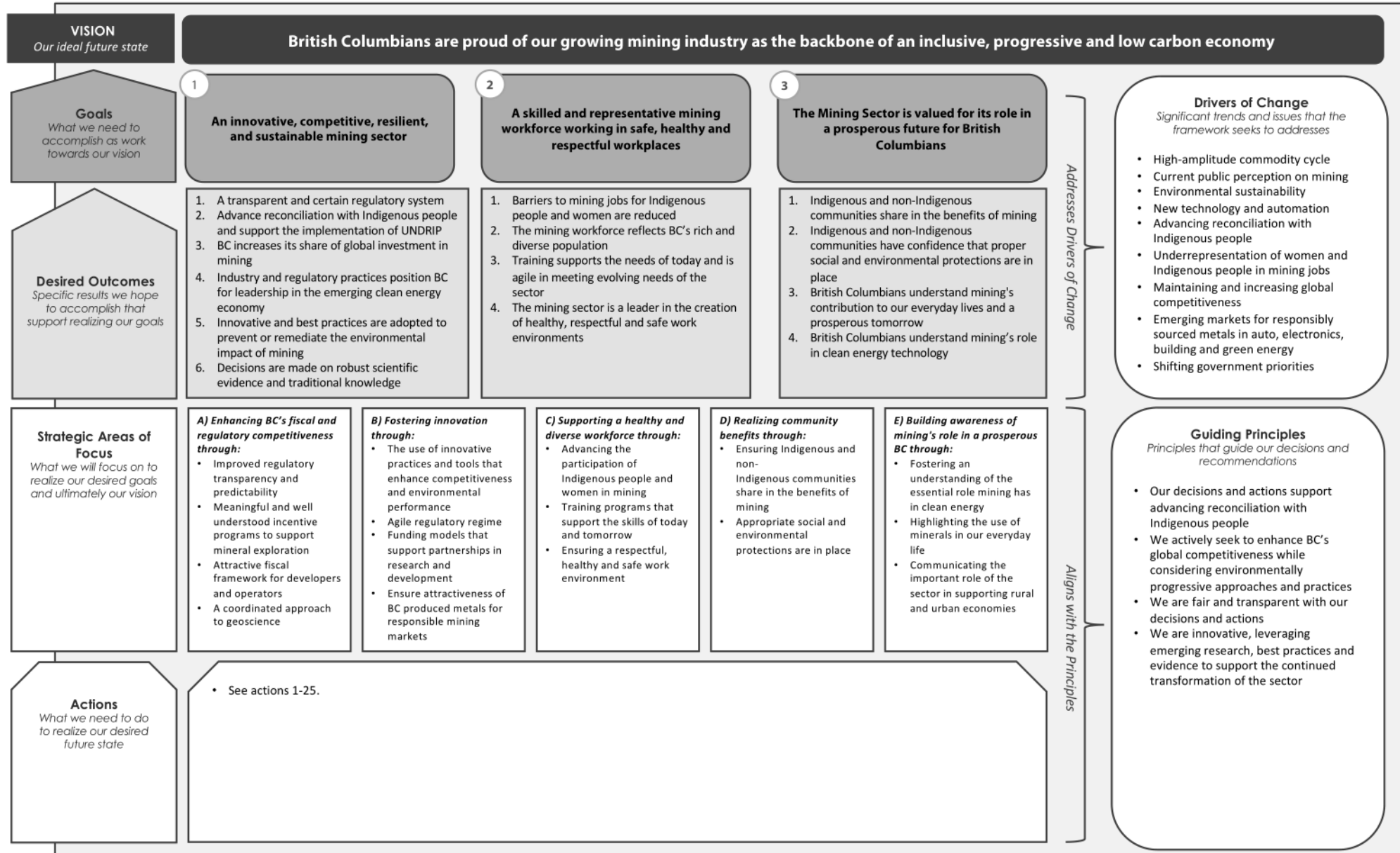


FIGURE 2: Mining Jobs Task Force Strategic Framework

THE OPPORTUNITY

The mining sector, from exploration to operations to reclamation, is an essential part of the economic and social fabric of British Columbia; the very foundations of the province rest on the mining sector. A vibrant, competitive and responsible industry provides benefits to British Columbians in all corners of the province. However, the rapid pace of change seen both in industry and in broader society require bold and innovative responses to ensure that the BC mining sector is fiscally competitive with jurisdictions throughout the country and the world, maintains its place as a leader in innovation and environmental best practices, and contributes to ongoing socio-economic development and the advancement of reconciliation with Indigenous peoples in the province.

BC has exciting mining projects, both early stage and nearing development, that are well-positioned to become BC's mines of the future. At the same time, many of BC's operating mines are primed for expansion or mine-life extensions if conditions are right. However, in the last year, two companies with significant BC operations have chosen to invest billions in rival jurisdictions. By taking action to ensure competitiveness, BC can better position our projects to attract these investments, thereby driving new and expanded mines that create new

jobs for British Columbians. For example, EY's report provided an estimate on the incremental impact that an additional steelmaking coal mine has on the BC economy. Based on their findings, an additional coal mine in BC would have a total economic impact of \$691 million and employ approximately 639 employees.

The opportunity is at hand to grow this foundational industry that employs tens of thousands of workers and contributes a total economic impact of almost \$10 billion to the provincial economy. At the same time, BC risks a contraction of this vital sector of the economy by not taking concrete, immediate action. BC's competitors are advancing initiatives of their own, and BC needs to implement innovative, actionable ideas to maintain a healthy and competitive mining sector that is positioned for growth.

To meet these challenges and capitalize on new opportunities, the Task Force focused not only on the current state of industry, but also on identifying a long-term vision to reach a desired future state. Significant trends and issues projected to impact the sector have been identified and analyzed, and these drivers of change comprise the foundational challenges and opportunities that this Task Force report seeks to address.

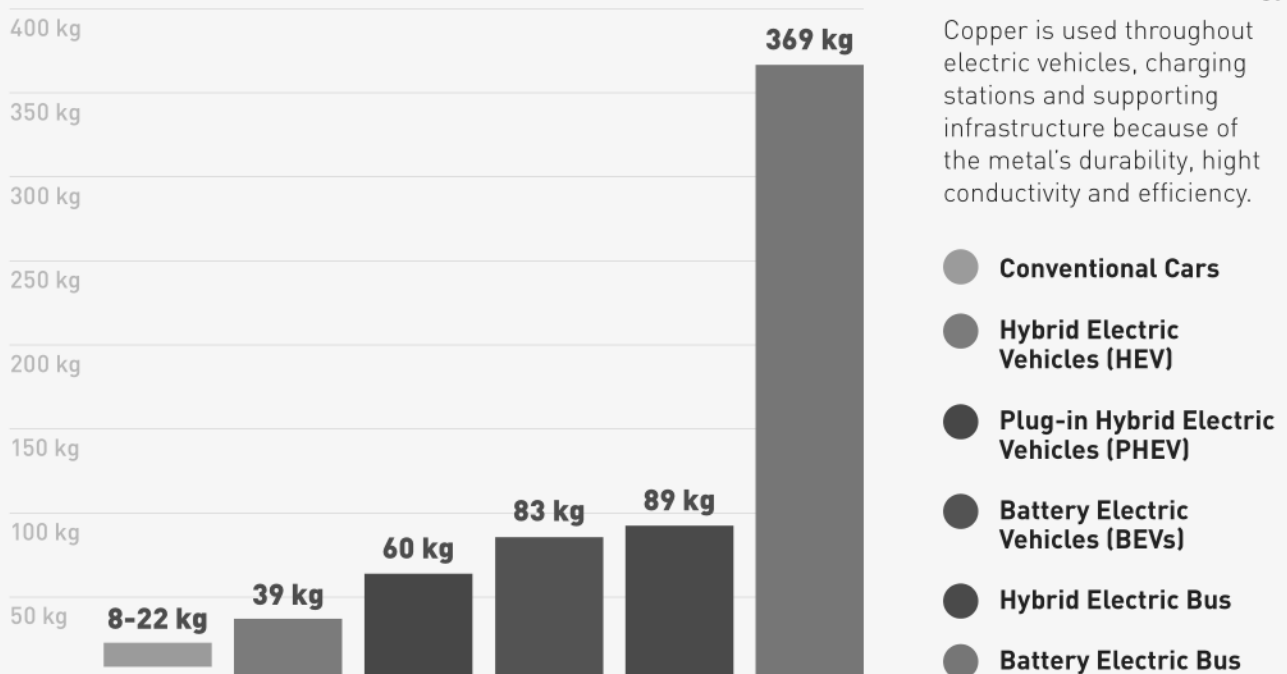
The mining sector is intertwined with its neighbouring communities – the sector's well-paying jobs form the economic backbone of towns and cities across BC.

There remains significant work to do to fulfill government's commitment to lasting reconciliation and implementation of UNDRIP, and the mining sector can continue to play a significant leadership role. There are opportunities for joint decision-making, wealth and capacity building, employment, revenue sharing, investment, economic growth, and partnership opportunities with Indigenous groups and businesses across the entire mining life cycle. This type of investment in Indigenous communities is a mutually beneficial proposition – improving predictability and the self-determination, sustainability and socio-economic conditions of Indigenous and rural communities while mobilizing new capital and meeting the long-term labour force needs of a growing mining sector.

The mining sector is intertwined with its neighbouring communities – the sector's well-paying jobs form the economic backbone of towns and cities across BC. There is the opportunity to deepen this bond by supporting industry to ensure it can stay in these communities for the long term; training local workers, providing crucial economic stimulus to these regions and providing opportunity for workers to raise their families in vibrant, sustainable communities.

As the demand for clean energy grows, so too will the associated need for the metals and minerals used to manufacture those technologies. BC is already a major producer of metals used in solar power cells, as well as the coal used to make steel that goes into wind turbines. The inherent connection between these two industries represents significant opportunities at the

TABLE 3: Kilograms of Copper contained in specific vehicle technology





provincial level. This new reality is highlighted by government's recent commitment that by 2040 all new cars and trucks sold in BC will be zero-emission vehicles. A clean energy vehicle can require up to four times the amount of copper as a standard combustion engine and 600kg of metallurgical coal. On a global basis, this transition represents a tremendous opportunity for future growth.

BC must work to ensure new markets and the drivers of demand for our products are well understood – identifying areas where industry can address challenges and develop competitive advantage. While the transition to a low-carbon economy is moving slowly in terms of product demand, emerging demand for responsibly sourced metals in auto, electronics, building and clean energy is expected to enter the market in the years ahead. By positioning itself to take advantage of this evolving marketplace, BC has the opportunity to position BC to have a competitive advantage in these markets.

EY's report compared the conditions in BC to our major competitors for metallurgical coal, copper and gold including Chile, Queensland (Australia), Western Australia, Ontario and Quebec. EY highlighted the main levers available to increase the BC's attractiveness to investors are lowering taxes, offering greater incentives, and improving the regulatory framework – and there exists an additional opportunity for the province to invest now to position itself as Canada's leader of the 'mining industry of the low-carbon future'.

EY's strongest competitiveness finding is that BC is not competitive in its treatment of carbon. Although government has proposed some targeted support to industry to alleviate competitiveness concerns related to the BC carbon tax through the Clean Growth Incentive Program, mining companies operating in BC currently, and will continue to, pay substantially more than their competitors in other jurisdictions. This cost-burden has a direct effect on

the competitiveness of existing operations and creates a challenging investment environment for new mines and mine expansions.

However, BC's mining sector has worked to reduce its carbon footprint and has become a model internationally for how to lower emissions. Industry continues to work with government and the clean tech sector to develop innovative solutions to reduce emissions and keep BC operations competitive. The Province's recently announced CleanBC program is an opportunity to continue these efforts, reducing carbon tax costs and investing directly into emissions reduction projects. This program will help the sector and its workers thrive, create a clean industry brand for BC, and help the sector compete in a global market where consumers are increasingly demanding cleaner products.

Operating mines directly provides thousands of full-time jobs and training opportunities with salaries well above the provincial average.

BC's mining sector faces strong global competition for investment and financing. Fiscal incentives can play an essential role in attracting investment for small to medium sized, non-revenue generating companies that undertake a significant portion of the high-risk grassroots mineral exploration in BC. Expanding these programs and exploring innovative ideas to sustain and grow mineral development activity will drive new discoveries to enter the project pipeline and become the operating mines of the future.

Investment dollars for mine development and mine expansion can also be challenging to attract. Building on existing programs to support and incentivize mine development and maintaining/expanding existing operations will ensure that BC remains one of Canada's top jurisdictions for mineral production, with direct impact to communities and the provincial treasury. Operating mines directly provides thousands of full-time jobs and training opportunities with salaries well above the provincial average. Indirectly, the mining services and supply sector of BC provides further high-paying full- and part-time employment in areas such as geological research, business administration, finance, management, engineering and environmental consulting, making mining an integral part of the BC labour economy.

This Task Force was struck by the possibilities presented by this transitional moment – this is an exciting time for those involved in and benefiting from the mining sector. Running concurrently through 2018/2019 and beyond are a number of government initiatives that can influence or be influenced by the work and outputs of the Task Force. These key initiatives, such as the Low Carbon Industrial Strategy, CleanBC Plan, Rural Economic Development Strategy, establishment of the Indigenous Economic Development Joint Office and the Canadian Minerals and Metals Plan, possess strong linkages to the Task Force's work. Wherever possible, synergies and alignment between Task Force actions complimentary to other initiatives have been noted with the goal of leveraging the collective effort of partner agencies and other levels of government.

ACTIONS

The actions endorsed by the Task Force reflect the complex and intertwined nature of the mining sector – there is no single lever that immediately creates a growing, sustainable mining sector envisioned by the Task Force. These actions reflect the full development cycle of a mining project, from grassroots exploration to a mature, operating mine. They also reflect the diverse nature of the constituents whose livelihoods, communities and culture are linked to mining.

While the Task Force actions are divided into five areas of focus to provide clarity, they are collective vision for advancing BC's mining sector, with all actions jointly driving toward the desired future state. Action in any one area has numerous knock-on effects driving progress in other areas of the sector, and as such this list of actions must be viewed as a collective, holistic shift rather than a series of individual initiatives.

Only 16% of the mining workforce in BC is female, compared to 62% of the general labour force.

Mines are often long-term entities, with the full life-cycle of a mine often measured in decades rather than years, providing the multigenerational economic foundation for communities throughout the province. As such, long-term actions put forward by the Task Force are designed to be reflective of the current market opportunities, but also enable the Task Force's desired future state.

The five areas of focus are:

1. Supporting a healthy and diverse workforce
2. Realizing community benefits
3. Enhancing BC's fiscal and regulatory competitiveness
4. Fostering innovation
5. Building awareness of mining's role in a prosperous BC

1. Supporting a healthy and diverse workforce

Projections of market growth coupled with the limited availability of talent could create labour force challenges for the mining sector in BC. This risk is exacerbated by the aging mining workforce (20% over 55 years of age), highlighting the need for a long-term, cohesive and fully-funded training strategy. In addition to a commitment to training Indigenous people, this strategy must target a demographic that has been traditionally underrepresented in the mining workforce, women. Only 16% of the mining workforce in BC is female, compared to 62% of the general labour force.

These gaps represent an opportunity to develop a refreshed training strategy that is forward-looking and responsive to future needs. Specific programs targeting traditionally underrepresented demographics can drive a more inclusive sector and provide these workers with the skills needed to build lasting careers in mining. The rapid pace of change means that the mining industry five, ten, and twenty years

into the future will look considerably different than the industry today. Labour forecasting indicates that advancements in automation and the modernization of mines means future mining jobs will require higher education and/or more specialized skills, and training strategies must reflect this.

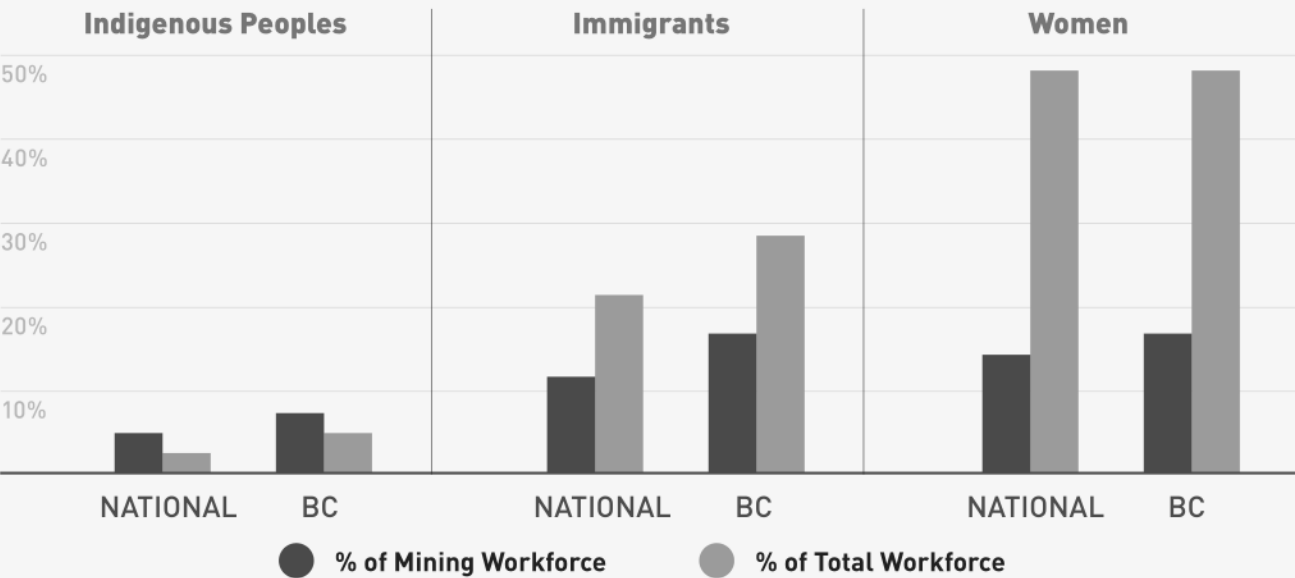
I. ADVANCING THE PARTICIPATION OF INDIGENOUS PEOPLE AND WOMEN IN MINING

ACTION: Introduce an Integrated Indigenous Mine Training Program, with provincial, federal and industry funding/participation.

With 25% of the mining workforce scheduled to retire within the next five years and 1,200 Indigenous communities within 200 kilometres of an operating mine or exploration project across Canada, providing target training and placing more Indigenous people into mining careers across the province will provide exciting opportunities for Indigenous workers and help meet future industry demand.

While the mining sector is already a significant employer of Indigenous peoples, creating a dedicated program that accelerates the ability of companies to hire and upskill Indigenous employees will assist with providing new opportunities and reducing barriers for this underrepresented group. Dedicated funding for this program can also leverage existing company-community agreements and other industry programs. In addition to a commitment to training Indigenous people, this strategy could expand to target additional demographics that have traditionally been underrepresented in the mining workforce, such as women and new immigrants. Program funding needs to be flexible to allow for program innovation and metrics for funding need to consider graduation and employment rates rather than just cost per student. The Task Force recommends this program be modeled after two award winning programs: the BC Aboriginal Mine Training Association (AMTA) that ran from 2009-2014, and the School of Exploration and Mining (SEM). In partnership with industry, governments and educators and Indigenous communities, AMTA

TABLE 4: Demographics of the BC Mining Sector



provided training and support services to Aboriginal participants through a formal process of personal and professional development and matched jobs to workers and would-be employees, providing paths to sustainable careers in the natural resource sectors for over 1,000 people. SEM was established in 2004 in partnership with Smithers Exploration Group. Between 2004 and 2014, 1,300 graduates completed SEM programs (89% graduation rate), the majority of whom were Indigenous. 72% of graduates and 75% of Indigenous graduates transitioned to employment. Graduates represented 113 communities, of which 86 were Indigenous communities.

RESOURCES + TIMELINES

2020/21 BUDGET CYCLE

COST: \$5 MILLION

IMPLEMENTATION NOTES

- Work should commence in 2019 to build a blueprint for a robust program to be funded in the 2020/2021 budget.
- This program should be administered outside government.

BENEFITS:

- This action will support the development of a skilled and representative mining workforce and reduce barriers to mining jobs for Indigenous people and other traditionally underrepresented groups.
- Communities benefit from increased education and employment.
- Industry will be provided with a pipeline of skilled workers to meet future demand.

ACTION: Develop and implement an action plan to attract and retain women in mining careers.

While BC outperforms the national mining industry standard for employment of women, the mining industry still lags behind the general labour force rates for employment of women. The highest concentrations of women in the mining workforce are found in administrative or clerical positions (19%) and mid-level management (16%). Less than 1% of the women employed in the BC mining industry are in roles such as mine supervisor or apprentice tradesperson. Roles with the highest vacancies – heavy equipment operators, tradespeople and labourers – also have the lowest rates of female participation, with less than 5% of these jobs being filled by women.

Women's participation in the mining workforce has been steadily climbing – studies from groups such as the Mining Industry Human Resources Council have influenced many companies to institute policy changes, create programs that foster diversity, and initiate targeted hiring campaigns to increase female workforce participation. Data from one of the largest producers in the province shows continued growth, outpacing the current national average of female employment in mining of 14%. However, additional effort is still required. The development and implementation of an action plan, led by women working in the sector in collaboration with industry and government, will provide direct benefits to the mining workforce, prospective workers, their communities and industry.

Attracting and retaining more women in the mining industry will require a combination of collaborative solutions—from enhancing early education programs aimed at exciting young girls about technology fundamentals,

to encouraging women to explore the varied opportunities for careers in mining, to building a gender-inclusive awareness of the industry, to appointing more women to senior leadership and board positions. In addition to high-level shifts to attract women to these careers, direct action is needed to retain women in the industry, including providing more options around childcare and work schedules, and ensuring equipment and facilities are inclusive of the female workforce.

The Canadian mining industry is projected to need to hire roughly 97,450 workers over the next 10 years.

RESOURCES + TIMELINES

2019/20 BUDGET CYCLE

COST: \$750,000

IMPLEMENTATION NOTES

- This plan should be developed in collaboration with the Ministry of Advanced Education, Skills and Training (AEST).

BENEFITS:

- This action will support a healthy and diverse mining workforce by expanding career opportunities to women.
- This action will help address the future labour shortages in the mining sector.
- This action will help to prepare for the expected future state by contributing to a local high-skilled pool of workers to support the evolving needs of the sector.

II. TRAINING PROGRAMS THAT SUPPORT THE SKILLS OF TODAY AND TOMORROW

ACTION: Support the development and implementation of a cohesive roadmap for enhanced mine sector training to meet the mining sector's future skills and labour needs through a collaborative, inclusive, innovative and geographically-focused approach.

Market growth projections coupled with the limited availability of talent could create future labour force challenges for BC's mining sector. The Canadian mining industry is projected to need to hire roughly 97,450 workers over the next 10 years (2019 to 2029). A significant portion of those workers will be needed in BC, and given the mobility of the Canadian workforce, the BC sector will be competing for employees with mines in other parts of the country.

Labour forecasting also indicates that advancements in automation and the modernization of mines means future mining jobs will require higher education and/or more specialized skills, and training strategies must reflect this. Today's mines access deeper, lower-grade and more complex deposits than ever before, and these activities necessitate the use of new, more sophisticated and innovative technologies at all stages of the mining cycle.

A forward-looking and responsive training strategy is needed to meet future need of skills and supply for BC's mining sector. A cohesive roadmap for enhanced mine sector training will meet the mining sector's future skills and labour needs through a collaborative, inclusive, innovative and geographically focused approach.

Greater integration is needed between industry, labour, training providers and government to close the gap between the education and the workplace. This integration can take the form of:

- Increasing the ease of transition from school and training to the jobs available through apprenticeships and on-the-job training.
- Locating post-secondary education/skills development in the communities proximal to mining operations.
- Improving coordination between industry and training providers to ensure workforce supply meets workplace demand and skills needs.
- Ensuring training programs and subsequent credentials are endorsed by industry.
- Supporting programs that emphasize transferable skills and accreditation (e.g. through professional associations) to assist in worker mobility between natural resource sectors, provide more stable employment and a more stable skilled workforce.

To support the success of an enhanced training strategy, further information is required regarding:

- The future skills gaps projected as a result of innovation and technological development in the mining industry.
- A clearer understanding of transferable skills between natural resource sectors (e.g. forestry and mining), and accreditation of training programs where possible would enhance worker mobility within and between sectors (career shifting, shifting back during upswings, upward mobility).

- Opportunities to advance the participation of Indigenous people, women and other underrepresented groups in training programs and long-term mining career paths.
- Encouraging post-secondary institutions to more fully integrate prior learning assessments to recognize skills and knowledge of students.

RESOURCES + TIMELINES

2019/20 BUDGET CYCLE

COST: \$300,000

IMPLEMENTATION NOTES

- To be developed in collaboration with AEST.
- Budget to be confirmed with AEST.
- To be developed with deep input from industry, labour, Indigenous groups and post-secondary institutions.

BENEFITS:

- This action will help to prepare for the expected future state, where there will be significantly more automation in the industry, by creating a local tech-ready pool of workers and training facilities to support the evolving needs of the sector.
- This action will support a healthy and diverse workforce by expanding opportunities to groups traditionally underrepresented in the mining workforce and be geographically located to ensure Indigenous and non-Indigenous communities proximal to mining operations can participate fully.

ACTION: Create and support an accessible worker database to support workforce transitions across the natural resource sector.

BC's natural resource sector forms a strong economic foundation throughout rural BC. These industries, such as mining, provide good, well-paying jobs that support working families and vibrant communities. However, these industries are vulnerable to boom-bust cycles tied to global markets. These cycles can create labour shortages in times of high demand and adversely affect the feasibility of operations during down-cycles.

To buffer against the boom-bust nature of the natural resource sector, the Task Force recommends that government support, in partnership with industry and labour, the creation of an accessible worker database to support workforce transitions across the natural resource sector. The Task Force envisions this as an accessible database where workers can self-identify skill sets and operators can self-identify skills and labour needs within their operations. Cycles for different industries, such as mining and forestry, can be offsetting, and there is opportunity for workers to move between industries within their home region.

The Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) supports workforce transitions, economic diversification and development and community supports and services across BC. However, current programming is reactive to large-scale layoff events and facility closures. The Task Force recommends this work evolve to a proactive approach that includes an accessible worker database forecasting labour shortages, surpluses and skills gaps in addition to supporting workforce transitions.

RESOURCES + TIMELINES

2019/20 BUDGET CYCLE

COST: \$200,000

IMPLEMENTATION NOTES

- To support and enhance ongoing FLNRORD initiatives in this area.

BENEFITS:

- This tool would allow for more fluid labour transitions during operational up- and down-turns across the natural resource sector.
- This action would improve the ability of workers to access employment opportunities in other natural resources industries requiring similar skillsets. This will assist in keeping local workers employed locally.
- Improving access to well-paying jobs will support the sustainability of communities throughout BC.
- Such a database would help to forecast skills gaps and surpluses, providing valuable data to the training and post-secondary sector.



III. ENSURING A RESPECTFUL, HEALTHY AND SAFE WORK ENVIRONMENT

ACTION: Create a fully funded Standing Code Review Committee to periodically review evolving trends and implement best practices in workplace health and safety.

The Health, Safety and Reclamation Code for Mines in BC (the Code) regulates the mining industry, governs worker safety, and is the foundation for the daily operational activities such as inspections, and compliance and enforcement. The Code, once considered to be a leading-edge regulation, is more than 20 years out of date in certain sections, with the exception of the recent changes made to regulate tailings storage facilities and limited health and safety sections.

Previous reviews of the Code were completed in 1996, 2003, 2008 and 2016/2017, with the last fulsome review taking place in 1995-1996. More recent reviews were only able to address very specific and limited sections within the Code and were in direct response to events that required an urgent or emergency response from government.

Other regulatory bodies, such as Worksafe-BC and Technical Safety BC, have dedicated staff who work to ensure that their regulatory framework stays current and keeps workers and worksites safe. For example, Technical Safety BC has 16 employees dedicated to the 2018 Canadian Electrical Code Review. EMPR, at present, does not have any dedicated resources to undertake a Code Review. If the Code is not regularly updated and maintained this increases the risk of incidents occurring at mine sites. Any reallocation of existing resources would reduce resources available for permitting and Compliance and Enforcement.

With ongoing and rapid changes to technology and increased expectations from Indigenous groups, labour and industry for a transparent and leading edge regulatory framework for mining, the Task Force recommends that the Code Review continue as a regular function of the Mines and Mineral Resources Division (MMRD) in order to bring the current Code up to date and ensure that the mining industry remains relevant and is able to address the changing needs of the industry, the environment, Indigenous groups and residents of British Columbia.

RESOURCES + TIMELINES

STARTING IN 2019/20 BUDGET CYCLE

COST: \$500,000 PER YEAR

IMPLEMENTATION NOTES

- EMPR intends to commence the Standing Code Review in early 2019 and is starting to put staffing and resources in place now.

BENEFITS:

- Funding a standing Code Review will help to maintain mining's place as the safest heavy industry in the province and enable EMPR to respond to the rapid pace of change that industry is experiencing.
- This action will ensure safe and healthy workplaces for the mining workforce, and also bolster an agile regulatory regime that supports the use of innovative practices and tools to enhance competitiveness and environmental performance.
- British Columbia was recently found to be the least risky jurisdiction in the world for companies to invest in mining projects, largely based on BC's Mining Code, according to the Mining Journal's 2018 World Risk Report. Ensuring the Code remains current will help to ensure the Province remains an attractive place for investment.

2. Realizing community benefits

For generations, mining has generated jobs and prosperity for families in every region of BC. The sector provides benefits through salaries, taxes, ancillary economic activity and partnerships with Indigenous peoples, forming the foundation of healthy, vibrant communities across the province.

However, there are many communities that do not have the resources to fully engage in the benefits of mining, and there are constantly evolving tools and best practices that can be adapted to the BC context. There are opportunities for capacity building, employment, investment, economic growth, and partnership opportunities with communities throughout the entire mining life cycle.

There remains significant work to do to fulfill government's commitment to lasting reconciliation and implementation of UNDRIP, and the mining sector can continue to play a significant leadership role. BC can be a leader in the domestic and global movement towards reconciliation with Indigenous people, further transitioning our diversity into a global strength.

Investment in supporting mining communities can improve the sustainability and socio-economic conditions of Indigenous and non-Indigenous communities, improve community

confidence in the mining sector and create new industry-community partnerships, while mobilizing new capital to support mining projects and meeting the long-term labour force needs of a growing mining sector.

I. ENSURING COMMUNITIES SHARE IN THE BENEFITS OF MINING

ACTION: Review the fiscal framework for BC's revenue sharing policy to determine ways to reduce the volatility of the revenue streams to Indigenous communities.

BC was the first province to institute revenue sharing with Indigenous communities so they can share directly in mineral tax revenue from mines operating within their traditional territories. To date, thirty-two Economic and Community Development Agreements (ECDAs) have been signed with forty-four Indigenous groups, and negotiations towards several further agreements are underway or planned.

ECDAs are agreements between Government and Indigenous communities for sharing the direct mineral tax revenue on new mines and major mine expansions. The revenues shared with Indigenous communities can provide valuable revenue streams to support numerous initiatives including community programs, infrastructure development and long-term sustainability.

Economic and Community Development Agreements

Sharing the wealth from extraction of natural resources within First Nations territories is an important part of reconciliation with Indigenous people and supporting self-determining, healthy Indigenous communities. Since 2008, the Province of BC has concluded Economic and Community Development Agreements with 44 First Nations for 16 different major mines in BC and has shared more than \$64 million in mineral tax revenues.

The only source of revenue included in ECDAs is the direct Mineral Tax Revenue. Mineral Tax Revenue is the Incremental Mineral Tax Revenue or the Net Mineral Tax Revenue attributable to the project and is defined as the total amount of tax, penalty and interest paid by the operators of the project under the Mineral Tax Act, minus any refunds and/or interest the province has paid back to the operators. This amount is based on incremental production by the project. Incremental production for new mines means mining and production of all ore within the area of the project. The ECDA model sees 37.5% of incremental mineral tax revenue from a mine flow to affected Indigenous communities.

Singular reliance on shared revenue from ECDAs can create revenue stream volatility for communities. Mines often deduct their capital development costs from their Mineral Tax revenues, especially in the early-stages of mine development and later during expansion or high capital expenditures, leaving little to be shared. The BC Mining Tax is also a small portion of the taxes paid by a mine. As a result, under the current framework communities are challenged to make long-term plans, borrow against the revenue streams, or leverage these funds through strategic investments.

The ECDA model has been in place in BC since 2010, and the time is now right to evaluate this model and government's fiscal relationship with Indigenous communities with respect to operating mines. This review should examine two aspects:

- Examine approaches to smoothen the revenue sharing streams from operating mines to provide greater certainty to Indigenous communities.
- Examine the denominator of taxes paid by mines to understand the impacts and benefits of modifying revenue sharing with

Indigenous communities to be based on a larger 'denominator' of taxes paid by a mine such as GST/PST, employer taxes, municipal taxes, etc.

RESOURCES + TIMELINES

BEGINNING IN 2019

COST: REVIEW TO BE CONDUCTED WITH INTERNAL CAPACITY

IMPLEMENTATION NOTES

- Conducted with internal capacity.

BENEFITS:

- This action would support Indigenous communities sharing in the benefits of mining by providing a more stable and consistent revenue stream, thereby improving stability for communities and contributing to government's adoption of UNDRIP.



ACTION: Explore opportunities to support Indigenous communities across BC in gaining equity ownership related to major projects.

Indigenous involvement in Canadian infrastructure projects is increasing. In the last few years, Indigenous involvement has taken on a wider range of roles, from more traditional involvement, such as being consulted or employed on projects developed on or near traditional lands, to equity stakes. In equity participation, there has been an evolution from small stakes, or full ownership of small projects, to potential control of very large projects and development roles. Currently, stakes rise as high as 50%, with construction costs for some projects in the hundreds of millions, if not billions, of dollars.

With larger projects and equity stakes, funding of equity is a bottleneck for many Indigenous investors. Many Indigenous communities have few internal financial resources for investment purposes, so will effectively need to borrow their equity to invest in larger projects and need long-term financing to match the life of the project asset. Providers of such debt are limited.

Ontario's Aboriginal Loan Guarantee Program (ALGP) was announced in the 2009 Ontario budget as a \$250 million fund to support participation in renewable green energy infrastructure in Ontario including transmission projects and wind, solar and hydroelectric generation projects. The program provides a Provincial guarantee for a loan to an Indigenous



owned corporation to purchase up to 75% of the corporation's equity in an eligible project, to a maximum of \$50 million.

The program is available to corporations that are wholly-owned by Indigenous communities. By participating in eligible renewable energy projects, Indigenous communities can benefit from jobs and training as projects are developed and from dividends once projects come into service. The ALGP expanded by \$150 million in 2012 and by \$250 million in 2014, bringing the current envelope to \$650 million.

Many Indigenous communities in BC have strong business relationships with operating mines.

In British Columbia, accelerating Indigenous capital formation through resource project partnerships (equity and supplier businesses) can form a core basis for expanding the benefits of mining and (further) de-risking projects. Such a program would be of interest to Indigenous groups in BC who are looking to secure equity in or around a mining project, particularly in ancillary or support infrastructure that does not feature the same resource price volatility as mines themselves. These types of projects provide a steady revenue stream to pay back loans.

Many Indigenous communities in BC have strong business relationships with operating mines. This program would enable these communities to expand the scope of investments that support mine development and operation, and provide opportunities for other Indigenous communities to engage in new partnerships.

In addition to providing increased opportunities for Indigenous communities to participate in

project development, such a program would benefit industry by mobilizing an additional source of capital that would lower the capital requirements for mine expansions and new mines.

RESOURCES + TIMELINES

BEGINNING IN 2019

COST: REVIEW TO BE CONDUCTED WITH INTERNAL CAPACITY

IMPLEMENTATION NOTES

- Facilitate review across government initiatives that could support equity approach.

BENEFITS:

- This action would build upon existing partnership frameworks seen at infrastructure projects across Canada to support Indigenous groups in BC in becoming part owners in major projects proposed for their traditional territories.
- This program would enable communities who have existing business relationships with mines to expand the scope of investments that support mine development and operation and provide opportunities for other Indigenous communities to engage in these partnerships.
- In addition to providing increased opportunities for Indigenous groups to participate in project development, such a program would benefit industry by mobilizing an additional source of capital that would lower the capital requirements for mine expansions and new mines.
- An Indigenous community as an equity partner clearly addresses the UNDRIP issue of Free, Prior and Informed Consent (FPIC), advancing government's broader reconciliation goals.

ACTION: Amend or develop existing legislation to support the development of community trusts with participation of multiple Indigenous groups.

Across BC, mining operations have forged deep partnerships with neighbouring Indigenous groups. However, in many cases multiple Indigenous groups have overlapping traditional territories in direct proximity of a mine, complicating benefit sharing. Multi-community agreements can allow affected communities to address issues with shared territories without involvement of the Province and include provisions for a financial trust (i.e. Indigenous Sovereign Wealth Fund) that is managed by the communities collectively using existing trust laws and procedures for multi-generational returns.

These agreements also provide the Indigenous communities with a vested interest in seeing mines expand and prosper, and provide benefits to communities in the form of operational input to the mine operations, preferred contracting opportunities, reclamation planning and financial benefits such as revenue and mineral tax sharing.

As demonstrated by the success of the benefit sharing agreement between the BC Government, Teck Resources and multiple Indigenous groups at the Highland Valley Copper mine, supporting the development of multi-community agreements, including provisions for Indigenous Sovereign Wealth Funds, at mines in BC would provide greater opportunities for Indigenous groups to effectively participate in resource development. At Highland Valley Copper, eight Indigenous groups have collaborated to create one trust, pooling resources to provide better returns for future generations and share decision-making.

There is currently no mechanism in BC that allows for the capture of funds by Indigenous groups to be held in trust for their communities. Indigenous groups receiving benefits from the Highland Valley Copper Mine were forced to use the federal Family Trust Act to set up a trust model that worked. This work-around required significant administrative capacity – a barrier for other Indigenous groups to set up trusts of their own.

RESOURCES + TIMELINES

BEGINNING IN 2019

COST: REVIEW TO BE CONDUCTED WITH INTERNAL CAPACITY

IMPLEMENTATION NOTES

- Conducted with internal capacity.

BENEFITS:

- This action will support Indigenous participation in major projects across all resource sectors.
- These agreements provide the Indigenous communities with a vested interest in seeing mines expand and prosper and provides benefits to communities.
- Indigenous Sovereign Wealth Funds provide opportunity for Indigenous communities to better leverage the revenue streams coming from mining operations.
- Multi-community agreements provide opportunity for Indigenous communities to address boundary issues and division of benefits without the involvement of the Province.
- For government and operators, it provides long-term assurances and operational stability for mines to make major investments.

II. APPROPRIATE SOCIAL AND ENVIRONMENTAL PROTECTIONS ARE IN PLACE

ACTION: Support government's plan to fund Indigenous Stewardship and Monitoring Initiatives, such as guardianship programs, to enhance environmental performance and increase Indigenous involvement in environmental monitoring at mineral exploration and mining projects.

There are numerous provincial activities throughout the natural resource sector that fall under the banner of Indigenous Stewardship and Monitoring Initiatives (SAMI), including Indigenous monitoring, liaison and guardianship programs. These programs facilitate the participation of Indigenous communities in environmental monitoring for projects in their areas of interest.

There is a high degree of support for these initiatives across participating provincial agencies. Positive outcomes have included a greater degree of Indigenous awareness and influence

There are numerous provincial activities throughout the natural resources sector that fall under the banner of Indigenous Stewardship and Monitoring Initiatives, including Indigenous monitoring, liaison and guardianship programs.

over resource management issues, increased protection for significant cultural and ecological values, community capacity-building, and developing trust-based relationships with government agencies and other land users. Mining Inspectors and Compliance Officers have received consistent feedback from Indigenous communities that there is interest in increased Indigenous participation in mining oversight. Government currently supports nine SAMI

Collaboration on Compliance and Monitoring

The Province of British Columbia and the Tahltan Central Government signed the Red Chris Mine Management Agreement on January 24, 2017. The Agreement sets out a framework for the Parties to collaborate with respect to the Red Chris Mine operated by the Red Chris Development Company, including:

- Working together to review applications for new Provincial authorizations;
- Providing opportunities for Tahltan participation in Provincial inspections; and
- Ensuring notification and engagement with Tahltan following incidents at the Mine.

programs involving 17 Indigenous groups across the natural resource sector, with existing funding set to expire in 2019. In many cases, however, lack of formal structure and long-term commitment to funding have hindered progress and resulted in a lack of capacity, diffuse goals, limited resources and inconsistent approaches.



RESOURCES + TIMELINES

BEGINNING IN 2019

COST: NO IMMEDIATE ADDITIONAL COST

IMPLEMENTATION NOTES

- Supports existing FLNRORD budget ask.
- Will seek to align with federal funding opportunities.

BENEFITS:

- Participation in oversight activities has the potential to strengthen trust between the mining industry and affected communities by allowing Indigenous participants to play a positive role in holding resource users to account in terms of permitting conditions.
- Other potential benefits include the facilitation of consistent and regular information-sharing, increased transparency and collaboration, the development of technical capacity in communities through an associated training component, and employment opportunities.
- The development of a cross-sector program would reduce additional levels of bureaucracy while creating alignment opportunities with potential partners. This includes the federal government, which provided \$25 million for an Indigenous Guardians Pilot over five years starting in 2017-18.
- Allocating resources towards the identification of a model that meets the specific needs of the mining industry would help facilitate integration with existing EMPR compliance and enforcement practices in order to avoid creating additional bureaucracy. Further, engagement with industry and Indigenous groups would ensure the development of a mining-specific model that works for all affected parties.

ACTION: Support government initiatives to review the current state and establish world-leading best practices for supporting the health and well-being of communities impacted by the natural resource sector.

Mining development can cause positive, negative, direct and indirect impacts to nearby communities. Negative impacts can include rapid population influxes and migration, social and cultural disruption, strain on housing stock, strain on public infrastructure and services, increased crime and substance abuse, inequitable distribution of wealth and poor child development and education outcomes. Positive socio-economic benefits, such as employment rates, salaries, and higher standards of living are significant but can also have negative impacts if improperly managed.

The EY report commissioned by the Task Force on the BC mining sector included community well-being in-scope. The report included a jurisdictional scan of best practices required by government to support community well-being, including socio-economic effects management plans (SEEMPs), environmental registers, community engagement plans and consultative committees. The most detailed analysis was of contrasting approaches to SEEMPs across jurisdictions and found Queensland, Australia to be a leader in this area with legislation having required mining proponents to identify, manage and monitor social impacts from 2008.

In 2017, Government struck a Cross Ministry Working Group with a mandate to examine the social impacts of industrial camps related to natural resource development and to identify mitigation strategies. There now exists the opportunity to expand the work of this group by coordinating government initiatives – in partnership with industry, Indigenous groups and

communities – to further review and enhance best practices to provide forward-looking guidance for supporting the health and well-being of communities impacted by the natural resource sector.

This analysis of community health and well-being could also be expanded to examine local levels of employment and local economic impact by mining operations. This could be similar to the monitoring framework that currently takes place for environmental impacts.

RESOURCES + TIMELINES

BEGINNING IN 2019

COST: \$750,000

IMPLEMENTATION NOTES

- This resource allocation will support mining only, contributing to a full review of the broader natural resource sector.

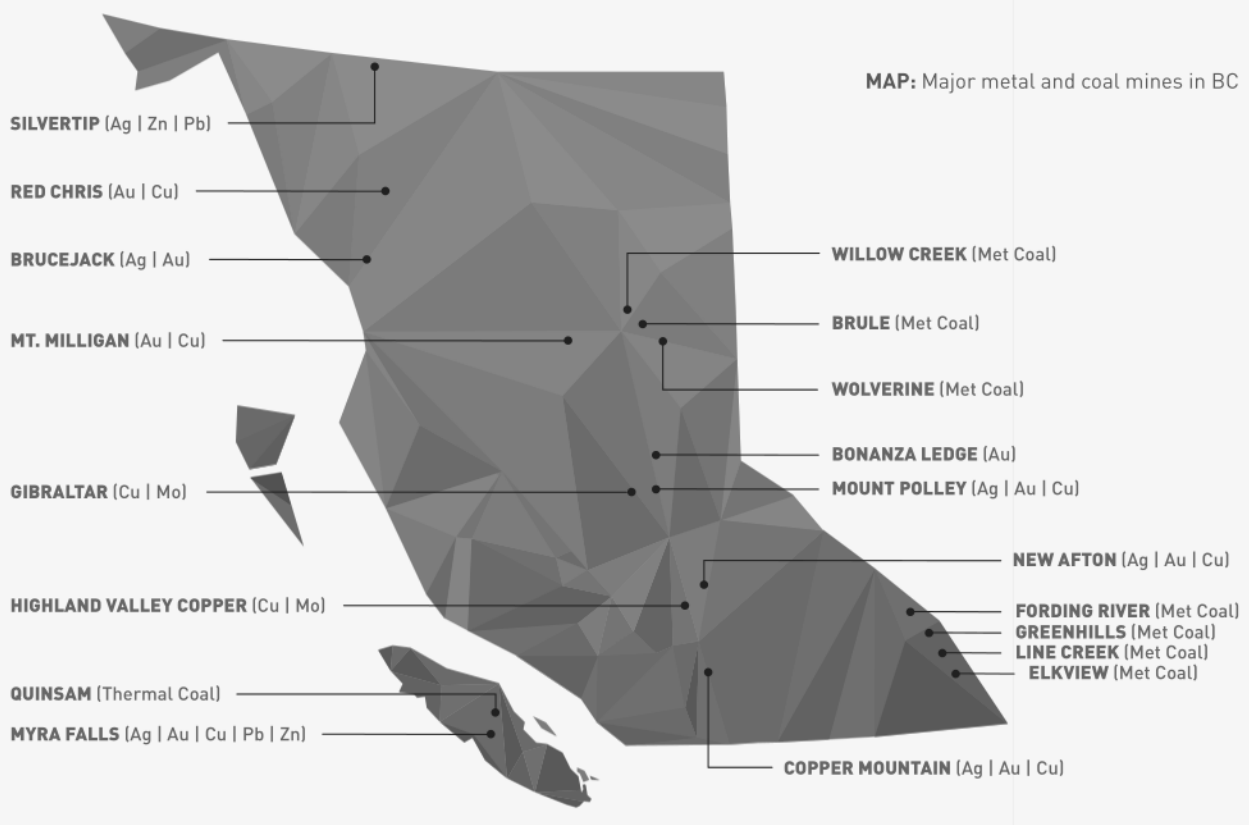
BENEFITS:

- This action will provide communities neighboring natural resource activities with confidence that sufficient social and environmental protections are in place and effective policies have been developed to ensure mines coexist harmoniously with neighbouring communities, and that communities most affected share in the benefits of mining.
- Requiring the reporting of statistics on local employment and local economic impact would allow government to accurately track local impact across the sector and capture positive impacts generated by the operation.

3. Enhancing BC's fiscal and regulatory competitiveness

While some of the fundamentals of BC's mining sector remain strong and BC remains a major player in the Canadian landscape, global forces strongly impact sector investment and performance. The high-amplitude commodity cycle requires BC explorers and operators to be responsive and competitive in the context of international markets where investment is mobile, and the low-price phase of commodity cycles can result in mine closures, deferred projects and lower exploration expenditures. This was demonstrated between 2012 and 2016, when a decline in commodity prices caused exploration expenditures in the province to decrease from \$680 million to \$205 million, and eleven operating mines were forced to enter care and maintenance with corresponding layoffs.

Government now has the opportunity to invest in proactive, rather than reactive, actions to improve fiscal and regulatory competitiveness to reduce the risk of future industry contraction and encourage the development of new mines and expansions at existing operations. BC competes with the world for investment, and BC producers of raw materials are price-takers, not price makers in the international marketplace. Competitive regulatory and tax structures must be in place to ensure the industry can grow jobs and sustain communities in the province. Government investment in key competitive advantages like geoscience, innovation, clean energy inputs and infrastructure must be increased to keep pace with rival jurisdictions. Included in these dimensions of competitiveness are strong socio-economic objectives, including world-class environmental performance and Indigenous relationships that generate tangible benefits which drive real economic reconciliation on the land base.



I. IMPROVED REGULATORY TRANSPARENCY AND PREDICTABILITY

Given the significant, upfront capital outlays and long-lead times to develop mines and move them into production to generate cash inflows, mining investments are inherently high-risk. The regulatory framework governing a mining investment can further compound this risk. The EY report found that government investment in actions to increase the efficiency, transparency, and predictability of the regulatory framework governing the sector in BC would encourage investment by decreasing investment risk and improve competitiveness.

A more efficient, predictable, and effective regulatory framework with dedicated resources to implementing UNDRIP within the regulatory

system will improve clarity and certainty for all stakeholders. This will enable proponents to make investment decisions with confidence, leading to new mines being built and corresponding employment growth. Committing resources to anticipating and incorporating innovation in the regulatory framework results in improved uptake of new tools to improve competitiveness and enhance environmental performance.

ACTION: Provide budget lift for EMPR to advance mandate letter commitments and enhance regulatory excellence, boosting its position as a world-leading regulator.

This action supports an increased focus on BC's competitiveness and advocacy for new mining investment, while supporting independence for



mining oversight and positioning BC to be a leader in industry safety. Clear separation of these functions will help increase public, Indigenous and industry confidence and trust, as well as improve permitting timelines - all of which are critical to a thriving mining industry in this province. EMPR initiatives will be advanced by enhanced budget funding to:

- Expand the mandate of the Major Mines Permitting Office (MMPO) to include broader range of permitting requirements, including concurrent permitting and other initiatives to streamline the complexity of BC's regulatory regime;
- Ensure clear(er) division of responsibility and resources between permitting functions and compliance and enforcement within EMPR;
- Bolster an agile regulatory regime that supports the use of innovative practices and tools to enhance competitiveness and outcome-focused environmental performance;
- Provide EMPR Regional Offices with sufficient resources to ensure EMPR permitting procedures align with government's commitment to the adoption and implementation of UNDRIP, and to permit efficiently, to support a healthy and competitive mining sector;
- Support increased cross-ministry and cross-jurisdictional collaboration on permitting to ensure a transparent and certain regulatory system that provides proponents and operators confidence throughout the regulatory continuum, with a specific focus on continuing to advance and strengthen partnerships with Indigenous communities involved in the mining sector; and,
- Collaborate with the Ministry of Environment and Climate Change Strategy (ENV) to support clear pathways to sustainable project

approvals by providing certainty of process and clarity of regulatory considerations, including the option to advance projects from Environmental Assessment directly to permitting through MMPO when the regulatory framework and Indigenous support merit.

RESOURCES + TIMELINES

2019/2020 BUDGET CYCLE

COST: \$11 MILLION

IMPLEMENTATION NOTES

- EMPR has developed a detailed budget to address these policy areas.

BENEFITS:

- Support a transparent and certain regulatory system that is responsive to shifting government priorities and the rapid pace of innovation.
- Ensure safe and healthy workplaces for the mining industry workforce, including camp environments.
- Improve public/stakeholder support and confidence with regulatory system decisions.
- Better coordination, alignment and delivery of responsibilities for permitting under one area of the ministry.
- Improve permitting times and certainty of process for proponents.
- Enhance Indigenous engagement during permitting and compliance monitoring, contributing to government adoption of UNDRIP and implementation of the Province's 10 Principles for Reconciliation.
- Improve health and safety capacity and effectiveness, and establish a compliance auditing and effectiveness monitoring function.

II. ATTRACTIVE FISCAL FRAMEWORK FOR DEVELOPERS AND OPERATORS

BC is Canada's largest producer of copper and steelmaking coal and among the top three provinces in the production of gold. Preliminary estimates provided by Natural Resources Canada (NRCan) show that BC produced almost \$9 billion worth of minerals in 2017. Over the past ten years, mining in BC has generated an average of \$250 million per year in mineral tax royalties to the province. Currently, there are nine major metal mines and eight major coal mines operating in BC directly employing over 8,000 people.

The mining industry's ability to maintain profitable mining operations and obtain financing for the development of new mines and expansions is heavily impacted by commodity price cycles and a jurisdiction's competitive cost structure. Commodity prices for BC's major mineral products have historically experienced periods of high volatility. For example, from 2011 to 2015 the US price of copper fell from an annual average of \$4.00/lb to \$2.49/lb. Gold and metallurgical coal went from \$1,572/oz and \$282/tonne to \$1,159/oz and \$101/tonne respectively. From June 2014 to July 2015 seven mines in BC were forced into care and maintenance due to financial difficulties. In addition, investment into mine development for BC fell from approximately \$2 billion in 2011 to \$1.2 billion in 2015.

Actions to manage industry cost-burden, enhance incentive programs and improve regulatory efficiency and predictability can buffer the volatility that commodity price cycles have on the industry in BC and encourage investment. These actions will ensure that the industry remains an important contributor to the provincial economy and position the sector for future growth.

ACTION: Support government's Low Carbon Industrial Strategy for British Columbia including development of programs to stimulate capital expenditures and address competitiveness challenges.

Emissions-intensive, trade-exposed (EITE) sectors of BC's economy face an increasing disadvantage versus domestic and international competitors, the majority of which have no or significantly lower carbon pricing. The Task Force commissioned EY report identified the carbon tax as the leading competitive disadvantage for BC mining operations, and anecdotal evidence suggests it is already contributing to carbon leakage. Despite previous commitments to address EITE issues, to date BC remains the only jurisdiction with a comprehensive carbon pricing system and no equivalent EITE system. Recent announcements by governments in Ontario, Alberta and Quebec have only served to further underscore this challenge, with new incentive funds that not only exempt EITE sectors for GHG costs or regulations, but incentivize capital expenditures which reduce GHG emissions. The EY report found the carbon tax as the single greatest barrier to sector competitiveness in BC.

Addressing the competitiveness challenges of the BC carbon tax system is a high priority for industry. More directly, as the pan-Canadian framework moves forward and carbon pricing is implemented by the federal government in provinces that do not have carbon pricing regimes in place, BC will be at a further competitive disadvantage given the misalignment in treatment of EITE sectors that is being implemented across the country. Compounding this disadvantage further, are the significant new incentive funds being put in place to assist

TABLE 5: Comparative carbon prices

JURISDICTION	STATED CARBON PRICE 2019	STATED CARBON PRICE 2022
British Columbia	\$40/tonne	\$50/tonne
Quebec	\$18 - \$20/tonne	\$20 - \$22/tonne
Ontario (federal backstop)	\$20/tonne	\$50/tonne
Chile	\$5	\$5
Australia	\$0	\$0

with the transition to a lower carbon economy in other provinces and by the federal government. While BC has made an initial step in the 2018 budget to address the EITE sector and provide a modest start to funding EITE sectors' transition to a lower-carbon profile, there remains a significant competitiveness gap and challenges to maintaining BC's position as a low-carbon resource provider for the world.

As the mining sector transforms towards a low-GHG profile there is a need for programs to enable capital to drive the sector's emissions profile lower – leveraging federal expenditures and working from a platform of a more competitive carbon tax framework. Through this, government can provide stronger incentives

to EITE sectors that are vital pillars of BC's economic base, while incentivizing a shift to a lower emissions model that will help meet BC's carbon reduction targets and reduces the potential for carbon leakage.

The CleanBC program for industry announced in Budget 2018 directs a portion of BC's carbon tax paid by industry into incentives for cleaner operations. The program is designed for regulated large industrial operations, such as pulp and paper mills, natural gas operations and refineries, and large mines. This program will help the sector and its workers thrive – stable, efficient companies and industries will ensure a continuing supply of good jobs for British Columbians across the province.

CleanBC

In December 2018, the Government of British Columbia has released its CleanBC plan aimed at reducing climate pollution, while creating more jobs and economic opportunities for people, businesses and communities. The CleanBC plan was developed as a pathway to achieve the Province's legislated climate targets while growing the economy. The Province is helping the mining industry lower its emissions through the clean growth incentive program, which will help operators become the cleanest operators in the sector while competing with other jurisdictions that may not have a carbon price.

Government support for industry will also be shaped through the implementation of Budget 2018 and the Low Carbon Industrial Strategy. Actions include:

- Support for emissions intense industry to transition to a low carbon economy while maintaining competitiveness and minimizing carbon leakage.
- New green initiatives to grow innovation and investment.
- Direct a portion of BC's carbon tax paid by industry into incentives for cleaner operations, including a shift to cleaner heavy-duty fleets and further industrial electrification.
- Tax policy: developing criteria for a BC tax model to encourage capital investment and support lower GHG operations that advance sectors and competitiveness of BC industry, including tax inducements, referrals and/or exemptions.
- Input costs: developing BC's broad energy policy framework to include incentives through BC Hydro and natural gas as tools to drive a low-carbon energy infrastructure.
- Examining the policy, fiscal and operating issues affecting the competitiveness of trade exposed industrial sectors with the goal of offsetting the competitiveness gap, thereby creating more jobs and opportunities.
- Supporting economic opportunities and outcomes that advance broad reconciliation goals for Indigenous peoples.

RESOURCES + TIMELINES

BEGINNING IN 2019

COST: TO BE FUNDED THROUGH EXISTING INITIATIVES SUCH AS THE LOW CARBON INDUSTRIAL STRATEGY, CLEANBC PLAN AND BUDGET 2018

IMPLEMENTATION NOTES

- The Task Force recommends EMPR collaborate with the Ministry of Environment and Climate Change Strategy and industry, leveraging these existing initiatives to develop innovative programs that incentivize the shift to low-carbon operations while preserving industry competitiveness and minimizing carbon leakage.

BENEFITS:

- This action will address a key impediment to BC's global competitiveness and reduce carbon leakage by creating a more competitive, attractive framework for developers and operators in EITE sectors such as mining.
- Low-carbon incentive programs will use appropriate fiscal tools to shift industry to a lower-emissions model, thereby contributing to a more competitive, resilient and sustainable sector.
- This approach to dealing with the competitiveness challenges of the carbon tax in BC enables government to utilize non-carbon tax measures to reduce the costs of GHG reducing capital programs and thereby improve EITE competitiveness while achieving GHG reductions that would otherwise not be economic



ACTION: Examine relief from PST on Production Machinery and Equipment and infrastructure for developers and operators to support new mines, mine expansions and investment in cleaner, lower-carbon operations.

Mine operators in BC are exempt from Provincial Sales Tax (PST) applied to eligible production machinery and equipment (PM&E) that is used in the extraction or processing of minerals. Eligibility for the exemption depends on whether the PM&E is an integral component and is in use for over 50% of the mineral production process, measured in either time or volume.

The PM&E exemption exists only at the qualifying part of the mine site, which is defined as the point where the mineral is extracted from the ground to the point where the finished product is first stored or first placed in a vehicle for removal from the mine site. For example, vehicles used to transport the finished product from the qualifying part of a mine site do not qualify for the PM&E exemption. Expanding the PM&E exemption could assist with supporting a shift to cleaner and lower-carbon operations through upgrades to transportation systems, water treatment facilities and other areas of operations. Mining and manufacturing PST exemptions for “pollution control” machinery and equipment are currently restricted to that used at the “qualifying part” of a mine, inhibiting capital deployment for improvements across other areas.

From a process perspective, mine operators also face significant challenges in administering the PST. This includes increased internal requirements for staff time as well as external (supplier) impacts. The administrative burden is also substantial for the Province and streamlining this tax structure would reduce red tape. Few jurisdictions apply sales tax in form of PST

and have such a complex system for administering a narrow range of exemptions as in BC.

RESOURCES + TIMELINES

BUDGET CYCLE 2019/2020

COST: THE ESTIMATED ANNUAL FISCAL IMPACT TO THE PROVINCE WOULD BE \$5 MILLION

IMPLEMENTATION NOTES

- A review of PST exemptions should take place through 2019 to inform the next budget.
- Costs would be partially offset by decreased administrative burden for the Province.

BENEFITS:

- Address a core competitiveness challenge for BC companies and induce a stimulative effect on capital deployment across key areas of the mining sector.
- Improving the capital cost in areas such as environmental technologies/infrastructure by removing the PST will result in improved competitiveness and equitable treatment.
- This action will contribute to a competitive resilient and sustainable sector. It will enhance BC's global competitiveness by creating an attractive fiscal framework for developers and operators.

ACTION: Make permanent the Electricity Cost Deferral Program (BC Hydro Mining Customer Payment Plan).

Electricity costs are one of the most significant operating costs for mines and have been increasing as electricity rates in BC rise. In 2015 and early 2016, low copper and coal prices put operations at a number of BC mines at risk, forcing some to reduce production and em-

ployment levels. To support the mining sector and safeguard jobs, the Province developed a strategy to allow companies to defer a portion of their monthly BC Hydro electricity bills until commodity prices recovered.

Under the five-year term of the program, which is delivered by BC Hydro, copper and coal mines in BC are able to defer up to 75% of their electricity costs over two years. As commodity prices recover, mines are required to repay the amounts deferred, plus interest equal to prime plus 5%. Six copper mines entered into the BC Mining Customer Payment Plan in 2016, including Gibraltar, Copper Mountain, Mount Milligan, Mount Polley and Red Chris.

RESOURCES + TIMELINES

2019/20 BUDGET CYCLE

COST: NO IMMEDIATE FISCAL IMPACTS

IMPLEMENTATION NOTES

- This program is currently in place and part of BC Hydro's fiscal plan.
- Evaluate interest rates on a 5-year basis.

BENEFITS:

- Making this program permanent can assist with de-risking mine closures/shutdowns.
- This action will contribute to a competitive resilient and sustainable sector. It will enhance BC's global competitiveness by creating an attractive fiscal framework for developers and operators.

ACTION: Make permanent the New Mine Allowance under the BC Mineral Tax Act.

BC's New Mine Allowance encourages the development of new mines and significant mine expansions by allowing operators to claim an

additional 33% for eligible capital expenditures on their mineral tax returns. Eligible capital expenditures include those incurred for the purpose of bringing a mine or mine expansion into commercial production. For a mine expansion to be eligible, it must increase the mine's designed production capacity by at least 25%.

Under the BC Mineral Tax Act, mine operators are required to pay a minimum 2% tax from operating profits generated by the mine until they have recovered all eligible capital expenditures. Once these expenditures have been recovered, the mine operator is required to pay a 13% tax. The New Mine Allowance essentially delays the time it takes a mine to move from the 2% to the 13% tax tier by allowing operators to claim additional capital expenditures (i.e. 33% of actual expenditures) incurred prior to their mine being brought into commercial production. This allowance is currently set to expire on January 1, 2020.

RESOURCES + TIMELINES

2019/20 BUDGET CYCLE

COST: NO IMMEDIATE FISCAL IMPACTS

IMPLEMENTATION NOTES

- This allowance is currently in place and part of the Province's fiscal plan.

BENEFITS:

- Making this program permanent will provide certainty to proponents and encourage the development of new mines and eligible expansion projects, creating new, good jobs in the province.
- It will create an attractive fiscal framework for developers and operators by creating a meaningful and well-understood incentive program to support mine development.

III. MEANINGFUL AND WELL-UNDERSTOOD INCENTIVE PROGRAMS TO SUPPORT MINERAL EXPLORATION

Since 2014, BC's share of Canada's total mineral exploration has been falling steadily. In 2017, 12% of mineral exploration expenditures were made in BC compared to 22% in 2014. Some of this variance can be explained by falling commodity prices for metallurgical coal and copper, which represent BC's top two commodities in terms of production value. However, Canada has seen a significant increase in expenditures for precious metal exploration, from \$849M in 2015 to an estimated \$1.4B in 2017, and BC's share of those expenditures has been declining relative to other jurisdictions. For example, in the past three years, Quebec has seen its Canadian share

of precious metal exploration expenditures go from 14.1% to 26.8%, whereas BC saw its share fall from 17.2% to 12.9%.

Over the past 10 years, BC's average annual share of Canada's total exploration expenditures has been 16.07%. In 2017, BC's share was 12.2%. Assuming Canada's 2018 exploration expenditures remain the same as in 2017, BC would see an increase of \$81.75M in exploration expenditures if the province was able to achieve a share of Canada's total exploration expenditures equal to its 10-year average. BC now has the opportunity to realize this potential surge in exploration dollars by implementing a suite of actions to make the province the most attractive jurisdiction in Canada for investment.

TABLE 6: BC's share of Canadian mineral exploration

PROVINCE/TERRITORY	CANADIAN EXPLORATION AND DEPOSIT APPRAISAL EXPENDITURES		
	2016	2017	2018*
British Columbia	14%	12%	13%
Northwest Territories	5%	4%	4%
Nunavut	13%	8%	5%
Ontario	24%	25%	27%
Quebec	19%	27%	30%
Saskatchewan	14%	9%	8%

*Expected. Source: Natural Resources Canada

Quebec is a strong example of the influence that a robust suite of incentives can have on exploration activity. In 2012 and 2014 the Quebec government reduced tax credits for mineral exploration. This resulted in Quebec's share of Canadian mineral exploration reducing from 20% in 2011 to 14% in 2015. In 2016, Quebec restored many of the incentives and its share of Canadian mineral exploration rebounded rapidly to 27% in 2017 and an estimated 29% in 2018. While these changes cannot be attributed solely to incentives, they are a key part of the impact.

ACTION: Make permanent the BC Mining Flow-Through Share program at a rate of 20% and increase the rate to 35% for a three-year trial period.

Flow-through shares are generally common shares issued by a corporation to an investor, pursuant to an agreement in writing under which the corporation agrees to incur exploration expenses in an amount equal to the consideration received for the shares issued. Under this agreement, the corporation renounces qualifying Canadian Exploration Expenses (CEE) to the investors who can then deduct that CEE from income for tax purposes. The program encourages exploration by reducing the amount of funds the investor has at risk.

Since 2001, the Province has provided a 20% non-refundable tax credit to investors who invested in flow-through shares offered by a company conducting grassroots mineral exploration in British Columbia. The program has been renewed on an annual basis, creating uncertainty in longer term planning and increasing the risk of stranded investments for the investment community.

The federal government also offers a non-refundable, 15% tax credit for grassroots exploration expenses pursuant to a Flow-Through Share Agreement. This credit was recently renewed (November 2018) for five years based on the advice of industry. The BC Mining Flow-Through Share (MFTS) tax credit is completely harmonized with the federal tax credit, and if raised to 35%, would make the after-tax cost of flow-through share-financed grassroots exploration expenditures in BC the lowest in Canada.

RESOURCES + TIMELINES

TRIAL TIMELINE 2019 - 2022

COST:

NO COST TO THE PERMANENCY OF THE INITIAL 20%.

THE TRIAL INCREASE IS ESTIMATED AT AN ADDITIONAL \$4 MILLION PER YEAR.

IMPLEMENTATION NOTES

- To take effect in 2019.
- Over the last ten years, the MFTS tax credit program has cost the Province an estimated \$9.4 million per year.

BENEFITS:

- This action will create an attractive fiscal framework for developers and operators by expanding a meaningful and well-understood incentive program to support mineral exploration.
- This is a proven and effective tool to support exploration and keep investment funds in BC (from 2011-2017, 68% of Canadian exploration investment involved flow-through shares).
- Finance Canada has estimated that every dollar of flow-through financing generates \$2.60 of exploration expenditures in Canada.
- When taken with the federal investment tax credit, this action will position BC as the best "super flow-through" tax credit in Canada, exceeding the credits available in Manitoba and Quebec.
- This action will increase BC's share of Canadian mineral exploration, support investment during low points in the commodity cycle, provide investment certainty and allow for multi-year investments.

ACTION: Make permanent the BC Mineral Exploration Tax Credit (BC METC) at 20% and increase the rate to 30% for a three-year trial period.

Corporations that conduct grassroots exploration in BC may be eligible to receive a refundable tax credit equal to 20% of non-flow-through funded, eligible mineral exploration expenditures incurred after July 31, 1998, and before January 1, 2020. An enhanced rate of 30% is available for grassroots exploration undertaken in prescribed Mountain Pine Beetle affected areas.

Exploration companies and investors depend on some level of certainty to finance not only the current year of their exploration programs, but also any subsequent exploration necessary to fully scope the mineral potential of a particular property.

Mineral exploration expenditures which are eligible for the Mining Exploration Tax Credit Program (METC) include those incurred for determining the existence, location, extent or quality of a mineral resource. A recent amendment to BC's Income Tax Act has expanded eligible exploration expenditures to include those incurred after February 28, 2015 for conducting environmental studies and community consultations undertaken to obtain a right, license or privilege for the purpose of grassroots exploration.

Making the BC METC permanent will provide stability for exploration companies, increasing the opportunity for multi-year exploration program

funding and allowing for longer-term planning. This is vital for exploration programs, as mineral deposits are carried out in stages over an extended period of time. Exploration companies and investors depend on some level of certainty to finance not only the current year of their exploration programs, but also any subsequent exploration necessary to fully scope the mineral potential of a particular property.

RESOURCES + TIMELINES

TRIAL TIMELINE 2019 - 2022

COST:

NO COST TO THE PERMANENCY OF THE INITIAL 20%.

THE TRIAL INCREASE IS ESTIMATED AT AN ADDITIONAL \$4 MILLION PER YEAR.

IMPLEMENTATION NOTES

- To take effect in 2019 fiscal year.
- Over the last ten years, the Mining Exploration Tax Credit program has cost the Province an estimated \$34.8 million per year.

BENEFITS:

- This action will meet or exceed Quebec's rate of 28-31% for non-operating companies, improving BC's competitive position in Canada. This action will increase BC's share of Canadian mineral exploration and attract investment to the province.
- This action will create an attractive fiscal framework for developers and operators by creating a meaningful and well understood incentive programs to support mineral exploration.
- This action will increase BC's share of Canadian mineral exploration, support investment during low points in the commodity cycle, provide investment certainty and allow for multi-year investments.

ACTION: Provide funding for the continuation and expansion of the BC Regional Mining Alliance to collaboratively promote BC as a leading jurisdiction for mineral development.

Established as a pilot project in early 2018 and currently focused on northwestern BC, the BC Regional Mining Alliance (BCRMA) coordinates with Indigenous governments and industry to promote BC as the leading mining jurisdiction in Canada in which to invest. As a team, the BCRMA currently promotes the many advantages of BC through a collective presence aimed at international investment. Early indications are that the BCRMA has been successful in generating interest in BC's mineral development sector and the partnership opportunities available in the province.

The BCRMA currently promotes the many advantages of BC through collective presence aimed at international investment.

The BCRMA is currently focused on the "Golden Triangle", a region richly endowed with mineral resources located in northwestern BC within the traditional territory of the Tahltan Nation and the Nass Area of the Nisga'a Treaty. Accordingly, partnership with the Nisga'a Lisims Government (NLG) and the Tahltan Central Government (TCG) has been critical to the success of this initiative. These governments, along with the Province of British Columbia and the Association for Mineral Exploration (AME), currently govern the program as partners.

An opportunity now exists for the Province to fund the continuation and expansion of this initiative. Expansion could include growing the BCRMA to include mine operators, larger regions and additional Indigenous governments. BC has many success stories that span the province and the phases of the mining industry and now the BCRMA has an exciting opportunity to share these stories further with a global investment audience.

RESOURCES + TIMELINES

TIMELINE 2019 - 2022

COST: \$1 MILLION

IMPLEMENTATION NOTES

- BCRMA budget is currently supported by funds from industry partners and in-kind work.

BENEFITS:

- Promotes BC's world class geology, collaborative and experienced people and companies, and successful operating mines, and reinforces the stable, sustainable and collaborative approach that BC takes in the industry.
- Increases interest in and awareness of BC among investors and highlights the positive leadership role Indigenous governments play in the exploration and extractive sectors.
- Supports long-term economic development and community sustainability.
- Builds meaningful and productive relationships between strategic partners and key external players.
- Creates broader awareness of Indigenous groups' role in resource development thereby contributing to reconciliation.
- Enhances the BC 'brand'.

ACTION: Fund a time-bound study to examine the potential for an investment fund with a mandate of investing in companies that carry out mineral exploration activities in British Columbia.

Early-stage mineral exploration provides the foundation upon which a healthy mining industry is built. Exploration creates jobs and economic activity in rural areas, and longer term, adds to the pipeline of projects that may become mines. A robust project pipeline requires an active and diversified exploration sector approach as many projects will fail, yet a few will succeed spectacularly. Unfortunately, BC lags significantly behind Quebec and Ontario for mineral exploration spending.

This lag is due, in part, to a lack of capital flowing to the exploration sector. The trend from active investing to passive has negatively impacted junior mining companies' ability to raise exploration dollars, and the traditional sources

of capital for exploration, such as mining-focused mutual funds and hedge funds, are dwindling in both number and size. To address this gap, there may be an opportunity for government to stimulate exploration spending in the province through the creation of a private sector-managed investment fund targeting early-stage mineral exploration projects, similar to the current BCTECH Fund and Quebec's SIDEX program.

Suitability of this model to the BC context needs to be comprehensively vetted. The Task Force has identified the BC Venture Capital Research Project, which provided the justification for the BCTECHFUND, as a model for assessing this concept. A time-bound study will examine the concept of a new mineral exploration investment fund with a mandate of providing funding to mineral exploration companies that carry out exploration activities in British Columbia. This study should examine:

Early-stage mineral exploration provides the foundation upon which a healthy mining industry is built.

SIDEX

SIDEX is a Government of Québec created fund created to invest in companies involved in exploration in the province. First launched in 2001, initial capital funding was \$50 million over five years. To date, SIDEX has invested \$70 million in the Québec mining industry with the goal of:

- Diversifying Québec's mineral base;
- Encouraging new exploration models;
- Stimulating investment in exploration for new commodities;
- Opening new territories with strong discovery potential.

- Why capital is not flowing to mineral exploration in BC sector and the causes of this problem.
- The applicability of a fund to the BC exploration sector and projected impact on attracting investment and creating jobs in the BC mineral exploration sector.
- The size of fund most applicable to BC and projected return on investment.
- What fund governance structure would best assist BC with realizing goals of transportation, appropriate risk, partnership and reconciliation with Indigenous groups, stakeholder input and economic value.
- How the fund can be modeled to support projects that contribute to sustainability and promote world leading innovation.
- Opportunities for the funds profits to be re-invested in Indigenous priorities, jobs and potentially address historic issues of the industry such as abandoned sites.
- The experience of SIDEX and other similar programs in jurisdictions comparable to BC.

RESOURCES + TIMELINES

BEGINNING IN 2019

COST: \$300,000

IMPLEMENTATION NOTES

- This study should produce a recommendation within 8 months.

BENEFITS:

This study will assess the suitability of this model to BC. If determined to be feasible, a mining investment fund would:

- Increase exploration spending and leverage investment from other Canadian and international sources by being the 'lead investor'. (SIDEX takes 10-15% of the investment generating up to 90% of new investment dollars).
- Stimulate exploration activity that could lead to the discovery of new mineral deposits or expand known deposits that lead to new mines.
- Stimulate economic activity that creates jobs and supports rural communities.
- Buffer investment and jobs during low commodity cycles by being a key source of investment when traditional sources are difficult to access.
- Create an attractive fiscal framework to investors and signals to the global investment community that BC supports the mineral exploration and mining industry.
- Promote projects with the attributes valued by Indigenous and non-Indigenous British Columbians.



IV. A COORDINATED APPROACH TO GEOSCIENCE

ACTION: Pursue a coordinated and adequately resourced geoscience strategy that supports growth of the provincial mineral exploration industry, considers future market demands and complements a lower-carbon future.

The mining sector is an important economic driver in BC that creates good jobs and supports the economy. However, mines are not possible without significant early-stage work prior to operation. Public geoscience information is one of the principal enablers of grass-roots mineral exploration – the first stage in the mining life-cycle.

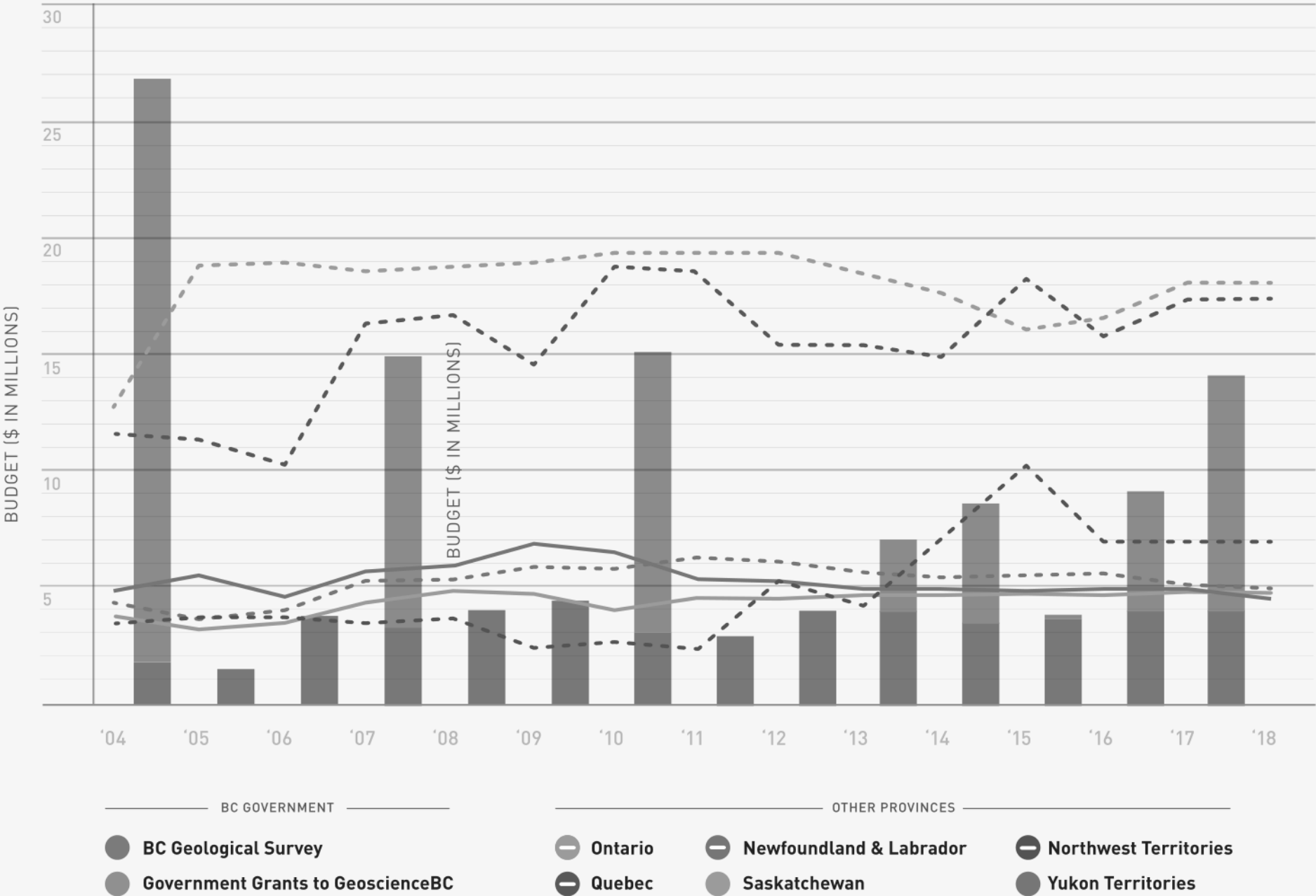
In BC, public geoscience to support mineral exploration is primarily delivered by two organizations – the BC Geological Survey (BCGS)

and Geoscience BC (GBC). This two-pronged approach is unique in the world. Overall public geoscience in BC is rated highly, with analysis by the Fraser Institute and others rating BC well in this area.

However, public geoscience spending in BC is significantly behind that of competing jurisdictions in Canada. Core funding for BCGS averaged \$3.7 million annually over the past five years. Provincial surveys in BC's rival jurisdictions of Ontario and Quebec averaged \$17.7 million and \$15.8 million annually over the past five years, respectively. BC is spending significantly less per capita on geoscience to support mineral exploration. This deficit is reflected in provincial exploration expenditures – In 2017 BC received less than 50% of the expenditures of Ontario and Quebec.



TABLE 7: Geoscience Survey Expenditures (2004-2018)



In addition to funding levels, observers both on the Task Force and independent have raised questions as to the efficacy of the two-organization delivery model that BC currently employs for public geoscience to support mineral exploration. Created with an initial 5-year, \$25 million grant in 2005, GBC generates valuable earth science programs across the province. While initially focused on projects to support mineral exploration, their mandate has since expanded to include other earth science disciplines such as oil and gas and water projects. After 13 years of operation, the time is right for a review of this dual-organization delivery structure.

This evaluation must inform the development of a coordinated provincial approach to public geoscience, including assessing BC's competitiveness relative to other jurisdictions, and review of the structure, resource allocation and tools used to generate public geoscience that effectively supports mineral exploration and provides the best value to British Columbians.

This new, coordinated approach to geoscience should be informed by a review assessing:

- What is an appropriate amount to be spending on geoscience annually?
- What should the delivery method(s) be, assuming the values of collaboration, transparency, efficiency, effectiveness, quality and transparency?
- Is the BC geoscience framework adequate to support mineral exploration in BC?
- How does BC's public geoscience delivery systems to support mineral exploration (BCGS/GBC), their perceived effectiveness, roles and responsibilities, and funding levels sit in comparison to competing jurisdictions?

- What new or expanded geoscience related and/or taxation programs should BC consider implementing?

RESOURCES + TIMELINES

TO BE COMPLETED IN 2019

COST:
GEOSCIENCE REVIEW TO BE COMPLETED WITH EXISTING RESOURCES.
\$5 MILLION IN BRIDGE FUNDING FOR GBC

IMPLEMENTATION NOTES

- This review will inform the 2020 budget.
- Explore potential industry partnerships and alignment with federal funding opportunities
- One year of bridge funding, longer-term funding direction should be determined by the geoscience review.

BENEFITS:

- Providing public geoscience to accurately inform public policy and evidence-based land use decisions.
- Implementing principles of UNDRIP and furthering reconciliation.
- Supporting a more competitive mineral exploration and mining sector.
- Attracting new investment to BC.



4. Fostering innovation

Expectations for responsible and progressive environmental best practices are now the norm, and BC's exploration and mining sector is taking the lead in developing innovative technologies and new approaches that will minimize the environmental impacts of their operations and enhance operational competitiveness. The EY report highlighted this as an exciting growth opportunity for the sector and an area where BC can become a global leader.

The provincial government has the opportunity to invest in a tailored-for-BC research, development and innovation strategy that will aim to accelerate innovative solutions to challenges and opportunities facing the BC mining industry. Once proven, these solutions can be exported to larger global markets. Through a 'BC Mining Innovation Roadmap', the province can become Canada's leader in mining innovation, commercialization and adoption of step-change innovation to attract investment, create new jobs, and position BC for the mining industry of the future.

The time is right for BC to drive the development of a forward-looking innovation strategy. Vancouver is already a global mining hub and

base of over 1,000 mining companies, service providers and suppliers, in addition to world-class universities, all with a strong tradition of research, development and innovation. In parallel, industries increasingly linked to mining, such as the tech sector, are thriving in BC. Supported by cross-sector initiatives like the Digital Supercluster, CleanBC Plan, Low Carbon Industrial Strategy and others, there is opportunity to leverage the funding, expertise and experience present in the province to build momentum and set a new path forward on innovation for the mining industry of the future.

While this section focuses explicitly on innovation, the innovation theme inhabits all actions contained within this report. Government must invest in supporting regulatory agility to enable innovative technologies and tools, training strategies must anticipate the rapid pace of technological change and industry and academia must work to develop new technology to enhance productivity and develop new deposits. The breadth of issues that innovation touches on reflects the interconnected nature of mining and the need for coordinated investment by all actors to develop the innovative tools and technologies necessary to create a cleaner and more competitive sector.

BC INNOVATION

Made in BC solutions are driving a global shift toward a cleaner, more efficient mining sector. MineSense, a pioneer BC technology company, is creating digital mining solutions that provide real-time, sensor-based ore sorting for large-scale mines. They concentrate ore through superior ore-waste classification to increase revenue from higher recoveries and reduce costs spent on processing waste. MineSense was recently named to the Global Cleantech 100 and has offices and field personnel in South America, Australia and Africa and works with mining customers around the world.

ACTION: Fund the development of a BC Mining Innovation Roadmap.

The mining sector is amidst a rapid transformation driven by digitization, automation, workforce transformation, enhanced environmental stewardship and the transition to a lower-carbon future. Exciting work in these areas is being driven by industry and academic institutions across BC, but a new Mining Innovation Roadmap is needed to coordinate and accelerate this effort. Other jurisdictions and sectors currently have better models for coordinating efforts and accessing innovation capital. A coordinated BC mining innovation sector has the potential to be more efficient and leverage collective effort to address industry challenges and develop competitive advantages.

By outlining a clear path for growth, innovation and a desired future state, a Mining Innovation Roadmap will build on BC's leading expertise to create a global hub for research and inno-

vation. This Roadmap will not only address issues in BC, but develop cutting-edge services for export worldwide. This strategy should be created through a ground up process, starting with the formation of a committee with a composition similar to the Mining Jobs Task Force. The roadmap will be grounded in, supported by, and leverage funding from existing provincial and federal programming projected to include:

- CleanBC Plan
- Low Carbon Industrial Strategy
- Innovative Clean Energy (ICE) Fund
- Green Mining Innovation Program
- Digital Supercluster (\$153M)
- Sustainable Development Technology Fund (\$400M / five years)
- Cleantech Impact Program (\$75M / five years)
- Low Carbon Economy Fund (\$1.4B)
- Strategic Innovation Fund (\$1.26B funding envelope)
- Innovative Solutions Canada (\$100M fund)
- Clean Growth in the Natural Resources Program (\$155M / four years)



These programs support BC's goals and strategy on innovation investments that make industry more competitive by reducing comparable net costs, cutting GHGs and creating quality jobs.

This roadmap should be designed in collaboration with industry and post-secondary institutions (colleges, technical institutes for applied research and universities for academic research) to harmonize with existing and future training programs and research initiatives. This will ensure research and innovation funding contributes to hands-on experiences for students and apprentices, attracts under-represented and diverse candidates, ensures graduate readiness for employment and supports greater academic advances relevant to industry through collaborative research at post-secondary institutions.

The creation of this roadmap will require investment and coordination by the Province, in partnership with industry, Indigenous communities active in mining, academia and other levels of government, to develop the innovative tools and technologies necessary to create a cleaner and more competitive sector for the future. Support will also be needed to ensure this innovation is accessible and can transition smoothly through the regulatory framework.

An agile regulatory regime is required to support the implementation of innovative practices and tools that enhance competitiveness and environmental performance.

RESOURCES + TIMELINES

STARTING IN 2019

COST: \$1 MILLION

IMPLEMENTATION NOTES

- This level of funding will support the development, implementation and ongoing evolution of the Roadmap. Additional funding will be leveraged through existing initiatives.

BENEFITS:

- Drives innovation and leading practices in the BC mining sector, developing new tools that enhance competitiveness and environmental performance, leveraging emerging research, best practices and evidence to support the continued transformation of the sector.
- Supports a healthy and diverse workforce through training programs that support the skills of today and tomorrow.
- Creates collaborative funding models that support partnerships in research, development and innovation, and leverage funding from outside the province.

MINING AND THE DIGITAL SUPERCLUSTER

In February 2018, the BC-based Digital Technology Supercluster was awarded \$153 million in funding from the Government of Canada.

Comprised of a consortium of 250 members, including Vancouver miner Teck Resources, TELUS, Microsoft, and all 25 BC post-secondary institutes, the supercluster's initiatives include collaboration between the mining and tech sectors and post-secondary institutions to unleash new innovation and address sustainability and productivity opportunities and challenges.

5. Building awareness of mining's role in a prosperous BC

Mining has played a significant role in British Columbia's history. Many communities across the province were founded in connection with mineral discoveries, and Indigenous mineral discoveries and production prior to colonization are documented in many regions of the province. Mining also plays an essential role in clean energy development. Materials acquired through mining are essential to increase the global supply of solar panels, wind turbines, smart grids, LED light bulbs and electric cars. In addition, quarry materials such as sand, gravel and rock are vital to the construction of buildings, roads and other physical infrastructure that British Columbians use every day.

A 2017 survey found that 87% of Australians surveyed accept mining to some degree. The same survey also reported a high degree of public literacy on the industry's role in job creation, positive effect on regional communities and improvement of transport infrastructure. In BC, mining has not traditionally held similar levels of understanding and support, but high operational standards, low carbon footprint and significant contribution to the economy provide the building blocks for the sector to improve public perception while growing a responsible, competitive and productive industry.

Government, industry and labour have an important role to play in fostering a greater understanding of the essential role mining has in clean energy, highlighting the use of minerals in the everyday life of British Columbians, communicating the important role of the sector in supporting rural and urban economies and sharing the story of the collaborative partnerships between industry and Indigenous groups that are advancing reconciliation throughout the province.

ACTION: Host a multi-stakeholder forum to build understanding, awareness and support for responsible market standards and systems that would advance responsible metals market objectives for BC.

With growing awareness and demand for ecologically and socially-responsible products, jewelers, electronics businesses, auto makers and others are increasingly seeking assurances that the raw materials they purchase are mined responsibly. Most consumer product producers do not buy directly from mines – the supply chain of mined materials is long and often complicated – so leading companies now look to global certification programs to provide confidence to their customers that raw materials used in their products have been ethically produced and procured.

RESPONSIBLE SOURCING, IRMA, BUY-IN FROM MICROSOFT AND OTHER MULTINATIONALS

Developed by the Initiative for Responsible Mining Assurance (IRMA), the Standard for Responsible Mining reflects the input from over 100 companies, organizations and individuals worldwide and has support from leading companies like Anglo American, ArcelorMittal, Microsoft and Tiffany & Co.

IRMA's approach to responsible mining is to certify social and environmental performance at mine sites globally. Impartial, credible certification addresses purchaser demand for greater options in mined materials and civil society's desire for transparency and truthfulness about whether a mine is taking steps to reduce potential harm and make continuous improvement.

The BC mining sector's high operational standards, low carbon footprint and commitment to reconciliation with Indigenous people provides opportunity to capitalize on this global movement. A BC-led multi-stakeholder forum on responsible market standards will capitalize on this potential to bring together key actors including industry, metals buyers, civil society, Indigenous organizations, labour and policy makers to build a collective understanding and develop action plans that would advance responsible metals market objectives.

RESOURCES + TIMELINES

BEFORE THE END OF 2020

COST: \$200,000

IMPLEMENTATION NOTES

- Development of this forum should take place throughout 2019, targeting a mid-2020 date.

BENEFITS:

- Bringing buyers from electronics, steel, automotive, renewable energy supply chains to BC to discuss their needs and market drivers would help BC understand where the markets are trending and what we need to do to adapt to these trends.
- Enhances BC's global reputation and competitiveness while considering environmentally progressive approaches and practices.
- Positions BC for leadership in the emerging clean and ethical economies.
- Enhances BC's global competitiveness by opening the provincial industry to new and emerging markets.
- Key findings will inform long-term branding and public awareness strategy for BC industry.

ACTION: Coordinate mine sector branding with low-carbon economy strategies and opening of new markets through jointly developed action plans.

As a major producer of many of the crucial minerals needed for renewable energy systems, BC is well positioned to take advantage of a global shift to a lower-carbon economy. BC is Canada's largest producer of copper used in electric cars and Canada's largest exporter of the steelmaking coal needed to build wind turbines and light rail transport systems. The province is Canada's only producer of molybdenum, used in the steelmaking process, and BC smelters are among the lowest carbon footprint producers in the world.

BC's mines also have high operational standards and low carbon footprints compared to global competitors. These exciting stories now have the potential to contribute to an innovative mine sector branding strategy that will open new markets and enable preferred access for BC products. The Task Force recommends the development of a forward-looking mining sector branding and marketing strategy to emphasize the linkages between the mining industry, clean energy and clean and ethical production to enhance market awareness and access for BC products. This branding strategy will be enhanced by leveraging the momentum of the recently launched CleanBC Plan, which has earmarked resources dedicated to enhancing and marketing a clean BC brand internationally.

This approach should be refined through dialogue with industry, metals buyers, civil society, Indigenous organizations, labour and policy makers. This dialogue can begin through the CleanBC framework and be enhanced by convening a multi-stakeholder forum (see above)

to guide strategic direction and next steps. Outcome of this forum will provide long-term direction to government and industry on an innovative and inclusive mine sector branding strategy.

RESOURCES + TIMELINES

WILL LAUNCH IN 2019

COST: \$200,000

IMPLEMENTATION NOTES

- To involve coordination with industry, metals buyers, civil society, Indigenous groups and policy makers.

BENEFITS:

- Leveraging the CleanBC program, this branding initiative would position BC industry as modern and forward-looking by drawing explicit connections between the raw materials used to manufacture clean energy technology and the 'clean energy' itself.
- The development and implementation of this branding initiative would open new markets enable preferred access for BC products.
- Collaboration and partnerships between the mining and clean energy sectors could allow for greater reach, impact and enhanced knowledge-sharing.
- This initiative would contribute to the development of a "Destination BC" style BC brand strategy that will allow government and industry to speak about low-carbon exports and investment opportunities with a united voice.

ACTION: Support implementation of a coordinated communications and education strategy that informs British Columbians of the foundational importance of the mining sector to the province and their everyday lives.

Despite the exciting good news stories that mining in the province generates, many British Columbians are unaware of the continued importance of the modern mining industry and the ways in which mining continues to positively shape BC today and into the future. Collaborative relationships between Indigenous groups, industry, labour and government receive limited publicity, and there is a persistent disconnect in public consciousness between technological advancements and the raw materials used to construct them. Moreover, there is a lack of understanding regarding the role that BC's mining industry continues to play in supporting both rural and urban economies – including through exploration, mining and mining services, primary processing, downstream manufacturing, and legal and financial activities – and the exciting career opportunities available throughout the sector.

The Task Force has identified an opportunity to develop a coordinated communications and education strategy to inform British Columbians of the foundational importance of the mining sector – both to the province, and to their everyday lives. This strategy should be led by Mining Association of BC and the Association for Mineral Exploration in partnership with civil society, Indigenous organizations and commu-

Many British Columbians are unaware of the continued importance of the modern mining industry and the ways in which mining continues to positively shape BC today and into the future.

nities, and involve collaboration with sectors that have linkages to mining (i.e. clean energy, construction).

A broader communications strategy should be underpinned by an educational component that would engage with K-12 students to improve basic literacy around the mining industry and provide pathways to careers in the mining sector, building on the existing work of the successful MineralsEd program. Engaging early with children and youth is key to opening the sector to a more diverse range of participants and getting young people (particularly those from underrepresented groups) excited about the innovative, high-tech careers that will build the mining sector of the future.

RESOURCES + TIMELINES

WILL LAUNCH IN 2019

COST: NO COST TO GOVERNMENT

IMPLEMENTATION NOTES

- To be led by industry, in collaboration with civil society, Indigenous groups organizations and policy makers.

BENEFITS:

- This strategy will communicate the ongoing role of the mining sector in growing a strong provincial economy, providing good jobs and supporting healthy communities across BC.
- Increasing public understanding of the world leading best practices employed by BC's mining sector will improve public confidence in the industry.
- British Columbians will understand mining's role in clean energy technology and the transition to a lower-carbon future.
- Improving the mining and minerals literacy of K-12 students will provide pathways to careers in industry, including for traditionally underrepresented groups such as women and new immigrants.
- This strategy would increase public awareness of Indigenous involvement in the mining sector by providing opportunity for Indigenous groups to share their own stories of collaboration with mineral development.



NEXT STEPS

The BC Mining Jobs Task Force report contains a spectrum of actions to bring more certainty to the mining sector, advance reconciliation and create good jobs for British Columbians now and in the future. Actions are wide-ranging and deeply interconnected, representing the diversity of the constituencies, communities and segments of industry that make up BC's mining landscape. Together, these actions will support a healthy, innovative and progressive sector that provides the foundation for strong, sustainable and inclusive economic growth in the province. This Task Force represented a diversity of constituents unprecedented in reviews of the mining sector to this point and has set a high bar for future reviews in this and other industries. This diverse group brought unique perspectives and ideas to the table, but all Task Force members were united and committed to identifying actions to support the long-term growth of mining jobs in BC. Given the consensus-based nature of this process, the Task Force feels these actions will be valuable across government and to all constituents represented. To reach this broad audience and have maximum impact, the Task Force recommends government plan a roll-out of the report at Roundup 2019 to communicate Task Force findings to constituents, stakeholders and the public.

1. Implementation timeline

To drive mining in BC toward the desired future state – *British Columbians are proud of our growing mining industry as the backbone of an inclusive, progressive and low carbon economy* – the Task Force's actions are designed to be implemented in stages. The Task Force has identified immediate actions that are crucial to

creating a competitive business environment to encourage investment, project development and job growth, while other actions are designed to support longer-term growth, participation and innovation throughout the sector. This approach was conceived to ensure there is continuous improvement seen in the sector through the short, medium and long-term, to ensure there is appropriate time to design and solicit further input on certain programs, and to spread out the fiscal impacts of recommended actions.

2. Ongoing monitoring and evaluation

At their first meeting in early 2018, the Task Force identified a strong desire to develop actions that are not only implementable, but advance achievable targets with the ability to measure and report on progress. To support this goal, the Task Force has created an additional action, outside the initial scope, to support ongoing implementation and evaluation of Task Force actions.

ACTION: Create a committee to support ongoing monitoring, evaluation and refocusing of actions resulting from the BC Mining Jobs Task Force.

The Task Force has collectively communicated a strong desire to see all actions from this report adopted by government and implemented to support a healthy, sustainable and competitive mining industry in BC into the future. Anecdotal reports suggest uptake from studies authored by previous Task Forces was limited and that may have been influenced by the absence of an ongoing monitoring and evaluation function that would have supported implementation.

A committee on the implementation of these actions along with an evaluation of their effectiveness would provide an opportunity to continue the constructive, collaborative dialogue between a diverse group of constituencies on growing jobs in BC's mining sector. This group would guide ongoing monitoring, evaluation and re-focusing of actions resulting from the Task Force report in addition to developing key performance indicators and reporting mechanisms that can inform a better understanding of the industry in the future. This groups could also be proactive in developing new actions in response to the rapid pace of change seen throughout the industry.

This body should remain committed to the guiding principles developed by this Task Force:

- Our decisions and actions support advancing reconciliation with Indigenous people;
- We actively seek to enhance B.C.'s global competitiveness while considering environmentally progressive approaches and practices;

- We are fair and transparent with our decisions and actions;
- We are innovative, leveraging emerging research, best practices and evidence to support the continued transformation of the sector.

RESOURCES + TIMELINES

STARTING IN 2019/2020 BUDGET CYCLE

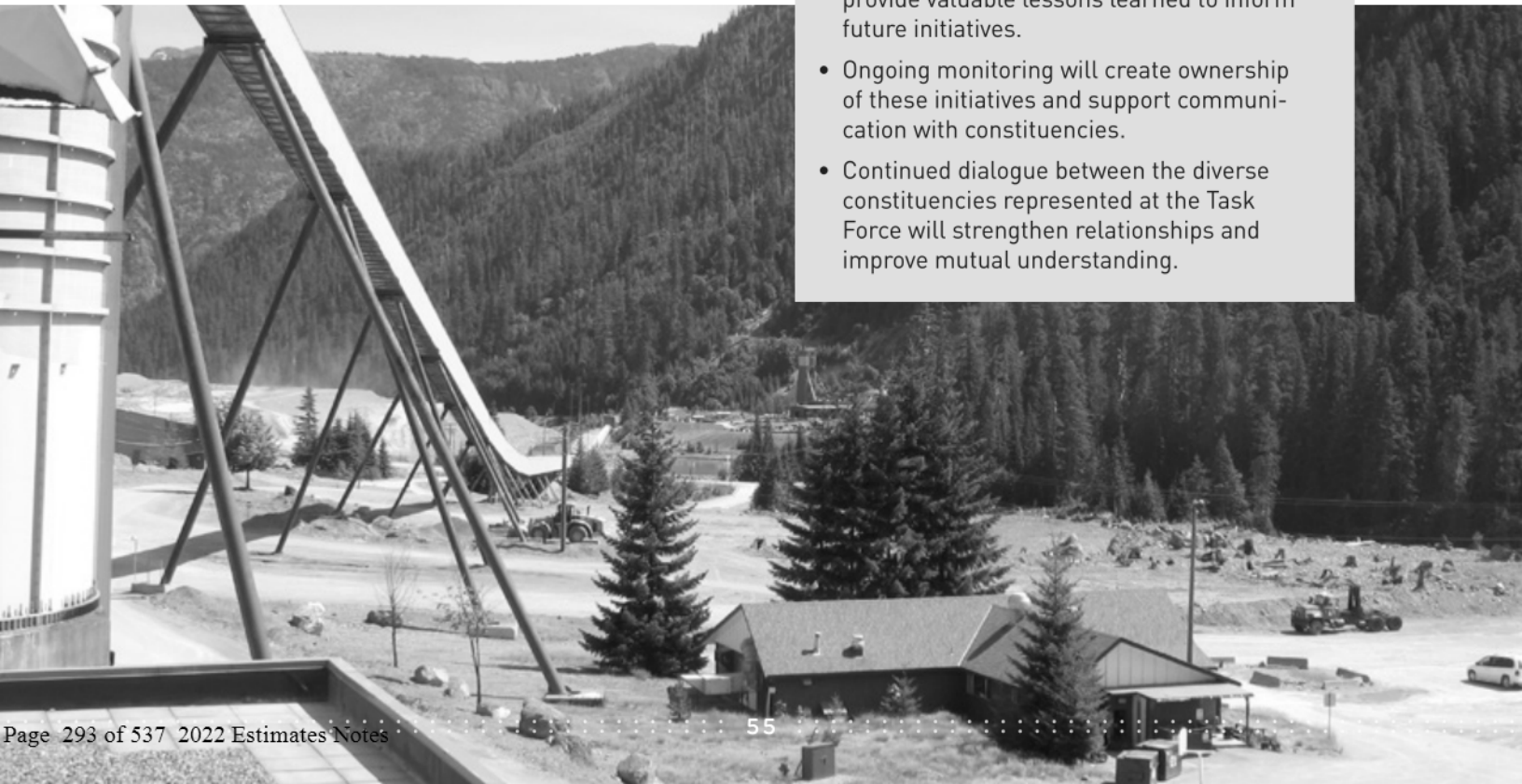
COST: \$50,000 PER YEAR

IMPLEMENTATION NOTES

- This committee should be formed after close of the Task Force and hold quarterly meetings on an ongoing basis.
- This committee will mirror the composition of the Task Force to ensure all constituencies remain represented and engaged.

BENEFITS:

- This body will ensure actions from the Task Force are implemented and evaluated.
- Evaluation of Task Force actions will provide valuable lessons learned to inform future initiatives.
- Ongoing monitoring will create ownership of these initiatives and support communication with constituencies.
- Continued dialogue between the diverse constituencies represented at the Task Force will strengthen relationships and improve mutual understanding.



IN CONCLUSION

The Task Force is thankful for the opportunity to provide input into the future of BC's mining sector and commends the Minister for the foresight to assemble such a diverse Task Force who could bring the unique experiences and perspectives of their constituencies to the table. Together, all members of the Task Force are committed to supporting a competitive, safe and socially and environmentally responsible mining industry that grows a strong, sustainable, innovative economy supporting people and communities in all areas of the province.

There remains significant work ahead to realize the desired future state identified by the Task Force. But through the collaborative development of this report, the Task Force has identified a powerful, innovative and inclusive suite of actions to drive the long-term health, growth and competitiveness of BC's mining sector.

If these actions are taken, the future is bright for the mining industry in British Columbia.



Attachment 2: Mining Jobs Task Force Actions Status

MJTF Action	Completed/on-track	Not on track to be fully implemented	Notes
Introduce an Integrated Indigenous Mine Training Program	Contract to study concept delivered February 2020		Study will inform development of training roadmap
Action plan to attract and retain women in mining careers	Study on leading practices delivered February 2020		Study will inform development of training roadmap
Develop a Mine Sector Training Roadmap	AEST advancing this action with EMLI support through Sector Labour Market Program. Roadmaps expected May 2022.		Center for Training Excellence in Mining contracted to deliver roadmap through collaborative process. This project initiated in December 2020 and the roadmap will be delivered in February 2022
Create and support an accessible worker database	Options study delivered to EMLI/LBR/CITZ		
Create a Standing Code Review Committee	In place		In place
Examine options for revenue sharing with Indigenous communities	MIRR mandate		
Explore opportunities to support Indigenous equity ownership in major projects	JERI/MIRR leading analysis		Internal discussion paper developed with JERI/MIRR
Enable the development of community trusts for multiple First Nations	EMPR co-authored discussion paper with JEDC/MIRR		
Support plan to fund Indigenous Stewardship and Monitoring Initiatives	FLNR is advancing this policy area with EMLI support		
Establish world-leading community health and well-being best practices	Contract to study best practices is completed.		Engagement on study findings cancelled due to COVID-19. EMLI to reconsider proposed engagement when conditions allow.
Increased resourcing for regulatory excellence	In place		
Support government's Low Carbon Industrial Strategy	Underway, led by JERI		
Eliminate PST on Production Machinery and Equipment and mine infrastructure	Budget 2020 removed location restrictions on pollution control and waste management from PST		PST restrictions still apply to production machinery and equipment. EMLI will reassess business case for further changes and consider resubmitting to FIN.
Make the Electricity Cost Deferral Program permanent	Permanent program in development		Led by EMLI's EAED Division
Make the New Mine Allowance permanent	Budget 2020 extended the credit for five years		The credit was not made permanent. EMLI will re-evaluate the case for making the credit permanent

			near date of program expiry
Make permanent the BC Mining Flow-Through Share program at a rate of 20% and increase the rate to 35% for a three-year trial period.	Made permanent in Budget 2019		Budget 2020 did not provide a trial increase. AME has advocated for an increase in METC rates (60% for one year beginning June 2020 followed by a three-year increase to 30% beginning in 2021/22) to support industry's recovery from COVID-19. This proposal is under evaluation
Make permanent the BC Mining Exploration Tax Credit at 20% and increase the rate to 30% for a three-year trial period.	Made permanent in Budget 2019		Budget 2020 did not provide a trial increase. AME has advocated for an increase in METC rates (60% for one year beginning June 2020 followed by a three-year increase to 35% beginning in 2021/22) to support industry's recovery from COVID-19. This proposal is under evaluation
Expand the BC Regional Mining Alliance	\$1 million grant to AME		Grant runs 2019-2022
Study the potential for an Exploration Investment Fund	Study delivered November 2019		
Develop a coordinated geoscience strategy	In development by EMLI		Independent review of public geoscience in BC delivered to EMLI in 2019.
Mining Innovation Roadmap	Roadmap released in March 2021. Mandate 2022 commitment to establish a Mining Innovation Hub.		\$1M grant to MABC to develop roadmap. EMLI evaluating options for establishing Hub.
Multi-Stakeholder forum on responsible market standards	Took place in Fall 2020.		The BC Responsible Minerals + Metals Summit hosted 75 attendees from across the mining value chain. A Responsible Mining Action Plan Advisory Committee has been convened. Report with recommendations to the Minister expected May 2022.
Coordinated mine sector branding	Outcomes of RMMS to inform approach		Approach to be guided by recommendations from Responsible Mining Action Plan Advisory Committee
Coordinated communications and education strategy	\$25,000 contracted to AME to develop branding		Branding content rolled out in Spring 2021.
Committee to monitor MJTF implementation	In place		

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Petroleum Resources
Minister Responsible: Bruce Ralston

Title: Placer and Jade Mining in BC

Revised: March 15, 2022

Issue: Initiatives related to placer and jade mining in British Columbia

Response:

- The environmental impacts of placer and jade mining are a clear and expressed concern from Indigenous Nations across the Province.
- The Ministry of Energy, Mines and Low Carbon Innovation (the Ministry) is working on a range of initiatives for placer gold and jade mining to address these concerns.
- A key initiative to address placer jade issues is the Order in Council (OIC) that was repealed and replaced under section 7 of the *Environment and Land Use Act (ELUA)* on July 5, 2021, deferring permitting on placer jade operations in Northern BC until May 11, 2023.
- The OIC creates space for the Ministry to continue to work closely with Indigenous Nations and placer jade operators to develop higher operational and reclamation standards.

Background/Status:

- Indigenous Nations and stakeholders throughout the Province have expressed concern about the high environmental impact of placer and jade mining in BC that is not balanced by an economic return.
- The environmental impacts of placer and jade mining are exacerbating long-standing concerns of Indigenous Nations and pose a risk to advancing reconciliation. Specifically, in northwest British Columbia (BC) concerns about placer activity are impacting development of a Comprehensive Reconciliation Agreement with the Tahltan Central Government (TCG).
- Tahltan Territory overlaps the most valuable mineral region in BC known as the “Golden Triangle”. TCG works constructively with mineral exploration and mining companies but feel placer and jade operations do not respect Tahltan cultural and community values.
- The Ministry is developing a Placer Mining Strategy which includes several initiatives to address issues specific to the placer industry. This includes a range of completed, ongoing and planned activities to improve sector performance and address Indigenous concerns.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Petroleum Resources
Minister Responsible: Bruce Ralston

Completed Placer Initiatives:

- A Placer Revenue Discussion Paper was released in May 2021, proposing options for an updated placer revenue model that would better balance the environmental impacts with economic return. Following a four-month public engagement period, the Ministry released a What We Heard Report in November 2021.
- The Ministry delivered two placer engagement sessions (December 14, 2021 and February 22, 2022) to First Nations. These sessions were co-hosted with the First Nations Energy and Mining Council and focused on providing updates on key placer initiatives and sought feedback on potential placer revenue models.
- An OIC was repealed and replaced under section 7 of the *ELUA* on July 5, 2021, deferring permitting on placer jade operations in Northern BC until May 11, 2023.
- A socio-economic study on placer and jade mining was commissioned to better understand the economic impacts of placer mining.
- Amendments to the Placer Mine Waste Control Regulation. These amendments removed the exemption for placer mines to discharge into certain creeks.
- A set of Placer Notice of Work Application Requirements have been developed, outlining the required information to make the requirements readily available and transparent.
- All regional *Mines Act* permit conditions, including placer, have been standardized and reviewed by the Compliance and Enforcement Branch, so they are more enforceable than before.
- The Placer Best Management Practices have been finalized and posted online to guide placer operators on how to conduct and design their operations.
- A regional Reclamation Bond Calculator has been implemented to better assess liability and ensure sites are sufficiently bonded.

Placer Initiatives in Progress:

- The Ministry is working on developing an Intentions Paper, targeted for the Spring/Summer 2022, that will outline the Ministry's new proposed revenue model for placer mining. There will be opportunities for future engagement with both First Nations and industry.
- Placer Jade Collaborative Working Group: Established to initiate an ongoing dialogue in Northwest BC between the Indigenous Nations and the Ministry on placer and jade issues in the northwest, and to co-develop solutions.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Petroleum Resources
Minister Responsible: Bruce Ralston

Contact:
Peter Robb ADM MCAD Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: *Mineral Tenure Act (MTA) Modernization*

Drafted: March 21, 2022

Issue: Reform of the MTA to align with BC's *Declaration on the Rights of Indigenous Peoples Act (Declaration Act)*.

Response:

- The MTA, which creates BC's mineral tenure system, has long generated significant tension and oppositional interests with First Nations and stakeholders.
- In October 2021, the Gitxaala First Nation launched a Constitutional challenge in the BC Supreme Court on the MTA – the challenge also argues the MTA is not consistent with the Declaration Act. .
- During the Province's engagement on the draft Action Plan to support implementation of the Declaration Act, First Nations and other Indigenous representatives identified modifications to the MTA as a high priority.
- The Province recognizes the need to modernize the mineral tenure system. The final Action Plan commits to modernize the MTA in consultation and coordination with First Nations and First Nations Organizations.
- Next steps to modernize the MTA are under development. The MTA is complex and outdated, and will require significant resources, and collaboration with Nations as well as stakeholders, to modernize.

Background/Status:

- The MTA governs the requirements for acquiring and maintaining mineral tenure. Mineral tenure determines where proponents are allowed to explore for, develop, and produce minerals.
- As claim registration does not require a decision (it occurs automatically via an online system), the registration of claims does not involve prior consultation with First Nations.
- Previous engagement with First Nations, industry and stakeholders indicates that there is significant complexity and oppositional interests surrounding the MTA, particularly between First Nations' perspectives on the mineral tenure system (particularly the lack of consultation prior to claim registration) and industry's views on maintaining competitiveness.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The mineral tenure system is perceived by industry as a cornerstone of BC's competitiveness as a mining jurisdiction, and an important counterbalance to other less competitive factors.
- Targeted engagement around amending the MTA was paused mid-2019 to enable more time for extended dialogue and for the *Declaration Act* to settle.
- In June 2021, a draft action plan was released as required by the *Declaration Act* – it did not include reference to the MTA. The Province sought input and feedback from First Nations to inform the final action plan in 2022. The MTA has been identified as a high priority by Nations and Indigenous organizations and a commitment to MTA modernization has been included in the final action plan that is planned for release in late March 2022.
- The Gitxaala First Nation petition to the BC Supreme Court challenges the mineral tenure system with respect to lack of consultation prior to claim registration, including claims on Banks Island and eventual Yellow Giant Mine. The Gitxaala base their challenge on section 35 of the *Constitution Act*, 1982 and an argument that the MTA is inconsistent with the *Declaration Act*.
- Options for reforming the MTA and responding to the legal challenge include potential near-term regulation amendments and a longer-term legislative process. Development of legislative options to modify the MTA is expected to be a multi-year process that requires significant resources and engagement.
- The Ministry of Energy, Mines and Low Carbon Innovation (EMLI) will be seeking to engage with First Nations and Indigenous representatives as well as with industry to begin shaping the MTA modernization process moving forward. This is expected to be followed by broad, extensive consultation and engagement with Nations and stakeholders.
- In 2019 during previous MTA engagement, land use planning (LUP) was identified as a fundamental linkage, offering a non-legislative approach to mitigate potential conflicts on the land base. EMLI is also continuing to explore how to better integrate mining into LUP.

Cross Reference: Banks Island Gold/Yellow Giant Estimates Note

Contact:

Peter Robb ADM Mines Competitiveness and Authorizations Division 778 698-7235

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Title: Mining Oversight

Revised: March 15, 2022

Issue: Ministry actions to improve mining oversight

Response:

- The Ministry continues to build on substantial action to improve mining oversight since the 2016 Auditor General Report on mining compliance and enforcement.
- In 2019, restructuring created two mining divisions, supported by a \$20 million investment over three years to enhance regulatory effectiveness.
- Amendments to the *Mines Act*, brought into force August 2020, strengthen and modernize mining oversight in BC.
- The amendments created the roles of Chief Permitting Officer and Chief Auditor. These statutory positions enabled the separation and independence of i) permitting from compliance and enforcement, and ii) auditing to support the continuous improvement of mining regulation in BC.
- A standing Code Review process is in place to modernize the Health, Safety and Reclamation Code for mines in BC, to keep workers safe and ensure mining regulations address the changing needs of the industry.
- The Ministry continues to invest in the development and implementation of digital systems to help improve data collection, storage, and analysis.
- The Ministry's initiatives and actions to support a competitive mining sector with strong regulatory oversight have been informed by engagement with labour, Indigenous representatives and industry through the Mining Jobs Task Force, best practice in other jurisdictions, and recommendations of the Office of the Auditor General.

Background/Status:

- The Ministry received a nearly \$20 million budget increase between 2019 and 2022 (up to 65 FTEs) to support strengthened oversight and restructuring of the mining team to align with other provincial regulators, by separating into two divisions: Mines Competitiveness and Authorizations Division, and Mines Health, Safety and Enforcement Division.
- With Budget 2022, this funding is now confirmed in the Ministry's base budget.
- For 2021/22, the Ministry exceeded its inspection target (of 1600) with a total 1933 mine inspections as of March 17, while putting in place additional precautions for field-based inspections due to COVID-19 to ensure inspectors and mine employees are protected.
- *Mines Act* amendments brought into force August 14, 2020, support robust mining oversight and a competitive sector by:

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

- creating the new Chief Permitting Officer responsible for making permitting decisions and improving the mine permitting process and competitiveness;
 - modernizing and enhancing compliance and enforcement provisions to improve the tools for holding mines accountable,
 - formalizing the Mine Audits Unit by creating the Chief Auditor, responsible for evaluating the effectiveness of mining regulation in BC; and
 - supporting efforts to increase Indigenous engagement in compliance by introducing the authority for inspectors to bring representatives of Indigenous Nations with them on inspection.
- Additional actions to improve mining oversight include:
 - The Chief Auditor released their first audit report: “Code Requirements for Tailing Storage Facilities.” The report provided the Ministry with seven recommendations to inform a review and updates to TSF provisions in the Code. The Ministry accepted all recommendations and developed an Action Plan to address the findings of the Chief Auditor.
 - A 12-member Code Review Committee, comprised of equal representation from labour unions, Indigenous Nations, and Industry to ensure that mining industry regulations remain relevant and able to address the changing needs of the industry, the environment, Indigenous Nations and all British Columbians.
 - Continued enforcement activities through the Mines Investigation Unit which has referred five files to Crown Counsel, resulting in three successful prosecutions since 2019.
 - Awarding 16 administrative penalties totalling \$868,012 (11 paid or being collected to total \$441,112; three appealed to the Environmental Appeal Board; two pending 30 day appeal period).
 - Continually increasing the amount of reclamation security held by EMLI. As of March 8, 2022, EMPR held \$2.56B.
 - Investment in the development and implementation of improved digital systems, to allow for more effective planning, reporting, follow-up and trend analysis.
- The Auditor General initiated a follow-up mining compliance and enforcement audit in 2021, results are anticipated in mid-2022.

Cross Reference: Code Review, Investigations, Mine Audits Unit, Health and Safety BC Mines

Contact:

Tania Demchuk	Assistant Deputy Minister	Mines, Health Safety & Enforcement Division	Government Financial
---------------	---------------------------	---	----------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Standing Code Review Committee

Drafted/Revised: March 7, 2022

Issue: Update on the Standing Review of the Health, Safety and Reclamation Code for Mines in BC

Response:

- The Health, Safety and Reclamation Code for Mines in BC (Code) provides the detailed regulation for all aspects of mining and mineral exploration.
- The standing Code Review process is in place to modernize the Code, keep workers safe and ensure mining regulations address the changing needs of the industry, the environment, Indigenous Nations, and all British Columbians.
- The 12 member Code Review Committee (Committee), comprised of equal representation from labour unions, Indigenous Nations, and industry, was appointed by the previous Minister in Spring 2019.
- The Committee's first eight changes to the Code were brought into force through an order in council in 2021.
- The sub-committee on Emerging Technology and Automation is making recommendations to enable innovation at mines, having completed its work on autonomous and semi-autonomous equipment and now focussing on the use of alternative energy equipment on mines.
- A new sub-committee was formed in fall 2021 to address the recommendations of the Tailings Storage Facilities audit released by the Chief Auditor in June 2021.
- The Committee is striking a UN Declaration sub-committee to support aligning Code revisions with the UN Declaration.

Background/Status:

- To review the Code, the Minister appoints members to the Committee under section 34 of the *Mines Act*. The Chief Inspector of Mines (or delegate) chairs the Committee and is responsible for making recommendations for amendments to the Minister. The *Mines Act* is unique in setting a committee process to create and amend the Code.
- Funding to establish the standing Committee was provided in Budget 2019 in response to the 2018 recommendation of the Mining Jobs Task Force.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- A standing review of the Code ensures that mining industry regulations remain relevant and able to address the changing needs of the industry, the environment, Indigenous Nations and all British Columbians.
- The Committee consists of four representatives each from labour unions, Indigenous Nations and industry for a total of 12 members appointed by the Minister for three-year terms in Spring 2019.
- There are eight members of the Committee whose terms expire April 30, 2022. The Code Review Secretariat is working with the representative groups for nominations to renew or replace those members.
- The Committee's first eight revisions came into force on April 1, 2021.
- Upcoming revisions address the use of autonomous and semi-autonomous equipment, updating and clarifying reportable incident requirements and the adoption of non-gendered language throughout the Code.
- As the Code is technical in nature and broad in scope, the Committee relies on the advice and technical expertise provided by sub-committees and working groups focused on specific topics.
- The Emerging Technology and Automation Sub-committee has completed its work on semi-autonomous and autonomous equipment on mines and is now working to address the use of alternative energy equipment.
- A new technical sub-committee was struck in fall 2021 and is working to address the recommendations of the TSF audit which was released by the Chief Auditor in June 2021.
- A new sub-committee is being formed to improve alignment of the Code with the United Nations Declaration on the Rights of Indigenous Peoples.
- Appendix 1 provides the current Committee membership.

Attachments: Appendix 1 – Code Committee membership

Contact:

Tania Demchuk

Assistant
Deputy
Minister

Mines Health, Safety & Government
Enforcement Division Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 1: Code Review Committee Membership List

	Code Review Committee Members
Labour	Rob Foscett, Union of Operating Engineers Steve Hunt, United Steelworkers Union* Dean Lott, United Steelworkers Union* Dave Williams, UniFor, Myra Falls*
Indigenous Nations	Charlie Allison, Upper Similkameen Indian Band, Copper Mountain Mine* Nalaine Morin, Tahltan First Nation, Arrowblade Consulting* Kyle Penner, Tahltan First Nation, Skeena Resources * Tamlyn Botel, Citxw Nlaka'pamux Assembly*
Exploration	Kim Bittman, consultant, Association for Mineral Exploration
Sand and Gravel	Dani Miller, Mainland Construction*
Major Mines	Sean Masse, Brucejack Mine, Pretivm Resources Don Sander, Elkview Coal Operations (Teck)

* Committee members whose terms expire April 30, 2022; nomination process underway

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Health and Safety of BC Mines

Drafted/Revised: March 17, 2022

Issue: The Ministry is committed to ensuring BC is a leader in mining health and safety regulation

Response:

- Mining remains one of the safest heavy industries in BC through the cooperative efforts of mine employers and employees, associations, unions, and the regulator.
- Investments confirmed in Budget 2022 supported hiring additional Mine Inspectors across the province, focusing on health, safety, and compliance oversight.
- All compliance functions are now vested in the Office of the Chief Inspector.
- Mine Inspectors take various actions to ensure safety on mine sites, including inspections, compliance promotion, training, certifications, and mine emergency response plans to promote emergency readiness.
- Office of the Chief Inspector is committed to engaging Indigenous Nations in compliance activities and enhancing mines inspectors' understanding of Indigenous interests, values and experiences related to compliance.

Background/Status:

- Mine Inspectors oversee all aspects of the mining cycle: from exploration to operations to final reclamation. In addition, inspectors support the health and safety of workers by verifying compliance with the Health, Safety and Reclamation Code for Mines in British Columbia and permit conditions.
- Mining remains one of the safest heavy industries in the province; injuries are consistently low relative to other heavy industries. While WorkSafeBC does not regulate health and safety on mine sites, they oversee the claim system for injured workers and hold official injury statistics – see below:

	Injuries by subsector, weighted average (# of claims per 100 person-years)									
Sub-sector	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mining (Metal, Coal & Quarries)	1.6	1.4	1.1	1.2	1.0	1.1	1.2	1.3	1.2	1.4
Heavy Construction	3.5	3.6	3.4	3.3	2.9	3.1	3.2	3.1	2.3	1.7
Forestry	4.8	4.8	5.2	5	4.8	4.8	4.5	4.6	4.3	4.0
General Construction	4.6	4.4	4.1	4.2	4.2	4.2	3.9	4.1	3.7	3.4
Oil & Gas or Mineral Resources	1.8	1.4	1.1	1.1	1.1	1.1	1.1	1.3	1.2	1.4
Road Construction or Maintenance	3.1	2.9	2.7	2.6	2.7	2.6	2.7	2.7	2.6	2.5
Wood and Paper	3	3.4	3.1	3.1	3.2	3	2.9	2.7	2.7	2.8
Provincial	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.1

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Two mining-related fatalities occurred in 2021. An employee was fatally injured underground by an in-rush of mud at the New Afton Mine. Another worker was fatally injured while operating a utility vehicle at the Sable/Shasta Project. These fatalities remain under investigation.
- The Ministry is committed to providing strong regulatory oversight of the mining industry and holding industry accountable: three successful prosecutions since 2019 and 16 Administrative Monetary Penalty decisions issued. (cross-reference Mining Oversight note)
- In FY 2021/2022, the Ministry has exceeded the 1,600-inspection target by performing 1933 inspections as of March 17. In cases where travel was not possible due to COVID, inspectors regularly contacted mine managers and conducted desktop inspections, compliance assessments, and certifications.

Year	Inspections		Year	Inspections		Year	Inspections
2007	723		2012	874		2017	1,308
2008	673		2013	904		2018	1,359
2009	797		2014	1,228		2019	1,733
2010	810		2015	1,203		2020	1,553
2011	494		2016	1,339		2021	1,933

- FY 2021/2022 inspections per discipline:

General Health and Safety	Specialist Health and Safety	Environmental	Geotechnical	Permitting	Tenure
1042	671	75	35	108	2

- Risk-based inspection planning is used to ensure that areas of the highest risk are inspected on a regular basis. Inspection planning is integrated between disciplines to ensure maximum coverage and effectiveness.
- In FY2021/22, EMLI conducted 33 accompanied inspections with Indigenous Nations across BC including: Tahltan Central Government (12); Taku River Tlingit First Nation (11), Dease River First Nation at Good Hope Lake (3); Haisla First Nation (3); Nisgaa Lisims Government (2); Daylu Dena Council (1); and, Lake Babine Nation (1).
- Centralized dangerous occurrence reporting introduced in 2021 promotes consistency and transparency between the Ministry and industry. The Chief Inspector publishes a weekly online summary of incidents from the prior week. This report is vital in sharing safety-related information and reminders about key regulatory requirements.
- EMLI continues to sponsor the annual Mine Safety Awards, now in their 60th year. The awards are given to mining operations with the lowest injury rates in their respective operation categories for the past year. The Chief Inspector also honours individuals or groups for outstanding achievements in health and safety with the Chief Inspector of Mines Award.
- This year the Chief Inspector is introducing a new Mine Safety Technology Award to recognize companies taking proactive steps to protect mine workers. The award will reward new and innovative technologies used to reduce the risk of harm from various hazards in the mining industry.

Contact:

Tania Demchuk	Assistant Deputy Minister	Mines Health, Safety and Enforcement Division	Government Relations
---------------	------------------------------	---	-------------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Abandoned Mines Branch

Drafted/Revised: March 15, 2022

Issue: The mandate of the Abandoned Mines Branch is to address public safety and environmental concerns at abandoned mines.

Response:

- The Ministry has established the Abandoned Mines Branch (AMB) to address public safety and environmental concerns at abandoned mines in BC.
- Many of these mines are older mines that predate reclamation legislation and may pose a risk to public safety and/or the environment.
- These mines are the result of past mining activities for which the owner cannot be found or is unable to carry out site rehabilitation.
- The AMB is working closely with the Crown Contaminated Sites Program (CCSP) in the Ministry of Forests (MOF) to ensure effective and coordinated use of resources.
- The AMB continues to take a risk-based approach to prioritizing and addressing concerns at abandoned sites in BC.

Background/Status:

- Mining has been central to the provincial economy for well over 100 years as an important source of jobs, revenues, and regional development. While the regulation of the mining industry has evolved and improved over time, the long history of mining in the Province has resulted in abandoned mine sites without adequate reclamation being completed.
- In 1969, reclamation legislation was enacted in BC that required mine owners to properly reclaim their properties and make their mines safe for closure.
- The AMB's primary objective is to protect public safety and reduce liabilities by addressing the physical safety hazards and/or environmental impacts posed by abandoned mines where no responsible party has been identified.
- By doing this work, the Province is not taking legal responsibilities for these sites. The authority for these actions is derived from section 17 of the *Mines Act* where the Chief Inspector of Mines considers that work may be necessary in, on or about a closed or abandoned mine in order to prevent danger to persons or property, or to abate pollution of the land and watercourses affected by the mine.
- The AMB is working closely with the CCSP in MOF to ensure effective and coordinated use of resources. The CCSP focuses primarily on contaminated sites remediation and do not specifically assess or mitigate public safety issues related to mines.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Funding for the branch activities comes from two main sources:
 - Mine Owners - confiscated security deposits provided under a *Mines Act* Permit (if applicable),
 - The Province - assumed liability for the remediation work when an owner has defaulted on its obligations or no longer exists (Ministry Base Funding, if available; or request new funding from Treasury Board)

Reclamation Activities completed and planned for 2022

- AMB is planning reclamation activities at four sites in 2022, including: Red Mountain, Candorado, Tulsequah, and Northair.
- Red Mountain (Rossland BC):
 - Planned activities include removing debris and vegetation from spillways and removing vegetation from dams as per recommendations in the 2019 Dam Safety Inspection.
- Candorado (near Hedley BC):
 - The AMB is collaborating with the Upper Similkameen Indian Band (USIB) to develop a final closure plan for the site. The USIB is currently completing additional studies to support the plan, which will be developed by a committee made up of members of the USIB and an expert closure planning team.
 - The AMB also recently repaired the effluent ponds that capture discharge to add capacity and safely retain effluent on site.
- Tulsequah Chief (near Atlin BC):
 - AMB, in collaboration with the Taku River Tlinglet First Nation, hired a contractor to develop a conceptual Closure and Reclamation Plan for the site. Early work identified in the plan, which started in 2020, will continue in 2022.
- Northair Mine (near Whistler BC)
 - In 2021 the Branch identified publicly accessible mine openings that pose a significant public safety risk at the Northair Mine.
 - Plans are being developed to close access this field season.
- In addition to this specific work, field assessment work will continue to expand the existing inventory of abandoned sites across the province to support risk-based planning for future reclamation work.

Cross Reference: Tulsequah Chief Mine Remediation

Tania Demchuk

Assistant
Deputy
Minister

Mines Health, Safety &
Enforcement Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Mine Audits Unit

Revised: March 17, 2022

Issue: Current priorities of the Mine Audits Unit

Response:

- The Mine Audits Unit (the Audit Unit) conducts audits to evaluate the effectiveness of mining regulation in BC.
- The Audit Unit operates under the authorities and duties of the Chief Auditor, a statutory role under the *Mines Act* (the Act).
- In June 2021, the Audit Unit published their first audit report on requirements for tailings storage facilities. All seven recommendations were accepted by the Ministry of Energy, Mines and Low Carbon Innovation (the Ministry).
- The Audit Unit is planning to release their second audit report on worker protection in mobile equipment near water in spring 2022.
- Pursuant to the Chief Auditor's Audit Plan for 2021/22, the Audit Unit has three new audits underway: occupational health and safety committees, reclamation securites for advanced exploration projects, and major mine closure.

Background/Status:

- The Audit Unit was established in response to recommendations by the Auditor General and to fulfill the previous Minister's mandate letter commitment to establish an independent oversight unit for mining.
- Led by the Chief Auditor, the Audit Unit's mandate is to evaluate the effectiveness of mining regulation in BC and to provide recommendations to government for continuous improvement.
- In August 2020, the independence of the Audit Unit was formalized by creating the Chief Auditor, a statutory role outlined under Section 2.1 of the newly amended Act. The first Chief Auditor, Andrew Rollo, was appointed on September 28, 2020. The current Chief Auditor, Karina Sangha, was appointed on November 9, 2021.
- The statutory authority of the Chief Auditor, together with the mining and regulatory expertise of their team, makes the Audit Unit unique among auditing organizations and well placed to contribute to the continuous improvement of mining oversight in BC.
- In developing its policies, procedures, and organizational structure, the Audit Unit engaged with staff from the Office of the Auditor General and other audit professionals to ensure the Audit Unit is aligned with audit best practice.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Each audit focuses on an area of mining regulated by the Ministry and generally considers current regulatory requirements, government policies and actions, and industry performance and trends.
- Under the Act, the Chief Auditor must publish an Audit Plan each year outlining the audits the Audit Unit will prioritize in that year. The Audit Plan is informed by suggestions from Indigenous partners and interested parties, trend data, and previous audit findings.
- After completing an audit, the Chief Auditor must provide a final report to the Minister outlining the audit's findings, conclusion and any recommendations. This report must also be published on the Audit Unit's website.
- The Audit Unit has an Memorandum of Understanding (MOU) with the Ministry that sets out the parties' mutual commitments during the audit process. Under the MOU, the Ministry has committed to providing the Chief Auditor with a response to each audit and regular progress updates, both of which the Chief Auditor will post on their website.
- The Audit Unit and the Ministry also have an MOU with the First Nations Energy and Mining Council (FNEMC) that sets out collaboration points throughout the audit process to help ensure Indigenous interests are meaningfully considered in audits and the Ministry's responses.
- In June 2021, the Audit Unit released their first audit: *Code Requirements for Tailings Storage Facilities*. This audit generated seven recommendations, all of which were accepted by the Ministry.
- The Audit Unit is currently working to finalize their second audit: *Worker Protection in Mobile Equipment near Water*. This audit is targeted for public release in spring 2022.
- In December 2021, the Chief Auditor published their 2021/22 Audit Plan with three new audit topics: (1) occupational health and safety committees; (2) reclamation securities for advanced exploration projects; and (3) major mine closure. Each of these audits is currently in the planning phase. This Audit Plan was developed in collaboration with the FNEMC.

Contact:

Tania Demchuk

Assistant Deputy
Minister

Mines Health, Safety
and Enforcement
Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Mines Investigations

Drafted/Revised: March 15, 2022

Issue: Overview of mine investigation activities pursuant to the *Mines Act*

Response:

- The *Mines Act* provides the authority for investigations of incidents including serious injuries, loss of life and property or environmental damage or incidents that had the potential to cause serious personal injury, loss of life or environmental damage.
- Formed in 2017, the Mines Investigation Unit (MIU) is a team of eleven specialized investigative professionals in the Mines Health, Safety and Enforcement Division.
- The MIU undertakes investigations into serious incidents and alleged contraventions of the *Mines Act*, Health, Safety and Reclamation Code and permit conditions.
- Three of the cases investigated by the MIU have resulted in successful prosecutions under the *Mines Act* and 16 Administrative Monetary Penalties (AMPs) have been issued.
- Prior to 2017, the Ministry did not have the ability to pursue AMPs and the last known prosecution under the *Mines Act* was in 1999.

Background/Status:

- The *Mines Act* provides that the Chief Inspector may direct an inspector to investigate an incident that has caused or had potential to cause serious personal injury, loss of life or property or environmental damage. Inspectors may investigate any matter relating to health and safety of any person or the public.
- Following recommendations from the Chief Inspector of Mines Mount Polley Investigation Report and the Office of the Auditor General, the Mines Investigation Unit (MIU) was formed in 2017 led by the Senior Director of Investigations.
- The MIU undertakes all investigations pursuant to Section 7 and Section 14 of the *Mines Act* on behalf of the Chief Inspector or Mines as well as other investigations in relation to non-compliances with the *Mines Act*, Health Safety and Reclamation Code and permit conditions.
- In fatality and serious injury cases the MIU is the point of operational liaison with police, WorkSafeBC, other enforcement groups and Crown Counsel.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The MIU also provides assistance as required to mines inspectors who may be tasked to investigate less serious incidents and provides training to all staff on compliance and enforcement skill sets.
- The primary purpose of investigations is always to determine what happened, why an incident happened, and how other incidents can be prevented.
- The results of investigations may be presented to:
 - the Chief Inspector of Mines with recommendations for prevention of similar incidents including publication of an industry hazard alert;
 - a delegate of the Chief Inspector for consideration for Administrative Monetary Penalty; and
 - the Crown Counsel for consideration of *Mines Act* charges.
- Recommendations from MIU have resulted in issuance of sixteen administrative monetary penalties totaling \$868,012. Several other recommendations are currently in process.
- Since inception MIU have referred five cases to the BC Prosecution Service Crown Counsel. Each case met the standard for charge approval.
- Four cases have proceeded through the court system while one was discontinued due to the death of the accused.
 - On March 06, 2019 the court decided the evidence did not support the conviction of a mine manager accused of obstructing an inspector and acquitted the accused. This was in relation to the Banks Island Gold Mine.
 - On March 13, 2019 the court awarded a \$20,000 fine and requirement for a \$50,000 donation for *Mines Act* charges in relation to the 2014 double fatality at the Swansea Quarry, outside Cranbrook. This represented the first successful prosecution under the *Mines Act* in over two decades.
 - On September 6, 2019 the court awarded a fine of \$20 000 (and considered the donation of \$50 000 to the deceased's family) for *Mines Act* charges in relation to a 2015 fatality that occurred at the Polar Jade Mine which is located east of Dease Lake.
 - On March 13, 2020 the court awarded a fine of \$7,500 in relation to a 2016 injury sustained by an underage worker at the Big Nugget mine site located northeast of Hixon.
- Administrative penalty decisions and summaries of court decisions are made public on the BC Mine Information website.

Contact:

Tania Demchuk

Assistant Deputy
Minister

Mines Health, Safety &
Enforcement Division

Government Financial
Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Quinsam Coal Receivership

Revised: March 11, 2022

Issue: Quinsam Coal Receivership

Response:

- Quinsam Coal Corporation filed for bankruptcy on July 3, 2019.
- A court appointed receiver is managing Quinsam Coal Mine (the Mine) in its care and maintenance state and ensuring safety and environmental protections remain a priority during the receivership.
- A buyer for the Quinsam mine was not found through the receivership process. The financial security for the Mine has been spent.
- The Province has taken steps to ensure public health and safety is not put at risk at the site, and is exploring options for reclamation and future use at the site in collaboration with Indigenous partners and stakeholders.

Background/Status:

- Quinsam Coal Corporation (Quinsam) owned and operated a thermal coal mine located roughly 20km southwest of Campbell River.
- Quinsam also operated the Middle Point Barge Terminal leased from the We Wai Kai Nation. Agreements to share mineral tax revenue from the Mine were signed by the Province in 2014 with the We Wai Kai Nation, Wei Wai Kum Nation and the K'omoks First Nation.
- Quinsam coal mine ceased operating on June 12, 2019 due to significant liquidity issues. Quinsam made an assignment into bankruptcy on July 3, 2019, choosing PricewaterhouseCoopers Inc. to act as the Trustee.
- On July 30, 2019, the Trustee gave notice to the Province that it was abandoning the real property and immovables at the Mine, pursuant to the *Bankruptcy and Insolvency Act*, effective July 31, 2019. In order to address immediate health, safety and environmental concerns presented by the Trustee's abandonment of the Mine, the Ministry retained the Bowra Group Inc. (Bowra) as contractor and was later successful in an application to have Bowra appointed a receiver over the Mine and all of Quinsam's assets.
- The Province seized the \$7.28 million reclamation security held in relation to Quinsam. Costs paid to the Receiver to keep the Mine in care and maintenance are approximately \$200,000 a month and were paid from the security until the security was depleted in November 2021.
- The Receiver undertook a sales process including advertising in national and international publications and direct outreach to unions and potentially interested

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

parties. A suitable buyer for the mine was not found through the receivership process.

Liquidation and Reclamation

- At this time, the sale process for the site has closed.
 - Through the receiver, Bowra, the Ministry has taken steps to keep the Mine in care and maintenance status to ensure public health and safety is not put at risk.
 - At this time, the \$7.28 million reclamation security has been spent, and the Ministry is evaluating next steps for the receivership.
 - The Ministry has contracted an engineering firm, SRK Consulting, to complete an assessment of reclamation and closure costs, which were estimated at \$35.6 million.
 - Advice/Recommendations; Legal Information
-
- The Ministry is exploring options for future use of the Mine in collaboration with Indigenous partners and stakeholders such as United Steelworkers.

Contact:

Nathaniel Amann-
Blake

Assistant Deputy
Minister

Oil and Gas Division

Government
Financial

Confidential Legal Advice

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Mines Digital Services

Drafted/Revised: March 8, 2022

Issue: Development of digital tools to support mining oversight.

Response:

- Mines Digital Services (MDS) is a capital funded initiative to co-develop digital products for staff, industry and the public using an agile delivery model.
- Mines Digital Services has focused heavily on user research building software that meets the needs of staff, industry and the public, improves data quality and saves time in compliance, reporting and health and safety oversight.
- Three key products (Core, MineSpace, and BC Mine Information website) have been developed to aggregate and centralize data for mines across BC and enable robust and transparent regulatory oversight.
- Released in 2019, Core is a central internal information management system that supports the key regulatory functions of EMLI staff.
- Also released in 2019, MineSpace allows mining proponents to submit documents directly to EMLI, view their compliance history, and review information about their mine, such as permit data and incident history. This portal significantly improves the connection between EMLI and mining operators.
- The BC Mine Information site improves transparency and public access to mining information from EMLI, Environmental Assessment Office (EAO), and Ministry of Environment and Climate Change Strategy (ENV).
- The MDS team is now focused on expanding the existing mines digital ecosystem to enhance the major mines permitting process through information sharing across the natural resource sector, mining proponents, indigenous groups, and the public.

Background/Status:

- Mines Digital Services (MDS) is responsible for managing and maintaining the integrated digital products used in mining oversight and in improving transparency with indigenous groups, the public and other stakeholders. Work to date has focused on building three products:
 - Core – a mine management system for staff that holds all relevant mining and compliance related data in a web-based and centralized way;
 - MineSpace – a portal for proponents to share data directly with the Ministry and view information held about their mines; and,

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- BC Mine Information (BCMI) – a publicly accessible mine information website.
- The development of these integrated products is driven largely by the needs of users, including Ministry staff, Industry, and the public. In addition to providing digital solutions to support Ministry functions, the work of the MDS team also helps to streamline business process, enable data driven decisions, and improve transparency and mining oversight.
- Streamline Business Processes and Enable Data Driven Decisions:
 - Through extensive user-research, the MDS team has identified and worked collaboratively to improve redundant and inefficient business processes. By consolidating and centralizing data, staff can now make decisions with all relevant information in one web-based platform.
 - Regional exploration permitting is now managed through Core, with process consistency and data collection helping to support robust and timely permitting decisions.
 - Over 200 Mining Proponents voluntarily use MineSpace and can now submit any report indicated in the Health, Safety, and Reclamation Code directly through this portal. To date, approximately 1500 compliance related documents have been received from mines via this portal, which provides Ministry staff instant access to compliance status; previously, this took weeks to manually compile.
- Improving Transparency and Mining Oversight:
 - BCMI was launched in February 2017 and represents the first time mine related information from EMLI, EAO and ENV were available online in one place.
 - Currently, BCMI publicly displays authorizations, annual reclamation reports, and compliance reports such as Dam Safety Inspections, for 71 metal and coal mines.
- MDS is funded using minor capital funding through the Office of the Chief Information Officer (OCIO). In March 2021, \$6.6 million was approved through the OCIO to expand the existing products to focus on Major Mines permitting over the next four years.
- MDS is currently comprised of two hybrid teams, with approximately half government staff and half contractors. Using a modern procurement mechanism (Sprint With Us) the MDS team has partnered with FreshWorks Studios (Victoria), and Sierra Systems (Vancouver), an NTT DATA Company.

Contact:

Tania Demchuk

Assistant Deputy
Minister

Mines Health, Safety
and Enforcement
Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Tulsequah Chief Mine

Drafted/Revised: March 15, 2022

Issue: Remediation of ongoing acid rock drainage from legacy mining into the Tulsequah River and transboundary watershed

Response:

- The Province shares stakeholder concerns about the longstanding acid rock drainage being discharged from the Tulsequah Chief Mine.
- The Province released a conceptual Closure and Reclamation Plan in April 2020 and committed \$1.575M to support immediate physical works and on site studies over the 2020 and 2021 field seasons. Both seasons of work were undertaken in partnership with the Taku River Tlingit First Nation (TRTFN).
- The Province is developing a work plan for the 2022 field season that will build on interim works to stream crossings and bridges completed in 2020 and 2021.
- The Province is committed to working closely with partners and stakeholders to collaboratively address the ongoing acid rock drainage concerns at the site.

Background/Status:

- Tulsequah Chief Mine (mine) is located approximately 120 kms south of Atlin on the Tulsequah River in the traditional territory of the TRTFN.
- Historic mining activities undertaken prior to mining legislation and bonding occurred from 1951-1957 and have left a legacy of acid rock drainage (ARD) which the Province is seeking to address.
- A 2016 aquatic and ecological risk assessment found there may be environmental risk proximal to the mine but not to the BC-Alaska border.
- The mine is currently owned by Chieftain Metals Inc. (Chieftain), who acquired the property in 2010. Chieftain had agreed to address the historical ARD issues as part of re-development of the mine.
- In September 2016, Chieftain's primary secured creditor applied for a receiver to be appointed over Chieftain. The \$1.2 million security bond provided by Chieftain was confiscated by the Chief Inspector of Mines and has been used towards securing site areas, addressing immediate issues and funding the development of a conceptual closure and reclamation plan.

Legal Context:

- In 2016, the Ontario Superior Court appointed Grant Thornton LLP as receiver over all of Chieftain's assets, undertakings and properties, simultaneously

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

introducing “stay provisions” limiting the Province’s ability to uphold provincial statutes and regulatory oversight.

- On August 11, 2020, the receiver applied to the Ontario Court to be discharged. On October 8, 2020, the court approved the discharge of the receiver. However, the secured creditor has until August 2022 to seek to re-appoint the receiver.
- The Province continues to pursue available options in the intervening period for holding all past and present owners of the Tulsequah Chief Mine accountable.

Site Works & Conceptual Closure and Reclamation Plan:

- The Province allocated \$1.575M in 2020 towards initial activities and studies required to support the broader conceptual Closure and Reclamation plan for Tulsequah. The Province worked in partnership with the TRTFN to issue a contract to the development and economic arm of the TRTFN for initial physical works required to rehabilitate the site for future work programs and reclamation.
- Initial works included road repairs, refurbishment of a seasonal camp, clearing the site of debris and danger trees, fuel/camp supplies transported to site, initial assessment of the water treatment plan functionality, and partial bridge repairs.
- In 2021, Teck Resources Limited (Teck) voluntarily provided a further \$1.575M to continue these physical works and studies. A LiDAR survey was conducted to provide detailed topographic information to support further design, continued water monitoring efforts in collaboration with the TRTFN, and bridge repairs which include engineering and physical works.
- The Province is developing a work plan for the 2022 field season that will build on interim works completed in 2020 and 2021.

United States and International Interests:

- The Province shares Alaska’s concerns regarding closure and reclamation of the mine and continues to collaborate with Alaska on reclamation efforts and studies.
- The Province is committed to working closely with partners and stakeholders in addressing the ongoing contamination and reclamation concerns at the site.

Cross Reference: BC’s Transboundary Relations with Alaska, Montana and Washington

Contact:

Tania Demchuk

Assistant Deputy
Minister

Mines Health, Safety
and Enforcement
Division

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Yellow Giant Mine (Banks Island)

Drafted/Revised: March 18, 2022

Issue: Reclamation of Yellow Giant Mine, owned by Banks Island Gold Ltd. on Banks Island, northwest BC

Response:

- The Province shares concerns with the Gitxaala First Nation regarding the outstanding reclamation of the Yellow Giant Mine site.
- The Province is committed to working closely with Gitxaala to confirm a desired approach to addressing the reclamation of the site through collaborative efforts.

Background/Status:

- The Yellow Giant mine, located on Banks Island (105 kilometres south of Prince Rupert), comprises three small underground mine sites, one surface mine site and a small processing plant.
- Yellow Giant is in the asserted territory of Gitxaala Nation (Gitxaala) and Kitselas First Nation (Kitselas) and is owned by Banks Island Gold Ltd (BIG).
- In 2016, BIG filed for bankruptcy and went into receivership. EMLI confiscated all securities, totaling \$420,000 and used \$200,000 to remove high risk hazardous materials from the site. In 2017, EMLI participated in a joint site visit with Gitxaala and the Ministry of Environment and Climate Change Strategy to assess the site following the removal of the hazardous materials. No further activity by the Province has occurred on site since 2017.
- The mineral claims and titles were acquired by MCC Canadian Gold Ventures (MCC), the major creditor in January 2019 in a purchase from BIG approved by the court in BIG's receivership in December 2018.
- Although BIG is bankrupt, the company still exists in corporate registry and they remain as owner and permittee under the *Mines Act*. They have not filed reports required to keep it in good standing and there is a risk that the company will be dissolved once the corporate registry is updated.
- Gitxaala has voiced concerns about the current and future state of the Yellow Giant site and in October 2021 requested "clear confirmation that BC is committed to promptly ensure full and complete remediation is conducted at the Yellow Giant site, and that this remediation will not be in any way contingent on permitting further mining to occur at the site".

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The Province has reached out to Gitxaala regarding next steps and opportunities for collaboration.
- Further work is required to assess costs associated with reclamation and monitoring at the site.

Legal Context:

- On October 26, 2021, Gitxaala announced a legal challenge to the Mineral Tenure Act (MTA), particularly with respect to the provincial tenuring system under the MTA. The environmental impacts resulting from the operation of the mine outside of the regulatory scheme as well as the outstanding reclamation liabilities at the Yellow Giant site were referenced in the challenge as an example of impacts to rights and title resulting from the issuance of mineral tenure and subsequent regulation of mining activity.
- The Province continues to explore all options for holding the owner, permittee or recorded holder accountable.

Cross Reference: *Mineral Tenure Act (MTA) Modernization Estimates Note*

Contact:

Tania Demchuk	Assistant Deputy Minister	Mines Health, Safety & Enforcement Division	Government Financial
---------------	------------------------------	--	-------------------------

2022/2023 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Petroleum and Natural Gas Tenuring and Disposition

Revised: March 8, 2022

Issue: Petroleum and Natural Gas Tenure issuance and management of Crown-owned subsurface resources.

Response:

- The Government owns most of the petroleum and natural gas (PNG) resources in British Columbia (BC) and grants rights for their use through issuance of PNG tenure under the *Petroleum and Natural Gas Act*.
- There are two types of PNG tenure that are routinely issued by the Ministry of Energy, Mines and Low Carbon Innovation (Ministry). They are leases and drilling licences.
- Industry requests and acquires PNG tenure at Crown dispositions which, normally, are held monthly through a competitive sealed-bid public tender auction.
- The Ministry paused the public tender auction in July 2021, which remains paused, pending negotiation of a renewed process with Blueberry River First Nations.

Background/Status:

- A PNG tenure grants the right to use Crown-owned subsurface resources under certain terms.
- The Ministry is responsible for issuing and managing PNG tenures on behalf of the Province, ensuring that Crown-owned PNG resources are managed in a responsible and sustainable manner to benefit all British Columbians. Additional information regarding the processes in disposing and managing PNG tenure can be found in Appendix 1.
- Once PNG tenure has been issued, the tenure holder must apply to the BC Oil and Gas Commission (Commission) to conduct surface related oil and gas activities that support the exploration and development of the issued PNG tenure.
- The Ministry paused the public tender auction in July 2021, which remains paused, pending negotiation of a renewed process with Blueberry River First Nations following a June 29, 2021, court decision *Yahey vs. BC*.

2022/2023 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Types of Tenure

- There are two types of PNG tenure that are routinely issued by the Ministry under the *Petroleum and Natural Gas Act*. They are:
 - **Drilling licence** - A drilling licence provides the exclusive right to explore for PNG resources by drilling wells. Drilling licenses are acquired at Crown dispositions and are issued under terms of three, four or five years depending on geographic location.
 - **Lease** - A lease provides the exclusive right to produce PNG resources and a right to dispose or store natural gas, water and other substances associated with oil and gas activities. They are acquired at Crown dispositions or selected from drilling licenses. Lease terms are five or ten years, depending on geographic location.
- Each type of tenure grants a specific set of rights and sets out the obligations of the tenure holder and the circumstances under which the tenure can be extended or converted to another type of tenure.
- Occasionally PNG tenure is issued by the Minister under special terms and for the price approved by the Lieutenant Governor in Council. This process is sometimes used for unique situations to support First Nations initiatives or company specific interests where different tenure terms are needed or where a competitive public tender process is not appropriate.

Tenure by the Numbers

- As of March 2022, there are 11,686 leases and 133 drilling licences, covering approximately 6.07 million hectares.
 - Over the past 5 years the amount of tenured land has been steadily decreasing.
- Advice/Recommendations
- Most of the Province's PNG resources occur in the Western Canada Sedimentary Basin that underlies northeast BC. Natural gas, not oil, is the Province's predominant form of hydrocarbon resource.

Cross Reference: Petroleum and Natural Gas Tenure Revenue
Attachment: Appendix 1 - Petroleum and Natural Gas Tenure Disposition and Management Processes

Contact:

Nathaniel Amann-
Blake

ADM

Oil and Gas Division

Government
Financial
Information

Appendix 1

Petroleum and Natural Gas (PNG) Tenure Disposition and Management Processes

Management of the Crown PNG Resources

The province is divided into a rectangular geographic grid system known as the PNG grid. Each rectangular cell of the PNG grid is known as a 'spacing area' and is approximately 259 hectares or approximately one square mile. The Ministry uses the PNG grid system with its geological zone designation system to responsibly administer and manage the Crown's PNG resources in the form of PNG tenure.

PNG Tenure Disposition Process

- **Posting request/pre-referral review:** An oil and gas company sends the Ministry a legal description and location of the PNG rights they would like posted in an upcoming Crown disposition. The Ministry runs a comprehensive initial check to determine:
 - if there are pre-existing PNG rights in the area being requested;
 - if the PNG rights have already been requested;
 - if there are known issues with the surface lands that would prevent or limit surface access to those rights, e.g., provincial parks; or
 - if there is overlap with lands that have existing First Nations legal commitments, such as a treaty land entitlement claim, which may constrain access to those rights.

If a posting request passes this review, it proceeds to the next step in the disposition process.

- **Pre-tenure referral:** Before posting PNG rights for disposition, the Ministry consults with First Nations, local governments and other provincial ministries to identify any concerns that these groups may have with the proposed disposition.
- **Finalization and assessment:** Once the pre-tenure referral process has been concluded, the Ministry analyzes the comments it has received on the requested PNG rights and decides whether:
 - to not offer the PNG rights for disposition;
 - to defer the disposition of the PNG rights until further consultations or land use planning/negotiations have taken place; or,
 - to post the PNG rights for disposition with caveats affixed to the pending title identify to bidders of the concerns raised by First Nations and other governments.

Once the PNG rights have been selected to be offered for disposition, the Ministry will:

- publish (electronically) a public notice describing the PNG rights to support the upcoming monthly disposition; and

- conduct an assessment on each PNG right included in the upcoming monthly disposition to estimate the potential revenue expected from the disposition to inform the disposition adjudication.
- **Monthly rights disposition:** Generally, the Ministry conducts a disposition of PNG rights in the form of tenure once per month. Purchasing bids are usually delivered to the Ministry up until noon on the day of the disposition via ebidding.

When the bids are received, they are reviewed to determine the successful bid for each PNG right requested. The Ministry may choose not to dispose of PNG rights if the bids received are not consistent with current or historic bidding trends or do not represent good value to the Province given the geological potential and other related factors associated with the PNG rights being requested.

Accepted bids are deposited into the Province's Consolidated Revenue Fund on the day of the disposition (see Transition Note: Petroleum and Natural Gas Tenure Revenue, for information regarding the administration of bonus bid revenue).

- **PNG Tenure issuance:** On the day following the monthly disposition, the successful bidder is issued a PNG tenure for the rights in the location described in the public disposition notice.

PNG Tenure Management Process

- **Annual rent collection:** The Province charges a per-hectare annual rent on issued PNG tenures. The Ministry manages collection of this rent (along with cancellation of tenure in cases of non-payment).
- **PNG Tenure management:** Oil and gas companies routinely buy, sell or trade PNG tenure amongst themselves. The Ministry keeps up-to-date records of which company holds which PNG tenures. These records are publicly available. Oil and gas companies often borrow money to finance their operations using their PNG tenures as collateral. On request, the Ministry may record certain types of financial instruments as an encumbrance against a PNG tenure – improving liquidity for oil and gas companies and providing some security for creditors.
- **Lease selection from drilling licences:** To gain the right to produce from a drilling licence, drilling licence holders must drill earning wells, which provides the basis of selecting leases. Production is not allowed on drilling licences. The Ministry assesses lease selection applications to:
 - ensure that the wells drilled qualify as earning wells;
 - verify the lease area earned by the drilled wells; and
 - track which rights are transferred to the new lease area and which remain with the drilling licence.
- **Applications for drilling term extensions:** There is a variety of term extensions at the end of the primary term of an issued drilling licence. There is a one-time standard extension available upon payment, while other extensions require an application and subsequent review by the Ministry to validate the request (e.g., safety or planning activities may have delayed the drilling of a well).

- **Lease continuations:** At the end of the primary term of an issued lease, the tenure holder may apply to have the lease term continued. There are a variety of continuation options which all require an application so the Ministry can validate the request to determine whether the tenure holder has met the lease requirements set out under the *Petroleum and Natural Gas Act*. The review can include analysis and interpretation of geological information provided by the tenure holder and other information held by the Ministry.

In some cases, a lease continuation application is not successful. When this occurs, the oil and gas company will have to apply for a continuation under a program of work, which the Ministry will have to review and determine its validity.

2022/2023 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Petroleum and Natural Gas Tenure Revenue

Revised: March 22, 2022

Issue: Petroleum and natural gas subsurface tenure revenue update and forecast.

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) manages subsurface petroleum and natural gas (PNG) tenures and the associated revenue.
- PNG tenure is issued through a monthly disposition where the Ministry receives sealed electronic bids via the e-bidding system and awards tenures based on the highest acceptable bid.
- To achieve the highest acceptable bid, industry clients offer a “bonus bid” over and above the expected annual fees and rental value.
- Rentals, fees and bonus bids are accounted for in the public accounts.
- Bonus bids are accounted for using a deferred method, i.e., deferred revenue of previous years is brought forward
- The current deferral period for the bonus bids is ten years which is meant to represent the average lifespan of a tenure.
- In fiscal 2020/21, tenure revenue decreased due to the Ministry pausing tenure dispositions in response to the COVID-19 pandemic.
- In fiscal 2021/22, and in consideration of the June 2021 *Yahey v. British Columbia* court decision (Yahey Decision), the Ministry paused tenure disposition until further notice.

Background/Status:

- On an annual basis, the Ministry publishes the number of hectares of PNG tenure disposed, total bonus bids received and average tenure price on a per hectare basis (Appendix 1, Table 1).
- The total bonus bids received in 2020/21 was \$807.00 (Appendix 1, Table 1). This is the result of only one disposition being held in fiscal 2020/21 for PNG rights necessary to advance a geothermal project in northeast British Columbia.
- In fiscal 2021/22, after lifting the COVID-19 related pause to tenure dispositions, the Ministry held one sale in May 2021 resulting in bonus bid revenue of approximately \$3.7 million.
- In consideration of the June 2021 Yahey Decision, the Ministry paused PNG tenure dispositions in July until further notice.

2022/2023 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Bonus bid revenue is deferred over time as it allows for better financial planning and streamlines the Public Accounts by spreading revenue across several years to avoid spikes in the revenue stream.
- A comprehensive analysis is done at the end of every fiscal year to justify the bonus bid deferral period. This analysis is reviewed by both the Auditor General's Office (OAG) and the Office of the Comptroller General (OCG).
- Discussions occur between the OAG and the OCG each year to determine if the deferral period should change. The deferral period was changed from nine years to ten years effective 2018/19.
- The Public Accounts reports Crown sale bonus revenue on the deferred basis for both actual revenues collected and forecast values. On a cash basis, bonus bid actual revenues in fiscal 2020/21 was approximately \$807.00, however, on a deferral basis the result is approximately \$115 million due to the deferred revenue of previous years being brought forward (Appendix 1, Table 2). Fees and rentals received in fiscal 2020/21 totaled approximately \$48 million (Appendix 1, Table 2).
- Advice/Recommendations

Cross Reference: Petroleum and Nature Gas Tenuring and Disposition

Attachments: Appendix 1 - Petroleum and Natural Gas Tenure Revenue

Contact:

Nathaniel Amann-
Blake ADM

Oil and Gas Division

Government
Financial
Information

Appendix 1 – Petroleum and Natural Gas Tenure Revenue

Table 1: Bonus bid revenue for each fiscal year from 1978 to 2022.

Fiscal Year	Hectares Disposed	Total Tender Bonus	Average Price (\$/ha)
1978-1979	525,919	\$136,353,878.50	\$259.27
1979-1980	506,006	\$206,474,454.69	\$408.05
1980-1981	313,924	\$129,955,601.38	\$413.97
1981-1982	623,760	\$53,982,370.63	\$86.54
1982-1983	151,970	\$17,025,074.03	\$112.03
1983-1984	122,202	\$33,292,304.42	\$272.44
1984-1985	273,409	\$59,583,349.35	\$217.93
1985-1986	386,785	\$89,170,448.47	\$230.54
1986-1987	210,250	\$25,896,026.49	\$123.17
1987-1988	315,834	\$59,420,094.84	\$188.14
1988-1989	524,777	\$112,302,592.61	\$214.00
1989-1990	428,227	\$86,701,338.77	\$202.47
1990-1991	494,980	\$121,214,108.92	\$244.89
1991-1992	346,036	\$55,022,701.42	\$159.01
1992-1993	202,485	\$35,322,638.02	\$174.45
1993-1994	680,241	\$184,786,092.78	\$271.65
1994-1995	678,490	\$187,108,587.13	\$275.77
1995-1996	737,934	\$133,718,316.06	\$181.21
1996-1997	617,281	\$170,621,056.00	\$276.41
1997-1998	683,028	\$175,513,891.51	\$256.96
1998-1999	344,363	\$67,265,539.82	\$195.33
1999-2000	809,775	\$206,928,360.11	\$255.54
2000-2001	907,335	\$418,006,044.29	\$460.70
2001-2002	686,413	\$312,170,642.18	\$454.79
2002-2003	828,144	\$279,945,821.89	\$338.04
2003-2004	705,519	\$625,662,664.63	\$886.81
2004-2005	552,151	\$280,184,531.50	\$507.44
2005-2006	605,984	\$555,643,094.49	\$916.93
2006-2007	616,740	\$607,070,149.31	\$984.32
2007-2008	655,897	\$1,222,303,262.97	\$1,863.56
2008-2009	653,509	\$2,424,577,402.13	\$3,710.09
2009-2010	379,077	\$896,436,856.41	\$2,364.79
2010-2011	376,431	\$817,954,200.86	\$2,172.92
2011-2012	216,768	\$286,611,897.52	\$1,322.21
2012-2013	104,281	\$115,240,077.25	\$1,105.09
2013-2014	118,588	\$220,535,910.71	\$1,859.68
2014-2015	131,597	\$334,804,215.11	\$2,544.16
2015-2016	58,735	\$15,930,804.57	\$271.23
2016-2017	112,107	\$61,229,320.02	\$546.17
2017-2018	103,292	\$140,930,898.56	\$1,364.39
2018-2019	25,786	\$50,331,994.69	\$1,951.91
2019-2020	20,330	\$12,779,852.54	\$628.62
2020-2021	269	\$807.00	\$3.00
2021-2022	5,729	\$3,782,616.79	\$660.26
As of March 16, 2022			
5 yr. avg. (2016/17 – 2020/21)	52,357	\$53,054,574.56	\$898.82
10 yr. avg. (2011/12 - 2020/21)	89,175	\$123,839,577.80	\$1,159.65
15 yr. avg. (2006/07 – 2020/21)	238,227	480,449,176.64	1,512.81
20 yr. avg. (2001/02 - 2020/21)	347,581	463,017,220.22	1,289.81

Page 331 of 537

Withheld pursuant to/removal as

Advice/Recommendations ; Government Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: First Nations Engagement and Consultation

Revised: March 17, 2022

Issue: The status of First Nations engagement and consultation, as pertaining to the disposition of petroleum and natural gas tenure.

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) has a legal obligation to engage and consult with First Nations regarding the disposition of petroleum and natural gas (PNG) tenure.
- Consultation follows agreed to processes set out in Consultation Process Agreements (CPAs) with First Nations and guidance provided by the Ministry of Indigenous Relations and Reconciliation (IRR).
- The CPAs can come in the form of Oil and Gas Consultation Agreements (OGCAs), Strategic Engagement Agreements and Long-Term Oil and Gas Agreements (LTOGAs).
- The Ministry is updating oil and gas consultation processes with First Nations in response to the British Columbia (BC) Supreme Court's decision on *Yahey v. BC*.

Background/Status:

- The Ministry has a legal obligation to consult with First Nations regarding statutory decisions to dispose PNG tenure.
- The legal obligations to consult are structured under a process and often captured under CPAs.
- CPAs have been in place with Treaty 8 First Nations since 1998 with re-negotiations occurring when CPAs expire.
- CPAs provide certainty to the Ministry, the Commission, First Nations and proponents regarding process, timelines, level of consultation (e.g., simple vs. complex) and capacity funding, including defining an area where consultation is triggered.
- The Ministry has CAPs, specifically OGCA, with Halfway River First Nation (2013), McLeod Lake Indian Band (2014) and Sauteau First Nations (2015), as well as a joint LTOGA with West Moberly First Nations and Prophet River First Nation (2010).
- There are presently no agreements with BRFN, Fort Nelson First Nation (FNFN) and Doig River First Nation (DRFN).

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- FNFN and DRFN terminated their participation in CPAs in 2011 and have not negotiated new CPAs.
 - BRFN terminated their LTOGA in 2014 and have not negotiated a new CPA.
- In the absence of a formal CPA, the Ministry uses existing CPAs as guidance, including procedures and guidance provided by IRR to support the Ministry's legal obligations to consult First Nations.
- As a response to the June 2021 ruling under *Yahey v. BC*, the Ministry is updating oil and gas consultation processes to consider cumulative effects and better understand impacts to hunting, trapping and fishing, and the Indigenous way of life in decision making.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Land Management with Blueberry River First Nations

Drafted/Revised: March 21, 2022

Issue: Provincial Negotiations with Blueberry River First Nations

Response:

- The Supreme Court of British Columbia found that the cumulative impacts of the Province's permitting of industrial development infringed on Blueberry River First Nations' Treaty 8 rights.
- Since the court ruling, the Ministry of Energy, Mines and Low Carbon Innovation (Ministry) has been negotiating with Blueberry River First Nations on a way forward that improves land management in their territory in a way that balances and honours Treaty 8 rights, the economy, local jobs, and the environment.

Background/Status:

- On June 29, 2021, the Supreme Court of British Columbia found that the cumulative impacts of the Province's permitting of industrial development infringed on Blueberry River First Nations' Treaty 8 rights.
- The Province did not appeal the decision Advice/Recommendations
Advice/Recommendations
- The court gave the Province six months to negotiate with Blueberry River First Nations to reach an agreement to incorporate consideration of cumulative effects into provincial decision-making on permits and authorizations.

Negotiations:

- The Ministry is working with Blueberry River First Nations, as well as other Treaty 8 Nations, on improving and modernizing land and resource management in a way that recognize and respects their Treaty rights.
- In October, 2021, the Province and Blueberry River First Nations reached an initial agreement. Under the agreement, the Province will establish a \$35-million fund for Blueberry River to undertake activities to heal the land, creating jobs for Nation members and business for service providers in the northeast region.
- In addition to the \$35-million fund, \$30 million will be allocated to support Blueberry River First Nations in protecting their Indigenous way of life.
- As part of the agreement, 195 forestry and oil and gas projects will proceed, while twenty projects, which relate to development activities in areas of high cultural importance, will not proceed without further negotiation and agreement from Blueberry.
- The Province and Blueberry River First Nations are working on achieving a goal of reaching a second agreement that advances changes to land and resource

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

management in the northeast, creating greater stability and certainty for the residents, governments, employees, and employers in the territory.

- The Province is also working with other Treaty 8 Nations at a collective table, which is focused on matters of treaty rights, including advancing new environmental restoration work across Treaty 8 territory and ensuring all Treaty 8 Nations are part of the development of a new approach to how natural resource activity is planned and authorized in the territory.

Contact:

Nathaniel Amann-Blake	ADM	Oil and Gas Division	Government Financial Information
-----------------------	-----	----------------------	-------------------------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Caribou Recovery Planning

Revised: March 17, 2022

Issue: The Ministry of Energy, Mines and Low Carbon Innovation's participation in caribou recovery planning initiatives.

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) provides technical and policy advice that is intended to support lead agencies in their efforts to recover caribou populations and improve habitat conditions.
- The Ministry may also act to support caribou recovery initiatives by designating areas or establishing regulations and policies that minimize and/or avoid impacts to caribou and their habitat from petroleum and natural gas (PNG) activities.
- The Ministry of Environment and Climate Change Strategy (ENV) and Ministry of Land, Water and Resource Stewardship (LWRS) lead the management and recovery of caribou populations.
- The Ministry is currently supporting LWRS in advancing management and planning efforts for the conservation of central mountain and boreal caribou herds.

Background/Status:

General

- The Ministry has supported ENV and LWRS in their efforts to recover caribou in northeast British Columbia (BC). For example, the Ministry has established approximately 2 million hectares of boreal caribou and central mountain caribou habitat as resource review areas (RRAs).
- RRA is a policy land designation tool used by the Ministry to inform industry that the Ministry will not accept industry requests to dispose PNG tenure within that area.
- By not disposing PNG tenure within RRAs, the Ministry can minimize and avoid potential impacts to caribou habitat from PNG activities.
- In BC, there are four extant populations of caribou: boreal caribou, northern mountain caribou, central mountain caribou and southern mountain caribou.

Central Mountain

- In February 2020, the Province, the federal Ministry of Environment and Climate Change Canada, West Moberly First Nations and Saulteau First Nations signed an Inter-Governmental Partnership Agreement (Partnership Agreement) for the

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

conservation of central mountain caribou herds. The Ministry participated in the development of the Partnership Agreement.

- The Partnership Agreement is focused on the recovery of central mountain caribou herds.
- Within the Partnership Agreement area, temporary and longer-term protection zones have been identified to support recovery efforts of central mountain caribou herds.
- The Partnership Agreement has been structured to allow existing and potentially new oil and gas activities (e.g., Coastal GasLink pipeline), as well as mining interests to continue.
- Under the Partnership Agreement, the Ministry will not dispose PNG tenure over approximately 700,000 hectares of central mountain caribou habitat.
- There are many existing PNG tenures within the area under the Partnership Agreement, including existing PNG infrastructure and producing wells.
- The PNG resources identified under the Partnership Agreement area are mostly comprised of dry gas, which is currently not economic to develop.
- Advice/Recommendations

Boreal Caribou Planning

- The Ministry is supporting LWRS in their efforts to improve the management of boreal caribou herds and their habitat.
- Actions aimed at improving the management of boreal caribou herds and their habitat have been articulated in the Province's draft Boreal Caribou Protection and Recovery Plan (BCPRP).
- The Ministry is supporting LWRS in engaging First Nations, local governments, and industry regarding the development of the BCPRP, including upcoming public engagement sessions scheduled for March 2022.
- Addressing social and economic drivers and reconciling with First Nations with respect to the protection and recovery of caribou in BC remains a key focus of government.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: First Nation Government-to-Government Agreements

Drafted: March 18, 2022

Issue: Ministry participation in the implementation of First Nation reconciliation government to government agreements in northeast British Columbia.

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) is participating in the implementation of two First Nation reconciliation government-to-government agreements (G2G) in northeast British Columbia (BC).
- G2G agreements create a framework for relationship building, advancing comprehensive and lasting reconciliation, improving socio-economic well-being of Indigenous communities, and ensuring meaningful engagement in the development of natural resources.

Background/Status:

General

- The Province collaborates with Indigenous leaders, government agencies, industry, local government, and the public to support the development of reconciliation and other related agreements.
- The Ministry is supporting the implementation of two First Nation reconciliation G2G Agreements with two Treaty 8 First Nations in northeast BC. They are:
 - Saulteau First Nations New Relationship and Reconciliation Agreement - signed in September 2015 (expires 2024).
 - Halfway River First Nation Government-to-Government Agreement - signed in March 2017 (expires 2023).
- The purpose of First Nation reconciliation G2G agreements is to:
 - Foster an enduring and respectful G2G relationship;
 - Facilitate meaningful engagement and, if appropriate, accommodation with respect to land and resource decisions within the areas identified under the agreement that may adversely impact Treaty 8 rights;
 - Provide opportunities to balance the protection and maintenance of Treaty 8 rights, with the development of land and natural resources, including revenue sharing; and

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Establishing a strategic and coordinated approach to land, wildlife and natural resource management in relation to the exercise of Treaty 8 rights.
- The Ministry plays an active role in the implementation of these G2G agreements by collaborating with First Nations on the coordination and planning of oil and natural gas development activities, specifically where oil and gas tenuring and surface related activities may occur and where it is prohibited.
- Additional work includes understanding how legislative and regulatory tools under the *Petroleum and Natural Gas Act* and *Oil and Gas Activities Act* can be used to more effectively achieve land use and wildlife goals identified under the agreements.
- The Ministry will continue to support the implementation of G2G agreements to advance reconciliation and achieve collaborative outcomes.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Treaty Land Entitlement

Revised: March 8, 2022

Issue: The status of Treaty Land Entitlement claims Advice/Recommendations

Response:

- The Province and five Treaty 8 First Nations are negotiating final settlement of Treaty Land Entitlement (TLE) claims in northeast BC.
- Advice/Recommendations
- Business Information; Advice/Recommendations
- The Ministry of Indigenous Relations and Reconciliation (IRR) is the lead agency negotiating TLE claims and has been engaging natural resource agencies to discuss specific encumbrances and possible solutions.
- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) and IRR are working with Indian Oil and Gas Canada to ensure there is an efficient and predictable process in place to manage existing and future PNG tenures following TLE claim settlement and transfer for federal reserve establishment.

Background/Status:

Current State

- TLE claims are being brought forward against Canada and the Province to settle a historical land debt.
- Five First Nations have unresolved TLE claims in northeast BC. They are:
 - Doig River First Nation;
 - Blueberry River First Nations;
 - West Moberly First Nations;
 - Halfway River First Nation; and
 - Sauteau First Nations.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Historically, Halfway River First Nation and West Moberly First Nations were combined as the Hudson Hope Indian Band, while Blueberry River First Nations and Doig River First Nation were combined as the St. Johns Indian Band.
- Advice/Recommendations; Legal Information; Intergovernmental Communications
- Negotiations are ongoing and in various stages with joint claims for Halfway River-West Moberly and Doig River-Blueberry River complete and moving to ratification.
- Advice/Recommendations; Intergovernmental Communications

TLE Lands

- In 2016, Canada tabled a compensation package for the loss of use, i.e., shortfall, of the owed land debt in the form of a total cash settlement to be divided amongst the five First Nations, with the expectation that the Province provides the shortfall land to support its transfer to Canada for federal reserve establishment.
- The Province is also providing additional lands as a reconciliation measure that will be made available for purchase by the First Nations, at fair market value.
- Advice/Recommendations; Intergovernmental Communications

-
-
-

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division Government

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Regional Strategic Environmental Assessment (RSEA)

Revised: March 18, 2022

Issue: Ministry participation in the design and implementation of a regional strategic environmental assessment in northeast British Columbia.

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) is participating in the design and implementation of a Regional Strategic Environmental Assessment (RSEA) in northeast BC.
- The goal of RSEA is to assess the cumulative effects of natural resource development activities on values associated with the practice of Treaty 8 rights.
- RSEA is one of four demonstration projects under the Province's Environmental Stewardship Initiative (ESI) announced in 2014/15.

Background/Status:

RSEA

- The Ministry is co-leading the design and implementation of a RSEA with the Ministry of Land, Water and Resource Stewardship (LWRS).
- Seven Treaty 8 First Nations are collaborating with the Province on RSEA: West Moberly First Nations, Saulneau First Nations, Halfway River First Nation, Doig River First Nation, Prophet River First Nation, Blueberry River First Nations and McLeod Lake Indian Band. Other provincial natural resource agencies are also participating, including the BC Oil and Gas Commission.
- The oil and gas and forestry sectors are participating, but only as observers, as RSEA is a government-to-government forum.
- The goal of RSEA is to assess the cumulative effects of natural resource development activities on environmental, social and cultural values that are associated with the practice of Treaty 8 rights.
- Advice/Recommendations
-

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The outcomes of the RSEA process are expected to inform natural resource management decisions and other strategic land use initiatives currently being implemented in northeast BC, such as the provincial cumulative effects framework, modernized land use planning, Caribou recovery planning and negotiation forums.

ESI

- In 2014/15, the Province announced the ESI as a new form of collaboration among the Province, First Nations and industry.
- The goals of the ESI are to develop a new, collaborative approach to establishing environmental legacies and to generate high quality, accessible and trusted environmental information. ESI's scope includes four key areas:
 - ecosystem assessment and monitoring;
 - ecosystem restoration and enhancement;
 - ecosystem research and knowledge exchange; and
 - stewardship education and training.
- The Province committed \$30 million to support ESI implementation across four regions or demonstration project areas in BC. The four demonstration projects are in the following regions of BC:
 - North Coast;
 - Skeena;
 - Northeast; and
 - Omineca.
- Each demonstration project received \$7 million dollars to support implementation.
- In 2018, the ESI was amended to continue for an additional three years and is expected to be completed this year.
- On January 26, 2021, First Nation representatives participating in the Collaborative Stewardship Framework (CSF) and ESI initiatives met with several ministers and staff from various provincial agencies
Advice/Recommendations; Intergovernmental Communications
- In February 2021, Minister George Heyman, Minister of Environment and Climate Change Strategy, and Minister Katrine Conroy, Minister of Forests, Lands and Natural Resources (FLNR), sent a response letter to the CSF and ESI participating First Nations, committing to short-term bridge funding for this year to continue priority work, to address challenges and collaboratively develop longer-term options for these initiatives.
- Cabinet Confidences; Advice/Recommendations

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

s.12; s.13

- In January 2022, the Province committed to fund all forums through 2022/23. Forum budgets are currently being developed collaboratively with participating First Nations.
- First Nations are supportive of the CSF and ESI initiatives and recognise it as a new form of collaborating with the Province on natural resource development.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Farmers' Information Service

Revised: March 17, 2022

Issue: The Farmers' Information Service, launched in December 2020, replaced the prior Farmers' Advocacy Office.

Response:

- In February 2020 the Ministry of Energy, Mines and Low Carbon Innovation (Ministry), Ministry of Agriculture, Food and Fisheries (AFF) and the Peace River Regional District (PRRD) signed a Memorandum of Understanding (MOU) to establish and implement the Farmers' Information Service (FIS) in northeast BC.
- The FIS, opened in December 2020, built on the learnings from the services provided previously by the Farmers' Advocacy Office (FAO).
- The FIS is designed to better assist farmers and other landowners in their understanding of Petroleum and Natural Gas (PNG) development on their lands to reduce conflicts and maximize benefits to both parties.

Background/Status:

FIS

- The purpose of the FIS is to assist farmers and other landowners in their understanding of PNG development through problem identification, education, information sharing, and communicating to the government and government agencies.
- The FIS opened in December 2020. In delivering its core functions, the FIS:
 - Gathers and disseminates information relevant to a landowner's negotiation of surface access agreements with resource companies
 - Gathers and disseminates land valuation information from existing surface lease and other access agreements for landowners to review for comparison purposes;
 - Works to ensure residents have a full understanding of relevant information and promotes proactive pre-planning by residents to allow them to optimize their economic opportunities; and
 - Provides an effective, independent, "gateway" to existing regulatory, legislated, and other services that address the concerns of rural landowners about PNG development.
- The FIS also identifies other services that are available to address the concerns of rural landowners with PNG development, including mediation services offered

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

through the BC Oil and Gas Commission (Commission) and the Surface Rights Board.

- The FIS governed by Memorandum of Understanding (MOU) between the parties and delivered by an independent contractor (1-year contract) and overseen by a FIS Management Committee that has representation from the Ministry, AFF and a local PRRD landowner.
 - The FIS is funded through a cost sharing arrangement between the Ministry, AFF, the PRRD and the Commission
- Government Financial Information
Government Financial Information

- Demand for FIS service was less than anticipated in the initial year.^{Advice/Recom}
Advice/Recommendations
- In January 2022, and due to a reduced demand for FIS services, the service was rescaled to operate at a reduced capacity to match funding commitments to client needs.
- The Ministry and AFF have agreed to continue to fund the FIS for another year at
Government Financial Information

FAO

- In 2009, the Ministry, AFF and the PRRD initiated a pilot project to provide landowners with information to help them understand surface leases and rights of way with the intention of improving the relationship between rural residents and the PNG sector.
- In 2012, it was determined that the FAO would continue as a full-service delivery model under an MOU with the Ministry and PRRD for an additional five years.
- The Ministry and PRRD cost shared the funding of the FAO, ^{Advice/Recommen}
Advice/Recommendations; Government Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- In June 2018, an independent audit of the FAO was conducted to assess its effectiveness and future given its five-year term was coming to an end.
- In July 2019, the FAO closed, and the Ministry, AFF and PRRD agreed shortly thereafter to design, fund, and implement a new service model known as the FIS.

Contact:

Nathaniel Amann-
Blake

ADM

Oil and Gas
Division

Government
Financial
Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Petroleum and Natural Gas Development and Agriculture

Drafted: March 21, 2022

Issue: Interaction between oil and gas development and agriculture land use in the Agricultural Land Reserve in northeast British Columbia.

Response:

- The Province is taking action to look at the interaction between oil and gas development and agriculture in British Columbia's (BC) Agricultural Land Reserve (ALR) in northeast BC (NEBC).
- This action includes the formation of a Deputy Minister-level Task Force that is charged with developing a northeast ALR Strategy and establishing an increased Agricultural Land Commission (ALC) presence to support farmers and ranchers in the ALR in NEBC.
- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) has a long history of working with the Ministry of Agriculture, Food and Fisheries (AFF) and local governments in providing services that are focused on educating farmers about oil and gas development on their lands.

Background/Status:

- In NEBC, concerns have been raised that there is an imbalance between the amount of oil and gas development and agriculture use within the ALR.
- In January 2018, AFF tasked an Independent Advisory Committee (Advisory Committee) to revitalize the ALR and the ALC by leading a province-wide engagement process and providing strategic advice through recommendations for consideration by Government.
- The Advisory Committee travelled to nine communities, met with local governments and more than 170 agriculture stakeholders, and received opinions by survey from over 2300 British Columbians, all of which informed a final report that included 33 recommendations and actions.
- In December 2019, the Advisory Committee submitted a final report with the recommendations for the Minister of AFF's consideration, including Recommendation 25, which is specific to the interaction of oil and gas development and agricultural land use in northeast BC.
- Recommendation 25 states: "Immediately work to address the imbalance between oil and gas development and agriculture in BC's northeast ALR:
 - Form a Deputy Minister-level, multi-agency, multi-jurisdictional Task Force to develop a northeast ALR Strategy; and

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Establish an increased ALC presence to support farmers and ranchers in BC's northeast ALR.”
- In February 2020, a Deputy Minister Task Force was established (see the attached Appendix 1 - Terms of Reference) to consider Recommendation 25.
- The Task Force is comprised of:
 - The Deputy Minister of AFF;
 - The Deputy Minister of the Ministry;
 - Chief Executive Officer, ALC; and
 - Commissioner and Chief Executive Officer, BC Oil and Gas Commission.
- To consider Recommendation 25, the Task Force will first develop a comprehensive and factual background report that will provide:
 - the history and current context in northeast BC with respect to oil and gas and agricultural land use; and
 - an examination of the existing policy and regulatory frameworks for both sectors.
- A draft of the background report is under development and review.
- If appropriate, the Task Force will develop recommendations and initiate actions, where necessary, in providing the Government's response to the Advisory Committee's final report and Recommendation 25.

Agricultural Land Reserve

- The ALR is a provincial designation in which agriculture is recognized as the priority use. Farming is encouraged and non-agricultural uses are restricted. The ALR protects approximately 4.6 million hectares of agriculturally suitable land across BC.
- The ALC is an independent administrative tribunal dedicated to preserving agricultural land and encouraging farming in BC. The purposes of the ALC are set out in Section 6 of the *Agricultural Land Commission Act*.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Royalty Programs

Drafted:

Issue: Royalty programs and revenues; a commitment to undertake review.

Response:

- The British Columbia (BC) oil and gas royalty structure is a complex system of price-sensitive royalty rates combined with cost allowances and credits.
- The Minister of Energy, Mines and Low Carbon Innovation's mandate letter includes direction to undertake a review of oil and gas royalty credits to ensure they meet BC's goals for economic development, a fair return on our resources and environmental protection.
- An independent assessment of the current oil and natural gas royalty framework was conducted and concluded that the entire royalty framework should be reformed to address a myriad of issues within the current system.
- A discussion paper was published on govTogetherBC in late 2021 that described considerations and potential options for a modernized royalty system.
- Government expects to announce the results of the review in Spring 2022.
- In the 2022/23 budget the estimated net natural gas royalties for 2022/23 and 2023/24 fiscal years are \$911 million and \$691 million respectively. These projections reflect higher prices as well as increased production, rather than any changes to the royalty system which are to be determined through the ongoing royalty review.
- Royalty revenues averaged \$157 million per year between 2015/16 and 2020/21.

Background/Status:

- Royalty revenues are the monetization of the Crown's share of production (the Royalty share):
$$\text{Royalties} = \text{Production} \times \text{Commodity Price} \times \text{Royalty Rate} - \text{Deductions}$$

Royalties are dependent on production volumes and price and are subject to deductions (including Producer Cost of Service (PCOS) Allowance, Gas Cost Allowance (GCA), amongst others).

Advice/Recommendations
- Three royalty credit programs currently exist:
 - Clean Growth Infrastructure Royalty Program;

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Deep Well Royalty Credit Program; and
- Natural Gas Deep Well Re-entry Credit Program.
- Four royalty reduction programs currently exist:
 - Low Productivity Well Royalty Reduction;
 - Marginal Well Royalty Reduction;
 - Ultra-Marginal Well Royalty Reduction; and
 - Net Profit Royalty Program.

Royalty Credits for Infrastructure Development

- The Clean Growth Infrastructure Royalty Program (CGIRP) is modeled on the previous Infrastructure Royalty Credit Program (IRCP) and provides royalty deductions for specific infrastructure-related projects. Companies can apply for a deduction on their royalties – up to 50% of the cost incurred for eligible projects – under a competitive Request for Applications process.
- CGIRP has two project categories: Growth projects (roads and pipelines) and Sustainability projects (electrification and emissions reduction infrastructure) with \$150 million in royalty deductions competed for by industry in 2021.

Deep Well Royalty Credit Program

- This program provides royalty credits to cover a portion of the drilling and completion costs for deep wells. These credits are tied to the well, not the well owner.
- The Deep Well Royalty Credit Program covers two tiers of wells:
 - Tier 1 wells are shallower (less than 1,900m in vertical depth) with long horizontal segments.
 - Royalty credits range from \$445,000 to \$2.81 million, depending on the well characteristics (vertical depth and horizontal length).
 - Deep well credits for Tier 1 wells are subject to a 6 percent minimum to ensure the Province receives some base royalty for the resource extraction.
 - Tier 2 targets deeper wells than Tier 1 and offers a higher maximum royalty credit.
 - Royalty credits available to Tier 2 deep wells vary based on the location of the well (whether it is “east” or “west”) and the concentration of Hydrogen Sulfide (H₂S) in the gas produced from the well (identifies the well as either “sweet” or “sour”).
 - Tier 2 royalty credits available could be as high as \$4.72 million (for horizontal sour wells located within the west) with a 3 percent

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

minimum to ensure the Province receives some base royalty for the resource extraction.

- The total value of outstanding deep well credits is reported in the Public Accounts. As of Fiscal Year 2020/21 this amount stood at \$3.2 billion.

Natural Gas Deep Well Re-Entry Credit

- When a previously drilled well is drilled deeper to maximise the development of known resources, qualifying wells will receive a credit on their monthly royalty invoice if they are actively producing.
- The re-entry credit available increases based on the additional amount of drilling (up to \$450,000 in the east and \$750,000 in the west).

Low Productivity Well Royalty Reduction

- Qualifying gas well events (producing on average less than 5,000 m³ of natural gas per day) receive a reduced base royalty gas rate.
- This reduction is intended to maximise the recovery of Crown resources from wells that would reach the end of their economic lives if full royalties were payable.
- Wells that qualify for the Low Productivity Well Royalty Reduction cannot also qualify for Marginal or Ultra-Marginal Well Royalty Reductions.

Marginal Well Royalty Reduction

- Qualifying gas well events (producing a daily average of less than 23 m³ of natural gas per metre of well depth) automatically qualify for the Marginal Well Royalty Reduction. Wells must produce for 12 months before they qualify for this reduction.
- Wells that qualify for Marginal Well Royalty Reduction cannot also qualify for Low Productivity or Ultra-Marginal Well Royalty Reductions.

Ultra-Marginal Well Royalty Reduction

- Shallow gas well events that meet stringent low productivity and depth requirements automatically qualify for the Ultra-Marginal Well Royalty Reduction. Wells must produce for 12 months before they qualify for this reduction.
- Wells that qualify for Ultra-Marginal Well Royalty Reduction cannot also qualify for Low Productivity or Marginal Well Royalty Reductions. Ultra-marginal wells are also excluded from receiving any deep-well credit deductions.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Net Profit Royalty Program

- The Net Profit Royalty Program was introduced to promote the development of high complexity, technically novel oil and natural gas resources that were otherwise unlikely to be developed.
- The program allows producers to pay lower royalty rates in the initial stages of a project in exchange for higher royalty rates once the producers have recovered their capital costs.
- New applications for this program are not being accepted at this time.

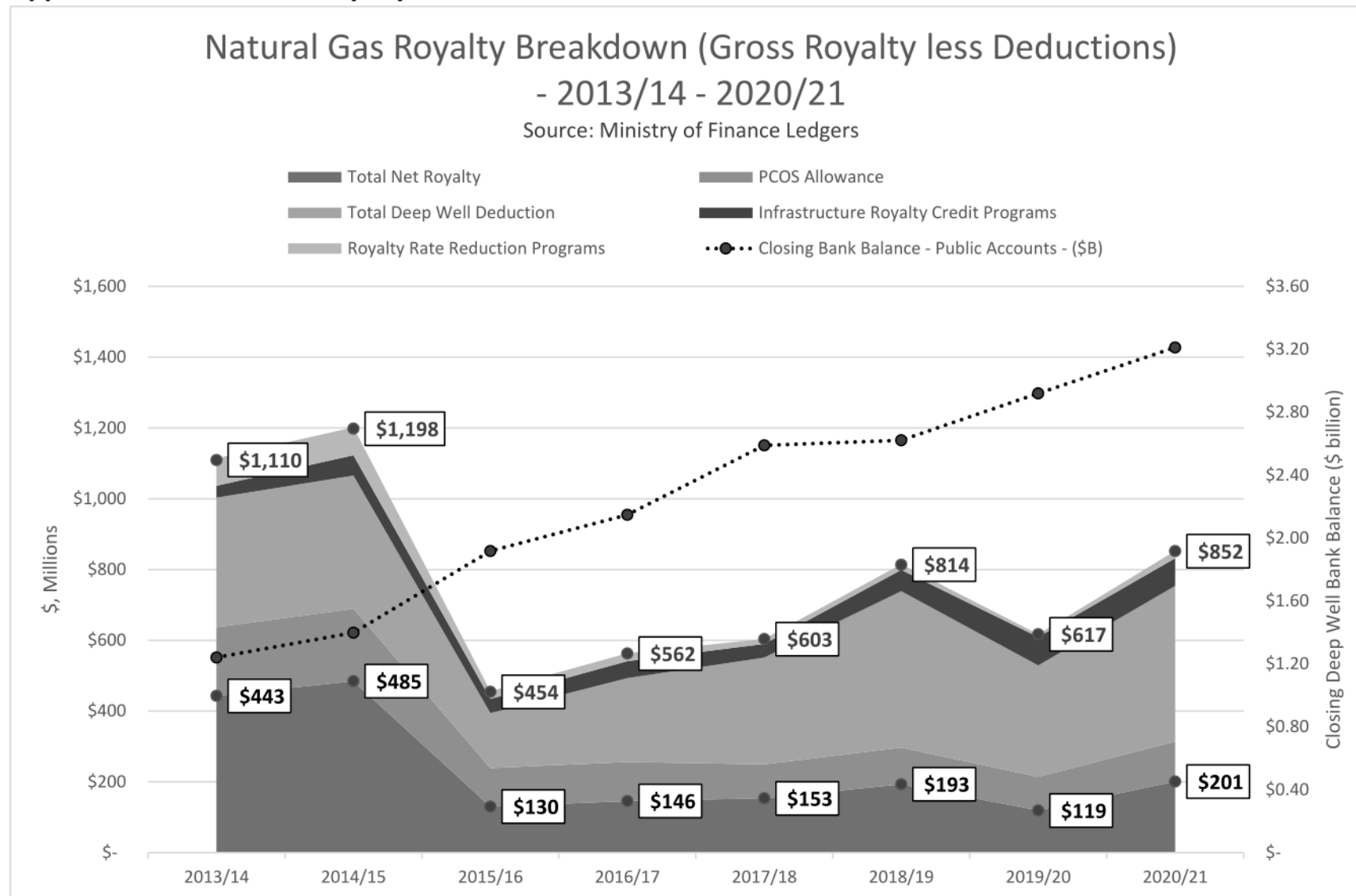
Cross Reference: Deep Well Royalty Credit & Clean Growth Infrastructure Royalty Program

Attachment: Appendix 1 – Natural Gas Royalty Breakdown

Contact:

Nathaniel Amann-Blake	ADM	Oil and Gas Division	Government Financial Information
-----------------------	-----	----------------------	----------------------------------

Appendix 1: Natural Gas Royalty Breakdown



2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Royalty Review – Progress and Outcomes

Drafted/Revised: March 17, 2022

Issue: Progress of the Oil and Natural Gas Royalty review and outcomes

Response:

- The Mandate letter included direction to review oil and natural gas royalty credits to ensure they meet the Province's goals for economic development, a fair return on our resources, and environmental protection.
- The royalty framework was established 30 years ago at a time when technologies and market conditions were very different than they are today.
- The system has become complex due to overlapping changes and incentive programs intended to address issues at the time they occur to maintain a competitive industry in the province.
- An Independent Assessment of the current framework recommended a complete reform and highlighted issues with overlapping and inefficient incentive programs
- During the review, the Ministry undertook extensive consultation with affected First Nations and a public engagement which resulted in a significant amount of feedback from the public.
- The recommended framework is based on feedback and seeks to balance the goals of the review
- I expect to announce the results of the review later this spring.

Background/Status:

- The current oil and natural gas royalty framework was created almost 30 years ago when technologies and market conditions were very different from today.
- The royalty review began with an Independent Assessment which was completed by two academics. They identified several issues with the current system resulting from overlapping changes and recommended a comprehensive reform.
- The Ministry released the Independent Assessment and a discussion paper for public consultation through govTogetherBC from November 10 to December 10, 2021. Feedback was received from members of the public, Indigenous peoples, civil society groups, oil and natural gas producers, industry associations and interest groups.
- A subsequent review was undertaken with the help of independent consultants with expertise in market valuation, competitiveness, economic modelling and emission modelling across the oil and gas sector.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The Ministry has also undertaken extensive consultation with First Nations directly impacted by oil and natural gas activities in northeast British Columbia (BC).
- Feedback from First Nations is closely aligned to public feedback where the goal of environmental protection should be prioritized due to the cumulative impacts of oil and natural gas development in northeast BC.
- First Nations have also expressed support for maintaining a competitive investment regime that provides First Nations a greater share of economic benefits.
- First Nations and public feedback also indicated a preference for an immediate end to incentive programs that inadvertently result in negative impacts to the environment. These include incentive programs that can promote development of inefficient and emissions-intensive wells which could be reclaimed sooner.

Based on the recommendations, analysis and feedback, the Ministry has developed options for a revised royalty policy framework with an expected announcement later this spring.

Cross Reference: Royalty Programs

Royalty Review – Consultation Process and Comments Received
Deep Well Royalty Credit

Contact:

Nathaniel Amann-
Blake

ADM

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Royalty Review – Consultation Process and Comments Received

Drafted/Revised: Drafted March 10, 2022

Issue: Public feedback on Royalty Policy options

Response:

- The oil and gas royalty review included a public engagement initiative that invited feedback from the public as well as industry and non-government organizations.
- There was a strong participation in the engagement, with many citizens, interest groups, academics, and industry providing comments about potential royalty policy options.
- Results of the engagement show that most respondents are in favour of updating the royalty regime to reflect government's current goals.
- There was a strong focus from the public to eliminate inefficient royalty programs and a focus on environmental protection.
- Directly affected First Nations were consulted in a parallel process and identified their priority as environmental protection followed by a fair return shared with communities most affected by oil and gas development.

Background:

- The British Columbia (BC) Ministry of Energy, Mines and Low Carbon Innovation has undertaken a review of its oil and gas royalty system to ensure it achieves government's objectives of economic development, fair return on resources, and environmental protection.
- A public engagement was arranged through a public website (govTogetherBC) that enabled citizens, interest groups and industry to provide comment on a range of policy options.
- In total, 938 completed surveys were received during the engagement, as well as 4,632 emails and 98 formal written submissions.
- Overall, the general public and various non-profit organizations are in favour of updating the royalty regime, and to use it as a tool for Government to pursue its net-zero emissions goals laid out in the Roadmap to 2030 plan.
- First Nations most affected by current and anticipated oil and gas development are in northeast BC and were consulted directly through a process in parallel with the public consultation.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- First Nations were supportive of updating the royalty framework in a manner that meets government's commitments to reconciliation.
- First Nations identified environmental protection as their main priority and indicated it should be expanded beyond emissions reduction.
- First Nations also indicated the royalty framework should collect more in revenue and revenue should be shared fairly with impacted communities.
- Industry submissions emphasized that:
 - Economic development and competitiveness should be a top priority for a new royalty framework,
 - A revenue-minus-cost model in a new royalty framework,
 - Government should honour already-earned credits, and largely retain current systems of royalty credits.

Attachments: Table 1: Survey Respondents, by Region
Figure 1: Survey Respondents, by Interest Group
Table 2: Written Submissions Received, by Interest Group

Cross Reference: Royalty Review, Oil and Gas Subsidies

Contact:

Nathaniel Amann-
Blake

ADM

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Table 1: Survey Respondents, by Region

Region	Respondent <i>n</i>	Respondent Proportion	Population Proportion*
Mainland/Southwest	337	36%	61%
Vancouver Island/Coast	344	37%	17%
Thompson-Okanagan	67	7%	12%
Kootenay	58	6%	3%
North Coast & Nechako	22	2%	2%
Northeast	46	5%	1%
Cariboo	26	3%	3%
Outside of B.C.	37	4%	-
Prefer not to answer	1	0%	-
Total	938	100%	-

Respondent proportions may not add to 100% due to rounding.

* Population proportions based on economic regions data from 2016 Census.

Figure 1: Survey Respondents, by Interest Group

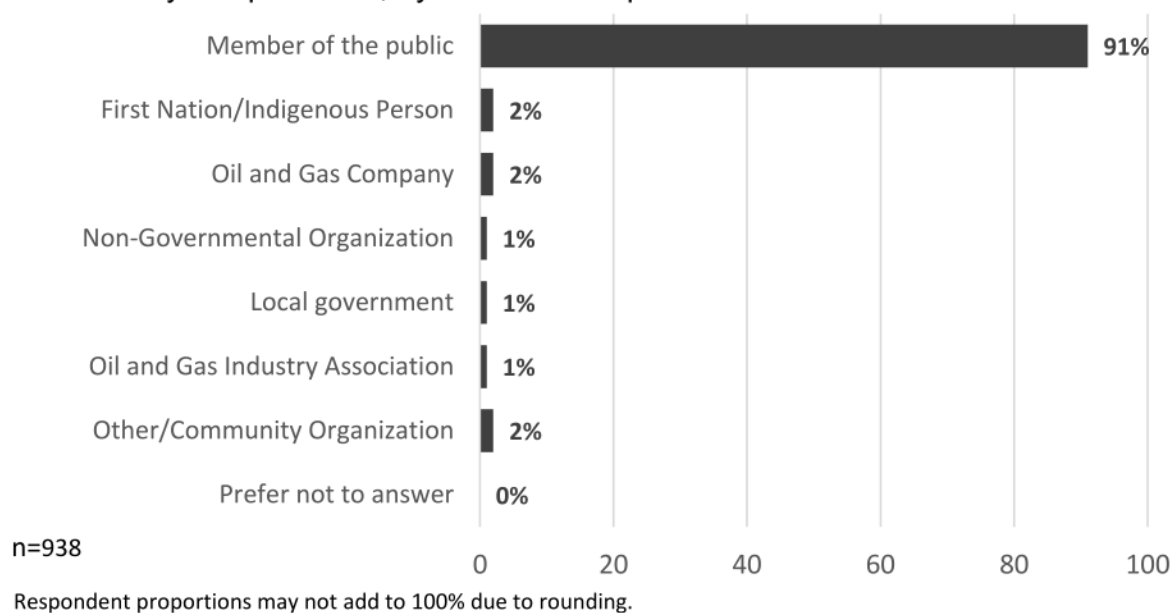


Table 2: Written Submissions Received, by Interest Group

Interest Group	Submissions Received
Academics and Post-Secondary Institutions	2
Indigenous Organizations	1
Industry and Trade Associations	6
Local Governments	1
NGOs	24
Producers and Supporting Industries	17
Public	85

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Royalty Revenues

Drafted/Revised: March 16, 2022

Issue: Royalty Revenue Current Trends and Forecasts

Response:

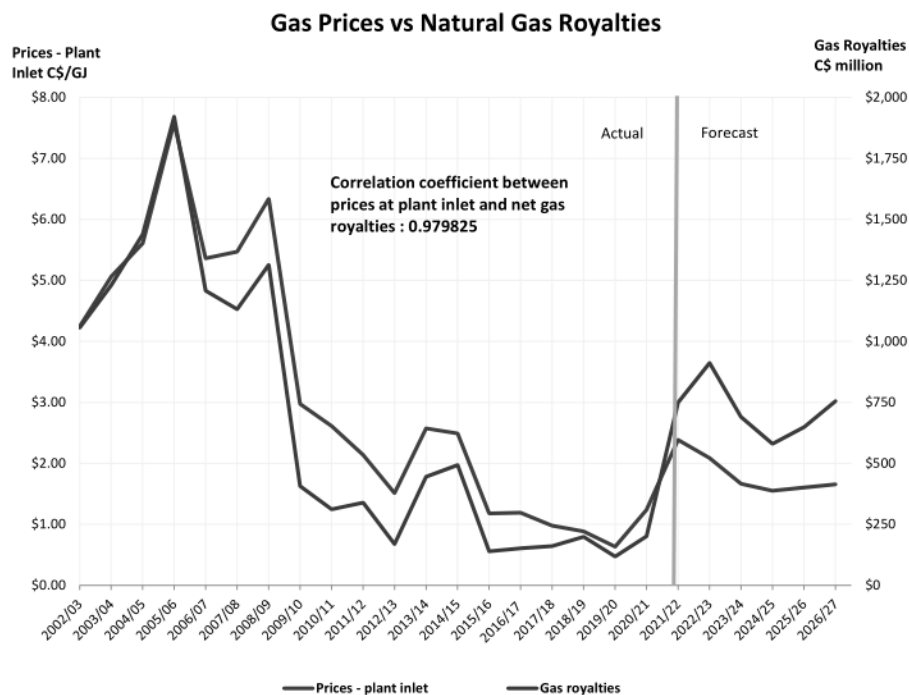
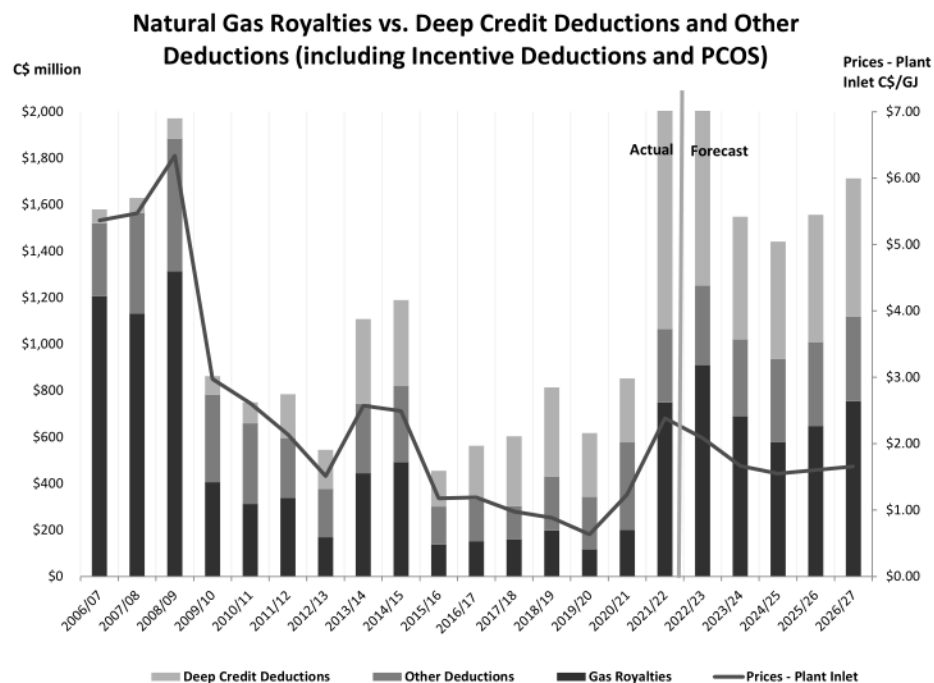
- Provincial natural gas royalties were \$196 million in 2020/21. They are forecast to increase to \$911 million in 2022/23.
 - The increase is due to a combination of rising prices for natural gas and natural gas liquids (up 69% and 67% respectively) as well as British Columbia's (BC) price-sensitive royalty rates. The province is receiving a larger share of a more valuable commodity.
 - Forecasts for natural gas royalties remain at elevated levels from 2022/23 to 2026/27 due to forecasts of high natural gas and by-products prices compared to levels before 2021/22.
 - Provincial production has been growing due to sustained activity, impressive well productivity, and high market valuation for natural gas by-products.
- Advice/Recommendations
- Price forecasts are based on private sector forecasts and are in line with private sector forecasts for United States (US) and Canadian real Gross domestic product (GDP) growth rates.

Background/Status:

- Royalties are valuation of the Crown's share of production (Royalty share):
$$\text{Royalties} = \text{Royalty share at market value} - \text{Deductions}$$
$$= \text{Production} \times \text{Commodity Price} \times \text{Royalty Rate} - \text{Deductions}$$
- Royalties are dependent on production and price and are also influenced by the amount of deductions including deep wells credits, Producer Cost of Service (PCOS), Incentive Deductions, etc. that are allowed.
- The market price for natural gas has been trending downward over the last decade due to rapid growth in shale gas development because of rich discoveries and technological advancement in North American. This trend was reversed in 2020/21 and 2021/22 when prices and royalties increased to the highest levels in 7 years (prices) or 13 years (royalties). Forecasts for royalties and natural gas prices remain at elevated levels from 2022/23 to 2026/27.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston



2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Contact:
Nathaniel Amann- ADM Oil and Gas Division Government
Blake Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Deep Well Royalty Credit

Revised:

Issue: Current Status of the Deep Well Royalty Credit Program.

Response:

- The Deep Well Royalty Credit Program provides a credit to each well that meets the criteria of a “Deep Well”. This credit is meant to compensate producers for the Crown’s share of drilling completion costs for drilling qualifying wells. These credits can be used to offset a portion of the royalty owed to government on production from the specific qualifying well.
- Deep well credits are **not** money owed or paid by the government to oil and gas producers – they can only be used to reduce royalties when production occurs and oil and gas companies owe royalties to the Crown.
- In 2020/21, all new wells drilled in British Columbia (BC) qualified for the program, while the 5-year average (2016/17-2020/21) was 95 percent of new wells each year.
- Total deep well credits outstanding were \$3.2 billion at the end of the 2020/21 fiscal year.
- Advice/Recommendations ;
;
- The Province is undertaking a review to ensure that the royalty system supports the achievement of government’s goals for economic development, fair return on the resource and environmental protection. This includes looking at the potential end of the deep well program.

Background/Status:

- This program provides royalty credits to companies when they drill deep wells. The credits cover a portion of the drilling and completion costs for these wells and can be used to reduce the royalties payable for a producing well.
- The Deep Well Royalty Credit Program covers two tiers of wells:
 - Tier 1 wells are shallower (less than 1,900m in vertical depth) with long horizontal segments.
 - Royalty credits range from \$445,000 to \$2.81 million, depending on the well characteristics (vertical depth and horizontal length)

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Deep well credits for Tier 1 wells are subject to a 6 percent minimum to ensure the Province receives some base royalty for the resource extraction.
- Tier 2 targets deeper wells than Tier 1 and offers a higher maximum royalty credit.
 - Royalty credits available to Tier 2 deep wells vary based on the location of the well (whether it is “east” or “west”) and the concentration of Hydrogen Sulfide (H₂S) in the gas produced from the well (identifies the well as either “sweet” or “sour”).
 - Tier 2 royalty credits available could be as high as \$4.72 million (for horizontal sour wells located within the west) with a 3 percent minimum to ensure the Province receives some base royalty for the resource extraction.
- In 2020/21, all of the 374 wells spud received a Deep Well Royalty Credit, compared to the 5-year participation average (2016/17-2020/21) of 95%.
- Technological advances have reduced cost for deep wells and increased certainty made it possible for wells to be drilled

Attachment: **Appendix 1** – Deep Credits Associated with Wells Drilled from 2013/14 to 2020/21, Related Revenue, Prices and the Associated Capital Expenditure by the Oil and Gas Industry in BC.
Appendix 2 – Deep well credit bank additions and deductions over time.

Cross Reference: Royalty Programs and Mandate Letter Commitment to Review Deep Well Royalty Credit

Contact:
Nathaniel Amann- ADM Oil and Gas Division Government
Blake Financial
Information

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 1:

Deep Credits Associated with Wells Drilled from 2013/14 to 2020/21, Related Revenue, Prices and the Associated Capital Expenditure by the Oil and Gas Industry in BC

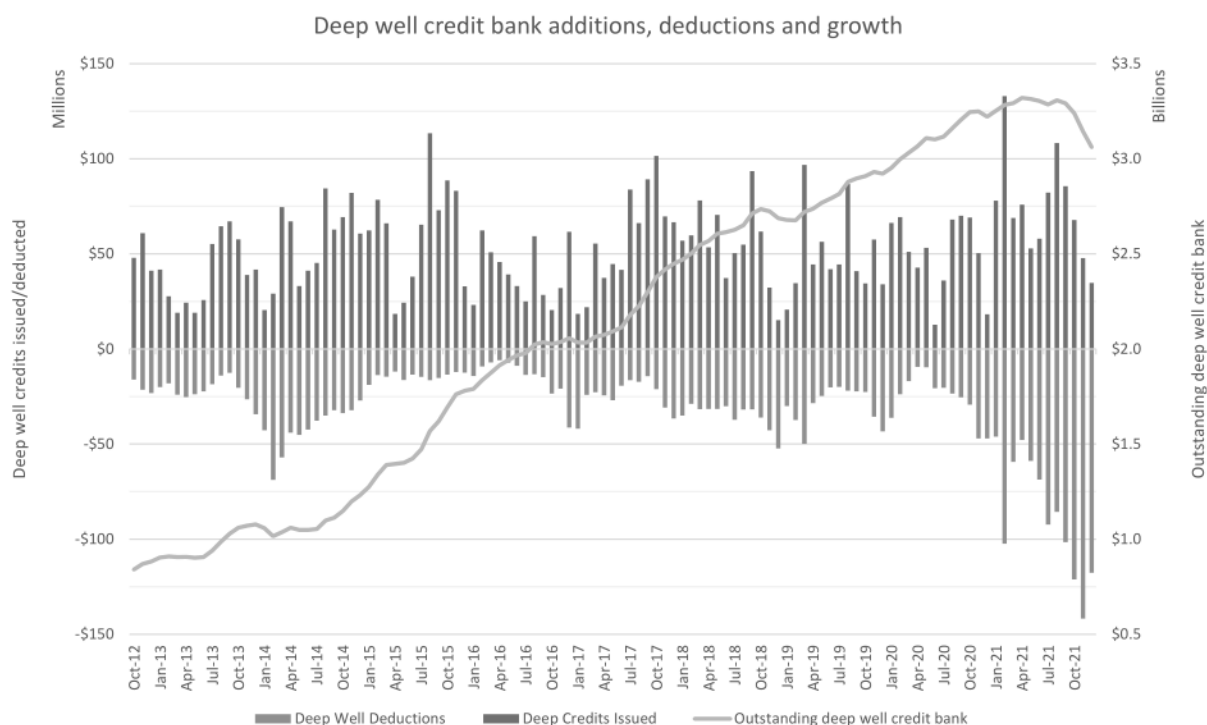
Fiscal Year	Deep wells spud [#]	Total deep well credits awarded [\$ millions]	Remaining deep well credits [\$ millions]	Net royalty [\$ millions]	Tender bonuses [\$ millions]	Capital expenditures [\$ millions]	Natural gas price [C\$/GJ]	Oil and condensate price [US\$/bbl]
2013/14	397	639.4	307.4	442.9	284.5	5,742.8	2.57	99.01
2014/15	593	873.9	503.7	484.6	398.2	7,311.2	2.49	80.71
2015/16	376	574.1	316.1	130.3	75.4	4,943.6	1.18	44.85
2016/17	347	495.3	180.1	146.0	117.2	2,709.0	1.19	47.79
2017/18	476	702.0	261.0	153.4	182.4	4,011.5	0.98	53.66
2018/19	412	656.5	248.7	193.4	102.9	3,884.2	0.88	62.92
2019/20	315	539.8	231.1	119.1	61.0	3,741.3	0.63	54.72
2020/21	374	686.6	346.0	200.9	44.3	1,908.5	1.24	42.25

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 2:

Deep well credit allocations (additions) and deductions over time.



The outstanding deep well credit bank is only an estimate of the amount of deep well credits available for future deductions of royalties owed to the Province. It considers only active, producing wells. The *total* outstanding deep well credit bank is slightly higher (just above 10%), Advice/Recommendations
 Advice/Recommendations

Higher deductions (due to commodity price increases) and lower additions (due to the Covid-19 pandemic and the Yahey court decision) is the driver behind the recent decline in the deep well credit bank.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Royalty Revenues - Confidentiality of Royalty Information

Revised:

Issue: Release of oil and natural gas royalty information is restricted by confidentiality provisions in the Petroleum and Natural Gas Act.

Response:

- Information related to royalty payments and administration in the Ministry of Energy, Mines and Low Carbon Innovation's (EMLI's) custody is treated as confidential and cannot be disclosed to any other third party, including other federal or provincial departments, ministries, or agencies unless authorized by law.
- Public disclosure of aggregate royalty revenue and credit information is available in the public accounts following each fiscal year. Public disclosure of royalty program information is provided in an annual Performance Measures Report conducted by EMLI.
- Broader public disclosure of aggregate royalty revenue and credit information has supported an independent assessment of the royalty system and the release of a publicly available discussion paper on royalty system modernization in late 2021.
- The issue of public transparency of oil and gas royalties is being considered through the ongoing oil and gas royalty review.
- For any detailed questions about the confidentiality of royalty data, I refer you to the Minister of Finance.

Background/Status:

- Parts 10 and 11 of the Petroleum and Natural Gas Act (PNGA) and the Petroleum and Natural Gas Royalty and Freehold Production Tax Regulation ("Royalty Regulation") establish the rules for royalties and freehold production taxes on oil and natural gas production in British Columbia.
- Producers of oil and gas and processing facility operators are required to provide information to the Ministry of Finance (FIN) and EMLI as prescribed under the Royalty Regulation. EMLI uses the information to calculate natural gas reference prices that underpin the Province's royalty system and FIN uses the information to calculate royalties and taxes owed to the province.
- Section 122.1(a) of the PNGA permits FIN to use and disclose PNGA Information to EMLI for the purposes of administering or enforcing the PNGA or its

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

regulations, another royalty or taxation enactment or to the BC Oil and Gas Commission for the Oil and Gas Activities Act. Information sharing agreements are in place in accordance with government policy.

- The Government is bound by confidentiality provisions in the PNGA. As specified by Law, it must not disclose the information or records to any other person except in situations authorized in Section 122.1 of the PNGA.
- In previous Estimates debates, past Ministers of Finance and the Minister of Energy, Mines and Low Carbon Innovation have stated that royalty information is treated like personal tax information.

Contact:

Nathaniel Amann-Blake	ADM	Oil and Gas Division	Government
-----------------------	-----	----------------------	------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Gasoline Prices

Drafted: March 22, 2022

Issue: An update on gasoline prices in British Columbia.

Response:

- British Columbia (BC) has experienced a significant increase in fuel prices over the past several months and according to the BC Utilities Commission – in their role as the Administrator of the Fuel Price Transparency Act – the most recent increases correlate to changes in crude prices, which is being driven by world energy markets that are currently impacted by the conflict in Ukraine.
- In response to high gasoline prices observed in 2019 the Province enacted the Fuel Price Transparency Act, a tool that supports a competitive market for gasoline and diesel by collecting information from companies selling fuel in the province and publishing information to support competitiveness.
- It supports transparency and allows the identification of egregious behavior and unjustified mark ups.
- In addition to gathering data directly from retailers and wholesalers, the BCUC has initiated data collection projects in response to public requests about fuel prices in select BC cities. Each of these projects can be found on the gaspricesbc.ca website.

Background/Status:

- According to the BC Utilities Commission (in their role as the Administrator of the Fuel Price Transparency Act) gasoline prices across British Columbia reached a new peak on March 10, 2022. Vancouver recorded the highest prices in the province at \$2.14 per litre, with Victoria (\$2.08/litre) and Abbotsford (\$2.07/litre) also eclipsing \$2/litre.
- Gasoline's retail price at the pump consists of the following major components:
 - Crude oil price: according to data published by the BC Utilities Commission (data originally collected and published by Kalibrate), crude oil accounted for nearly 70 cents/litre of the price at the pump in February (see Table 1 below).
 - Refining Margin: This is the cost associated with processing the crude oil into gasoline. This also includes the cost to transport the crude oil to refineries. In February, the refining portion of regular gasoline in Vancouver averaged 44 cents/litre.
 - Marketing Margin: This is the cost associated with selling the gasoline to consumers at the local station. This also includes the cost to transport

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

gasoline from refineries to gas stations. In February the refining portion of regular gasoline in Vancouver averaged 8.2 cents/litre.

- Taxes: These are paid to provincial, federal, and sometimes municipal governments. These are either fixed taxes (such as an excise tax or provincial fuel taxes) or sales taxes. In British Columbia, Vancouver and Victoria have lower provincial fuel taxes compared to the rest of the province but have a special levy to fund transit. In February the taxes portion of regular gasoline in Vancouver averaged 55.4 cents/litre.
- According to the BCUC's website (gaspricesbc.ca), British Columbia has had some of the highest gasoline prices to date in 2022.

Table 1 - Average Gasoline Prices in Canada by City (2022)

City / Area	Crude Price	Wholesale Margin	Retail Margin	Taxes	Total Price
Canada (avg)	73.2	28.3	8.5	49.7	159.3
Halifax	77.9	19.2	10.9	45.6	154.0
Charlottetown	77.9	21.3	10.3	45.3	154.9
Quebec City	77.9	28.0	7.8	50.6	164.3
Montreal	77.9	28.0	6.8	53.9	166.6
Ottawa	72.4	24.6	6.8	51.4	155.3
Toronto	72.4	25.2	7.6	51.6	156.9
Winnipeg	68.4	30.1	10.3	39.9	148.6
Regina	68.4	28.1	10.5	40.9	147.8
Edmonton	68.2	26.4	9.6	38.6	142.9
Calgary	68.2	28.9	11.0	38.8	146.8
Yellowknife	68.2	26.4	26.8	37.1	158.4
Whitehorse	68.2	48.0	15.0	32.9	164.1
Fort St. John	68.2	41.9	0.8	41.8	152.6
Prince George	68.2	41.9	7.7	42.1	159.8
Kamloops	68.2	43.6	8.4	42.2	162.3
Kelowna	68.2	43.6	8.0	42.2	161.9
Abbotsford	68.2	48.0	10.1	42.5	168.8
Vancouver	68.2	48.0	8.1	55.5	179.8
Victoria	68.2	49.8	8.2	48.3	174.5

- Final prices at the pump are set by either a retail fuel marketer (an individual or company that sells or consigns fuel to individual retail stations) or are established

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

by the franchisee or independent retailer who has purchased the fuel from a retail fuel marketer. BC's retail fuel market is comprised of roughly 54% marketer-controlled and 46% dealer-controlled retail stations.

Fuel Price Transparency Act (FPTA):

- The Final Report of the BCUC Inquiry into Gasoline and Diesel Prices in BC included findings that there was an oligopoly in the wholesale fuel market that displayed characteristics of a natural monopoly. The report also identified a price premium of approximately \$0.13 per litre on gasoline sold in southern BC that the BCUC could not explain based on the information available.
- In response to this report, the FPTA was enacted in November 2019 to enable the collection of information that could be used to inform future policy decisions, to improve competition in the market, and to increase transparency - thereby promoting competition in the market and public confidence in the competitiveness of the market.
- The FPTA was brought into force on March 9, 2020. On that date, the BCUC was designated to administer the FPTA. As the Administrator, the BCUC is responsible for the collection and publication of information under the FPTA.

Government of Alberta's Response to High Fuel Prices:

- On March 7, 2022, the Province of Alberta announced that they will stop the collection of the provincial fuel tax. Currently, Albertans pay 13 cents per litre in fuel tax, and starting April 1 this will be reduced to zero. As Goods and Services Tax (GST) is also paid on provincial fuel taxes, the 13-cent reduction will also reduce the GST paid by 0.65 cents per litre.
- The government of Alberta will review the collection of the fuel tax on a quarterly basis and, if required consider reinstating collection in stages, based on the average price of oil over several weeks.
- To date, no other province has announced any similar changes to motor fuel taxes.

Taxes Paid at the Pump

- Gasoline and diesel prices have increased across Canada and have put an increased focus on the amount of taxes paid at the pump.

Table 2 - Gasoline Taxes Paid at the Pump by Province (cents per litre)

	Excise Tax	Fuel Taxes	Carbon Levies	Total Pre-Sales Tax	Sales Tax(s)
Newfoundland and Labrador	10.00	14.50	6.63	31.13	15%
Prince Edward Island	10.00	8.47	6.63	25.10	14%

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

	Excise Tax	Fuel Taxes	Carbon Levies	Total Pre-Sales Tax	Sales Tax(s)
Nova Scotia	10.00	15.50	1.10 ¹	26.60	15%
New Brunswick	10.00	10.87	8.84	29.71	15%
Quebec – Montreal	10.00	22.20	5.66 ²	37.86	14.975%
Quebec – RAGIM ³	10.00	15.55	5.66 ²	31.21	14.975%
Quebec – Rest of province	10.00	19.20	5.66 ²	34.86	14.975%
Ontario	10.00	14.70	8.84	33.54	13%
Manitoba	10.00	14.00	8.84	32.84	0% ⁴
Saskatchewan	10.00	15.00	8.84	33.84	5%
Alberta	10.00	13.00	8.84	31.84	5%
Alberta (Starting April 1, 2022)	10.00	0	8.84	18.84	5%
British Columbia – Vancouver	10.00	27.00	9.96	46.96	5%
British Columbia – Victoria Area	10.00	20.00	9.96	39.96	5%
British Columbia – Rest of province	10.00	14.50	9.96	34.46	5%
Yukon	10.00	6.20	8.84	25.04	5%
Northwest Territories	10.00	10.70 ⁵	9.40	30.10	5%
Nunavut	10.00	6.40	8.84	25.24	5%

¹ Nova Scotia has a cap-and-trade system in place. The figure in the table is a modeled estimate by the Government of Nova Scotia.

² Quebec has a cap-and-trade system in place. The figure in the table is an estimated costs based solely on the sale price of emission units from the previous year. Many factors can influence the carbon cost of Quebec fuels, including changes in the market price of units and the timing of the purchase of emission units.

³ Quebec provides reduced rates in designated regions bordering on Ontario or New Brunswick.

⁴ Manitoba's PST does not apply to gasoline or diesel fuel

⁵ In the NWT, gasoline is taxed at 6.4 cents per litre in communities not served by a highway system

Cross Reference: Fuel Price Transparency Act Implementation Progress

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Fuel Price Transparency Act Implementation Progress

Drafted: March 22, 2022

Issue: Fuel Price Transparency Act progress update.

Response:

- The *Fuel Price Transparency Act* (FPTA) is a priority for the Government, and its full implementation is a part of this Ministry's mandate.
- The FPTA is meant to be a tool that supports a competitive market for gasoline and diesel by collecting information from companies selling fuel in the province and publishing information to support competitiveness.
- It supports transparency and allows the identification of egregious behavior and unjustified mark ups.
- Since April 2020, the British Columbia Utilities Commission (BCUC), in its role as the Administrator of the FPTA, has been providing the public with information about what factors are influencing prices through its GasPricesBC.ca website.
- Since November 2020, mandatory reporting requirements for the wholesale gasoline and diesel market have been in place, with regular reports being submitted to the BCUC ever since.
- In January 2022 BCUC finalized its Confidentiality Framework that outlines the types of data that would be held confidential by the BCUC, as well as the tools the BCUC can use to publish the information it receives. This framework balances the competitiveness goals of the FPTA and the commercial interests of the companies that supply fuel in the province.
- The BCUC has completed the Retail Pilot project and has submitted its final recommendations that will help to guide any future regulations for ongoing data collection targeted at the retail component of the fuel supply chain in British Columbia (BC).

Background/Status:

- The Final Report of the BCUC Inquiry into Gasoline and Diesel Prices in BC included findings that there was an oligopoly in the wholesale fuel market that displayed characteristics of a natural monopoly. The report also identified a price premium of approximately \$0.13 per litre on gasoline sold in southern BC that the BCUC could not explain based on the information available.
- In response to this report, the FPTA was enacted in November 2019 to enable the collection of information that could be used to inform future policy decisions, to improve competition in the market, and to increase transparency - thereby

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

promoting competition in the market and public confidence in the competitiveness of the market.

- The FPTA was brought into force on March 9, 2020. On that date, the BCUC was designated to administer the FPTA. As the Administrator, the BCUC is responsible for the collection and publication of information under the FPTA.

Wholesale Reporting:

- In August 2020 an Order in Council (OIC) was approved to establish new mandatory reporting requirements for the fuel wholesale market, one of the primary drivers of prices at the retail pump. The regulation stipulates requirements for organizations that import, purchase, store and distribute gasoline and diesel products in the fuel wholesale market, intended for sale at retail gas stations in BC, to periodically submit fuel data to the BCUC. The reporting requirement under the regulation came into force on November 1, 2020.

Retail Data Collection Pilot:

- On March 31, 2022, the BCUC issued its Final Report summarizing the results of the pilot that took place from November 2020 to November 2021. The Report, similar to a Draft Report that was issued earlier in the year, explained the BCUC's approach to carrying out the pilot, examined the costs and benefits of collecting fuel data from retail stations, and outlined the key takeaways from this analysis. It also provided recommendations to the BC government on what retail fuel data should be collected, who should have to report retail fuel data, and how frequently retail data should be reported.
- To obtain feedback on the findings of this Pilot, the BCUC hosted three online public workshops, circulated a public survey, encouraged the public to submit letters of comments, and engaged in outreach calls to selected retail pilot participants. The feedback received was incorporated in the BCUC's Final Report.
- Based on the results of the Retail Pilot the BCUC's final recommendations to the Minister are:

Retail Purchase Data

- Enhancing the wholesale reporting requirements in the *Fuel Price Transparency Regulation* to require wholesale fuel marketers to submit to the BCUC, on a monthly basis, information on the price and volume of fuel they supply to each of their retail station customers and where this fuel is sourced.
- Not requiring retail stations to regularly report data on their fuel purchasing activities to the BCUC.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Retail Market Characteristics

- Requiring all retail dealers in the province to complete a simple survey each year on general retail station information including among other things, pump services, site amenities, and ownership structure for each retail station under their control.

Retail Sales Data

- Combining data from wholesalers (retail shipments), third-party data service providers, and other publicly available sources with data collected from retail dealers in an annual survey.
- Implementing a strategic and customizable approach to retail fuel data reporting, focusing on market aspects that are not explained by wholesaler and publicly available information.
- Gathering input from industry participants to ensure additional reporting requirements are consistent with common industry standards.

Who Should Report

- Requiring “retail dealers” to report fuel data to the BCUC.
 - Aligning the definition of retail dealer in any future retail regulations with the definition used in the existing Regulation.
 - Exempting fuel types from reporting that are exempt under BC’s *Motor Fuel Tax Act* and *Carbon Tax Act*.
 - That the provincial government engage with Indigenous communities and their governments to work collaboratively on developing reporting requirements for Indigenous-owned retail stations and retail stations located on Indigenous lands.
 - Allowing the BCUC flexibility to determine who should report if no specific exemptions or exclusions are prescribed in regulation.
- With the Final Report and recommendations now in place, the Ministry is undertaking a review and determining an appropriate course of action.

Administrative Penalties:

- On November 1, 2021, the Province introduced the Administrative Penalties (Fuel Price Transparency Act) Regulation.
- This Regulation supports the BCUC with collection of fuel data by deterring non-compliance with requirements under the FPTA and its regulations

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Confidential Information Framework:

- On January 20, 2022 the BCUC issued its final framework to determine the treatment and confidentiality of fuel data that companies submit to the BCUC under the FPTA. The BCUC developed the Framework following an open and transparent public review process that included input from the public and those in the fuel industry.
- The Confidentiality Framework provides for efficient and consistent treatment of fuel data that is submitted by numerous industry participants on an ongoing basis. In addition, it sets out a process the BCUC can follow to aggregate or anonymize otherwise confidential fuel data so that it can be shared publicly on GasPricesBC.ca.

Budget:

- In Fiscal 20/21, the BCUC invoiced the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) for approximately \$830,000 to cover the cost of their work as the Administrator of the FPTA.
- Through the first three quarters of Fiscal 21/22 the BCUC has invoiced EMLI approximately \$554,000 to cover the cost of their work as the Administrator.

Next Steps:

- The BCUC's final report on the Retail Pilot was delivered to the Minister of Energy, Mines and Low Carbon Innovation on March 31, 2022. This report will serve as the foundation for any regulations for reporting of fuel data by the retail sector that EMLI might look to bring forward.
- Any Regulations for Retail Reporting brought forward could be the final piece to completing the full implementation of the FPTA.
- Following a full year of reporting by both the Wholesale and Retail sectors (combined), EMLI along with the BCUC could consider undertaking a review to ensure that the intentions of the Act are being fully realized.

Cross Reference: Gasoline Prices

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Global Oil Prices

Revised: March 22, 2022

Issue: Global oil prices; current status, projections, and impact on royalty revenues.

Response:

- While BC primarily produces natural gas, natural gas by-products are also an important source of government revenue . These by-products have benefited significantly from high oil prices, with prices for many of these by-products rising by more than 100 percent in 2021.
- The average global oil prices jumped by 83 percent in 2021 as global oil demand recovered faster than global production
- In recent weeks oil prices have been further boosted by the geopolitical crisis in Europe, with supply disruptions from Russia affecting the entire global oil supply chain.
- Many market analysts predict that global oil prices will stay elevated as global production recovers slowly and as geopolitical risks remain high.
- Provincial natural gas royalties (including natural gas by-products royalties) have increased alongside commodity prices, and will continue to benefit from high oil prices.
- Global oil prices, which are responsible for the volatility to gasoline and diesel prices, are negatively impacting BC residents pushing prices in BC at the pumps to historic highs.

Background/Status:

- Global oil prices have jumped significantly over the last year. According to Sproule energy consultancy, the benchmark North American price index WTI surged to average nearly \$110.0 per barrel in February 2022, up from about \$60 at the same period in 2021 - an 83 percent increase year over year.
- The rise in oil prices has been driven by global demand and supply imbalances. While global demand has been recovering strongly following the loosening of many COVID 19 restrictions, including travel restrictions, global supply was slow to respond. According to a February 2022 report from the Organization of Petroleum Exporting Countries (OPEC), the average global oil demand rose to 96.7 million barrels a day (mbd) in 2021, from 91.0 mbd in 2020. Meanwhile, global oil supply increased to only 95.0 mbd in 2021, from 93.7 mbd in 2020. In recent months global oil demand has climbed to pre-pandemic levels of nearly 100.0 mbd. Yet,

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

global production led by OPEC+ countries (including Russia) still remains below the 2019 levels.

- Non-OPEC producers, including American and Canada, also have been slow to boost their production, following massive cuts in output capacity and investment in previous years, in response to low oil prices and uncertainties about future demand.
- In recent weeks oil prices have been further boosted by the geopolitical crisis related to Russia's invasion of Ukraine. According to the Financial Times, the price of WTI oil surged to more than \$120 a barrel in March 2022, which is the highest level recorded since 2012. Market participants have been quoted as stating that the suite of sanctions applied against Russia may disrupt the entire global oil supply chain as Russia is the second largest oil exporter in the world.
- Given the ongoing geopolitical crisis and the slow pace of production recovery (major OPEC producers have indicated that they are not keen (and potentially not able) to boost production much above the previously agreed levels in response to the current geopolitical crisis), many market analysts expect that global oil prices will remain elevated at least for the remainder of this year.
- Advice/Recommendations
Advice/Recommendations
Advice/Recommendations According to Sproule energy consultancy, in 2021 the average price of natural gas by-products, such as propane (up 166 percent), butane (up 136 percent) and condensate (up 72 percent), recorded significant price increases relative to 2020. These by-products are now at their eight-year highs and are expected to continue in line with elevated oil prices.
- BC will continue to be impacted by high oil prices, not only in terms of increased royalty revenues, and also potential industry activity levels. The prospect of stronger oil and natural gas by-products prices may also stimulate capital investment in western Canada, in anticipation of higher cash flows from oil and gas activities in the region.
- High global oil prices, however, have negatively impacted BC residents through the rapid rise in gasoline and diesel prices in BC. With prices throughout British Columbia cresting \$2.00 per litre for gasoline and diesel recently, roughly 50 cents higher than when the year started, this is costing consumers nearly \$10 million more per day to fill up their tanks.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Cross Reference: Royalty Revenues, Gasoline Prices, Fuel Price Transparency Act Implementation

Contact:
Nathaniel Amann- ADM Oil and Gas Division Government
Blake Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Government's Four Conditions for LNG

Revised: March 22, 2022

Issue: The Government's four conditions for LNG development and LNG Canada.

Response:

- The Province has established conditions that it requires any LNG projects to meet:
 - Proposals must include express guarantees of jobs and training opportunities for British Columbians;
 - Proposals must provide a fair return on our resource;
 - Proposals must respect and make partners of First Nations; and
 - Proposals must protect our air, land and water, including living up to our climate commitments.
- British Columbia (BC) is supportive of the development of Liquefied Natural Gas (LNG) that meet these conditions – including fitting within our climate plan.
- The conditions provide a road map for the successful development of an LNG project in BC.
- To date, LNG Canada has satisfied each of these conditions.

Background/Status:

- While the onus remains on individual projects to demonstrate how they have satisfied all four conditions, the Province has worked hard to establish a solid framework that will allow this to happen.
- Following LNG Canada's Final Investment Decision on October 1, 2018, the Premier stated that he was of the view that LNG Canada and the Coastal GasLink pipeline projects have met the four conditions:
 - On jobs and training:
 - LNG Canada is investing in building capacity and skills of British Columbians through targeted workforce development programs.
 - LNG Canada has committed to a hierarchy of hiring preferences: 1) hire local, 2) hire from British Columbia, 3) hire from Canada, and 4) if no appropriately skilled worker, apply for Temporary Foreign Workers.
 - Collectively, LNG Canada and Coastal GasLink will create up to 10,000 jobs during the construction of the export facility and

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

connecting pipeline. The LNG Canada project will require 350 to 450 jobs for operations, with the initial start-up and commissioning of the export facility scheduled for mid-decade.

- Both LNG Canada and Coastal GasLink are in their window of peak construction.
- Based on recent data (January 2022), LNG Canada had 4,348 workers on site in Kitimat. As of February 27th, 2022, there were 3,839 workers across the Coastal GasLink project.
- By the end of January 2022, LNG Canada awarded more than \$3.7b on project-related contracts with Indigenous companies, local companies and companies in BC and across Canada. This includes approximately \$2.9 billion to indigenous owned and local area business.
- On fair return on our resources:
 - The LNG Canada project is estimated to generate \$23 billion in public revenue over 40 years. This does not include any secondary multiplier effects from taxes on economic activity that results from workers and businesses spending their earnings in British Columbia.
 - Revenues will be from taxes, royalties and revenues flowing to BC Hydro.
- On partnering with First Nations:
 - LNG Canada has entered into agreements with the following impacted First Nations: Haisla, Kitselas, Gitga'at, Gixaala and Kitsumkalum.
 - Coastal GasLink has agreements with all 20 elected First Nations along the pipeline route.
 - In March 2022, TC Energy announced that it had signed option agreements to sell a 10 per cent equity interest in Coastal GasLink to the CGL First Nations Limited Partnership (CG FNLP) and the FN CGL Pipeline Limited Partnership. The opportunity was made available to all 20 Indigenous communities holding existing agreements with Coastal GasLink and is an important step on the path to true partnership through equity ownership in the Project.
 - Recently, Nadleh Whut'en and Frost Group, partnered with one of the leading pipeline construction companies, Macro Pipelines, to successfully compete for the updated prime contract in Section 5 of the Coastal GasLink project. This partnership is the second major Indigenous Joint Venture prime contractor responsible for pipeline

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

construction on the project – the other is Ledcor-Haisla Limited Partnership.

- On protecting air, land and water - including climate commitments:
 - LNG Canada's facility is expected to have the lowest greenhouse gas emissions intensity of any major LNG facility in the world. The resulting emissions from the project will be accommodated with emissions targets that were announced in Fall 2018.
 - Analysis by the Ministry of Environment and Climate Change Strategy found that the first phase of LNG Canada could increase emissions by up to 3.45 megatons per annum – including associated upstream emissions.
 - These emissions have already been factored into CleanBC.
 - Government is working closely with First Nations, local communities and industry to ensure benefits are being realized and that proponents continue to meet the conditions in their Environmental Assessment Certificate and permits.

Contact:

Nathaniel Amann-
Blake

ADM

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Upstream Investment and Competitiveness and ESG

Revised: March 21, 2022

Issue: The Province provides a competitive edge in Environmental, Social and Governance performance, and a financially challenging competitive environment for upstream investment.

Response:

- The natural gas industry is a global industry with over 50 producing jurisdictions in the world. British Columbia (BC) is the seventeenth largest-producing jurisdiction in the world and advantaged in its prolific natural gas resource in the liquids rich Montney formation.
- BC's government regulation and policy enables BC to retain strong Environmental, Social and Governance (ESG) performance relative to peers. Examples include methane regulation, health and safety standards, local hiring initiatives and commitments to reconciliation with Indigenous peoples.
- Recognition of BC's ESG performance in both domestic and international arenas will improve as the province works with external non-governmental organizations and investors to verify and report on our performance.
- The Royalty Review aims to keep BC a competitive jurisdiction to invest in while ensuring it achieves government's goals of economic development, fair return on the resource and environmental protection.

Background/Status:

Upstream Investment and Competitiveness

- Competitiveness is defined as the extent to which the business environment is conducive to attracting investment in the upstream natural gas sector.
- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) has been conducting bi-annual competitiveness assessments since 2001 that look at the province's competitive position versus Alberta. Starting in 2011, given the changes in production patterns brought about by tight and shale gas development, the competitiveness assessments changed the scope of comparison to assess additional North American formations.
- The most recent of these analyses was conducted as part of the royalty review. It evaluated and compared BC's market access, resource base, fiscal competitiveness, and climate policy to three other production basins and jurisdictions: Montney in Alberta, Permian in Texas and Marcellus in Pennsylvania. The study concluded that the Government of BC has established a

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

competitive policy and regulatory environment that balances positives such as the province's world-class resources with the geographic reality of being at the end of a pipeline to distant markets.

- Appendix 1 provides the BC upstream investment figures and percentages of BC investment as a share of total Canadian investment from 2004 to 2020 (source: Canadian Association of Petroleum Producers - CAPP).

Environmental, Social and Governance (ESG)

- It is becoming increasingly common for investors to consider both traditional economic factors as well as companies' ESG performance when making capital investment decisions. This investor type includes everything from small mutual funds to banks, and from private wealth funds to large public pension funds. Many of these entities have an explicit mandate to consider ESG factors for all investment decisions.
- By producing products using practices that are assessed as being responsible, BC may possess a competitive advantage over other jurisdictions. Negative factors in other jurisdictions include lower safety standards, issues with environmental protection, high greenhouse gas (GHG) emissions, or a lack of regulatory oversight.
- Specific initiatives are underway in the Ministry to explore how to share data pertaining to BC ESG performance with the public and interested investors. Work is also being done to explore the use third-party verifiers to evaluate and compare BC's performance to industry and voluntary standards.
- There are investors and consumers who value high ESG performance because they lower investment risk and indicate benefits to society and the environment.
- For industry participants, BC's solid ESG performance may lead to being a preferential supplier, differential prices, and the securing of niche markets with strict sourcing requirements.

Attachment: Appendix 1 – BC Oil and Gas Upstream Industry Capital Investment and % of Canadian Investment

Contact:

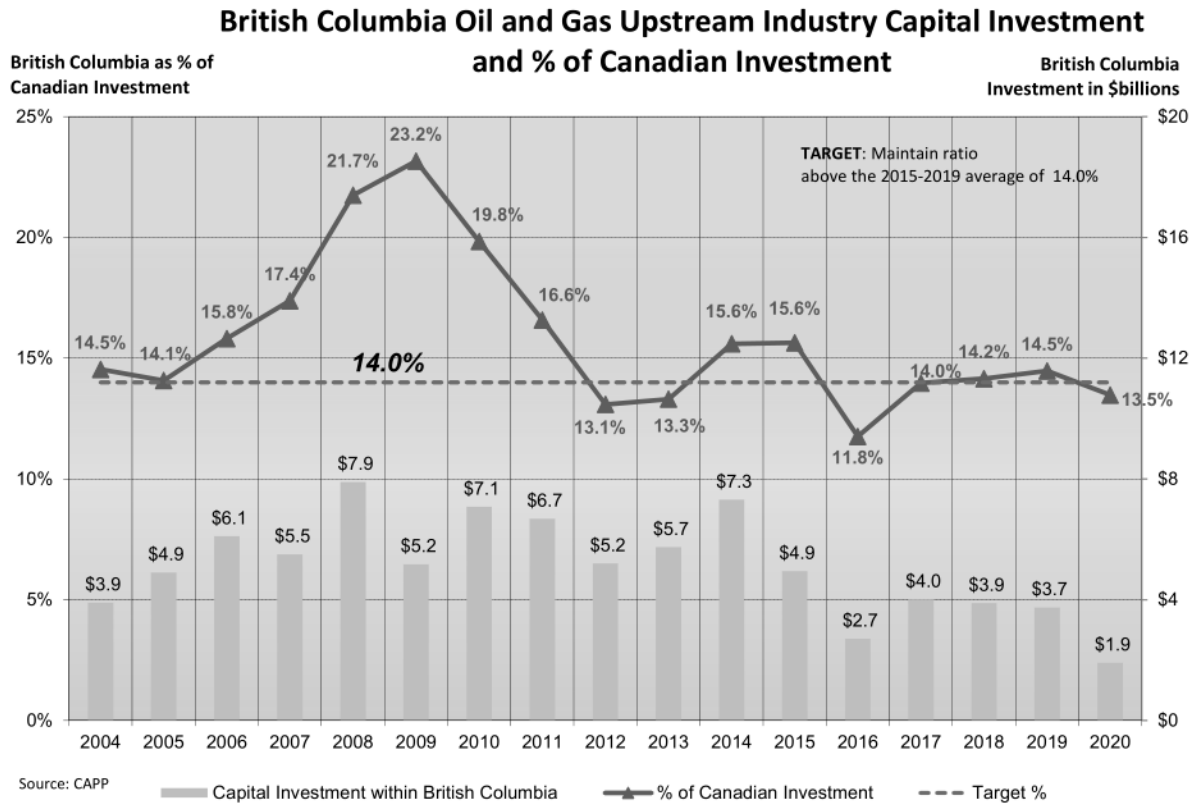
Nathaniel Amann-
Blake

ADM

Oil and Gas Division

Government
Financial

Appendix 1:



2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Long-term Production and Emission Outlook

Drafted: March 22, 2022

Summary: LNG drives long-term production and emissions forecasts.

Response:

- Gas production in British Columbia (BC) is forecast to grow from 6 billion cubic feet per day (bcf/d) in 2022/23 to 6.8 billion cubic feet per day by 2026/27.
- Drivers for this growth include domestic supply to accommodate for Liquefied Natural Gas (LNG) Canada Phase 1 and a shift in the balance of Canadian natural gas production to more heavily favour BC.
- Growth has been tempered due to the Yahey court decision, which curtailed the issuance of new drilling permits by the BC Oil and Gas Commission (Commission). Advice/Recommendations; Intergovernmental Communications Advice/Recommendations; Intergovernmental Communications
- In the short term, a forecasted reduction in activity levels does not translate to a reduction in production as there is an inventory of well permits already issued prior to the Yahey court decision.
- The challenge of reconciling this expected production growth with our emission targets is a key focus for government as increased production will lead to increased emissions. However, emissions intensity within BC has declined significantly within recent years.
- The Province is taking action through CleanBC's industrial incentive program and industry fund, upstream electrification, fugitive methane emission reduction regulations as well as ongoing work on supporting emission reduction technology.

Background/Status:

- Strong demand is the main driver behind the current production and emissions forecast.

Production Forecast:

- Current short-term budget forecast (to 2026/27) includes anticipated production for LNG Canada Phase 1 and Woodfibre LNG.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Advice/Recommendations

•

•

•

•

•

Emissions Forecast:

- Over the last nine years (2012-2020), Greenhouse Gas (GHG) emissions intensity of natural gas produced by the Province's oil and gas industry has declined 50 percent, even while overall production has been steadily increasing (Appendix 1).
- British Columbia's oil and gas sector has the lowest methane emissions and methane emission intensity in the world (Appendix 2). On January 1, 2020 Provincial methane regulations came into force for the sector, with the aim of reducing methane emissions by 45 percent (pre-2014) levels by 2025.
- The Commission is currently reviewing the efficiency and effectiveness of the 2020 methane reduction requirements/regulation (started January 2022).
- Given the Federal government's recent announcements around more stringent regulations and emissions targets, and the Province's commitments under the Equivalency Agreement with Canada, it is likely that BC will need to enhance its methane policy and regulatory framework to achieve additional emission reductions from the oil and gas sector by 2030.
- BC is the first province in Canada to establish legislated 2030 emission reductions targets for four industrial sectors, including a 33 to 38 percent reduction target, from the 2007 level, for the oil and gas sector.
- Based on emissions model simulations completed by the Climate Action Secretariat, climate target goals are plausible and achievable using a

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

combination of regulatory requirements, CleanBC programs, technology and innovation.

- The Province will review legislated sectoral targets by 2025, with the option of expanding the number of sectors included and narrowing the percentage ranges.
- Federally-mandated carbon tax escalation to \$170/tonne by 2030 is another government lever used to incentivize industry into GHG emissions reduction.

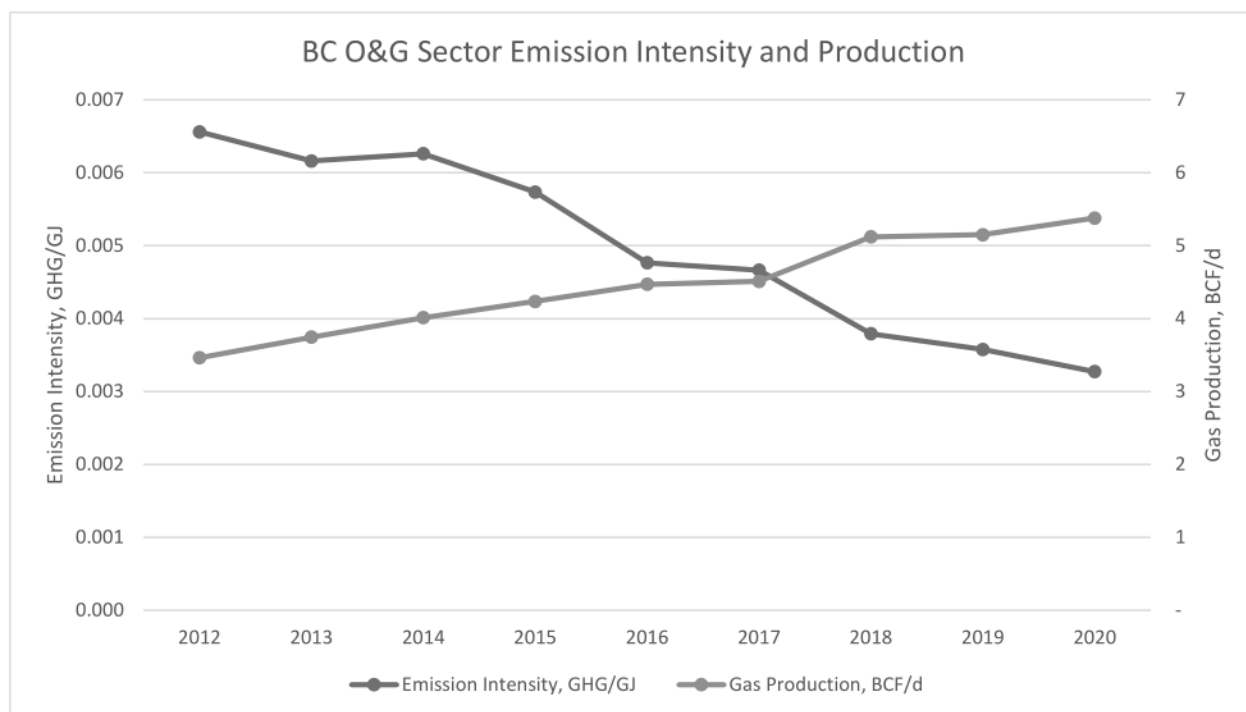
Attachments: Appendix 1 - BC Oil and Gas Sector GHG Emission Intensity and Production
Appendix 2 - Methane Emissions and Emission Intensity of Oil and Gas Producers (IEA, 2021)

Contact:
Nathaniel Amann- ADM Oil and Gas Division Government
Blake Financial

2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

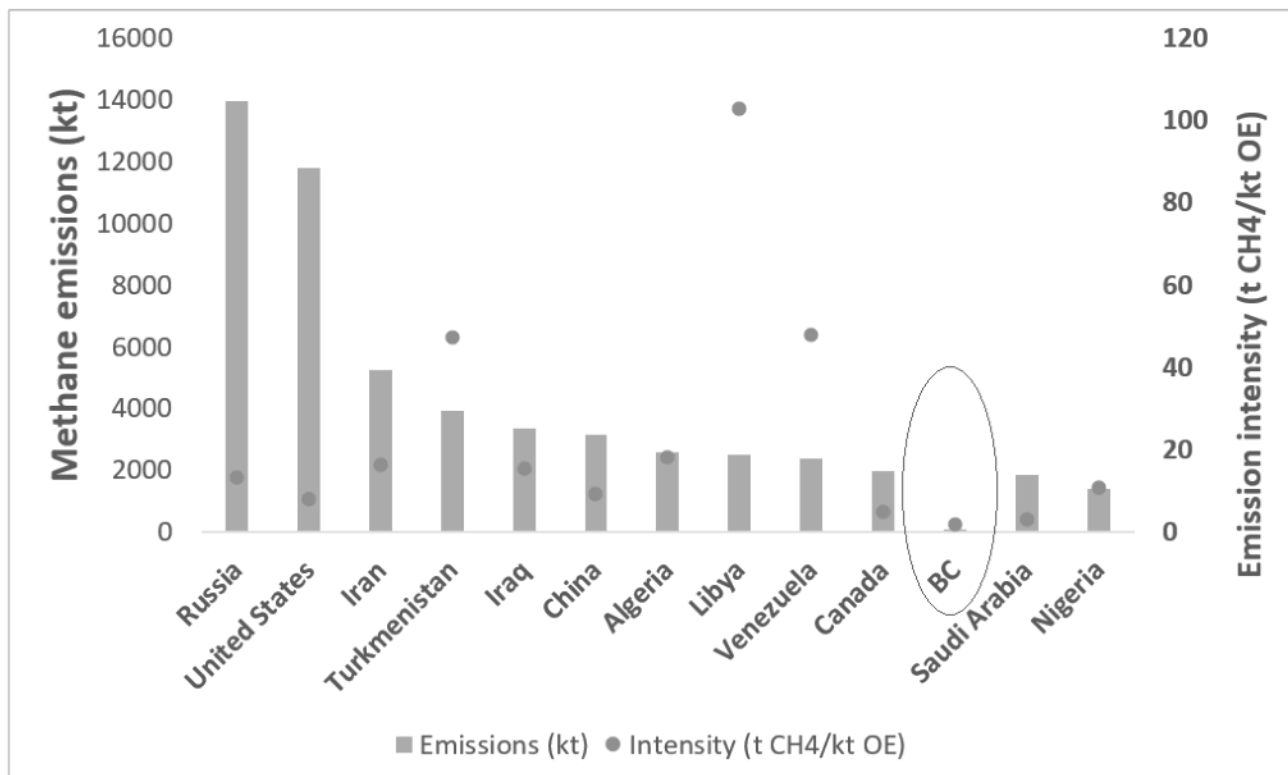
Appendix 1 – BC Oil and Gas Sector GHG Emission Intensity and Production



2021/22 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 2 – Methane Emissions and Emission Intensity of Oil and Gas Producers (IEA, 2021)



2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Questions on Subsidies to Oil and Gas Producers

Revised: March 17, 2022

Issue: Inefficient Fossil Fuel Subsidies

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) commissioned an Independent Assessment of British Columbia's (BC) existing royalty system in 2021.
- The Independent Assessment identified several inefficiencies in the current system where royalty reductions overlap with one another and reduce the Crown's share of the resource more than they should.
- The Ministry has accepted this assessment that current royalty programs are inefficient is taking steps to address this problem through the Royalty Review.
- The Royalty Review will ensure that BC's royalty policy supports the achievement of government's current goals for economic development, fair return on the resource and environmental protection.
- The results of the Royalty Review will be released this spring.

Background/Status:

- Subsidies, both in general and for the energy sector, are defined in a variety of ways in international agreements and by international organizations of which Canada is a member. A common element of these different definitions is that a subsidy provides an advantage.
- Subsidies can include tax expenditures, grants and contributions, government loans or loan guarantees at favourable rates, resources sold by government at below-market rates, research and development funding, and government intervention in markets to lower prices.
- Inefficient fossil fuel subsidies (IFFS) encourage wasteful consumption, undermine efforts to address climate change, and discourage investment in clean energy technology.
- The Federal Government of Canada is actively eliminating or rationalizing IFFS and developing a plan to phase out public financing of fossil fuel projects, aiming to have consistency applied across public policies and programs.
- The current oil and gas royalty structure has been in place for nearly 30 years and does not account for current technologies and drilling methods for oil and gas extraction.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The Independent Assessment commissioned by the Ministry of Energy, Mines and Low Carbon Innovation identified that the current royalty system in BC does not support or contribute to government or societal goals.
- The royalty framework for the natural gas industry was created to recognize the cost structure and revenue profiles of the industry. It was designed to balance revenues with growth and investment.
- The Ministry recognizes that current royalty credit programs no longer function as intended and have become inefficient.
- New rules for oil and gas royalties will be introduced that seek to eliminate these inefficiencies while striking a balance between economic development, a fair return to the Crown for the resource, and environmental protection.

Contact:

Nathaniel Amann-
Blake

ADM

Oil and Gas Division

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Methane Regulations and Federal Equivalency Agreement

Revised: March 22, 2022

Issue: Oil and Gas sector methane emissions management, implementation of provincial methane regulations and the federal equivalency agreement

Response:

- In December 2018, British Columbia (BC) amended the Drilling and Production Regulation, adding requirements to reduce methane emissions in line with the target established by the 2018 CleanBC strategy, which was set at 45 percent, below 2014, levels by 2025.
- BC's methane emission regulations came into force on January 1, 2020, and on April 15, 2020, BC concluded an equivalency agreement with the federal government.
- In October 2021, the Province strengthened its methane reduction commitments, through the release of the CleanBC Roadmap to 2030. The commitments include a 75 percent reduction target, below 2014 levels, by 2030 and, a near elimination target to be achieved by 2035.
- The Province continues to monitor and review the effectiveness of its methane regulations and a midpoint regulatory review is currently underway. This review, Advice/Recommendations, will evaluate the effectiveness and efficiency of the regulations, and allow BC to incorporate knowledge and experience gained to date.
- The review, combined with research being directed by BC's Methane Emissions Research Collaborative, will inform the development of potential regulatory amendments to ensure BC has world-leading methane regulations and technologies to support the detection and reduction of methane emissions from the oil and gas sector.
- BC also continues to monitor developments in the federal regulatory framework to ensure that it is prepared for any changes that may affect its commitments under the equivalency agreement with the federal government.

Background/Status:

- Under the *Canadian Environmental Protection Act*, provinces have the flexibility to design their own regulations in a manner that reflects provincial considerations, provided they can achieve an equivalent environmental outcome. Once equivalency is demonstrated, the federal methane regulations would not apply in BC.
- On December 17, 2018, BC Reg. 286/2018 amended the Drilling and Production Regulation (DPR) to add provisions related to methane detection, quantification, and

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

mitigation, aimed at reducing methane emissions by 45 percent by 2025, relative to 2014 levels.

- The provincial methane regulations set emission limits on the fugitive emissions and venting sources from BC's upstream oil and gas industry, which includes leak detection and repair, pneumatic devices, compressors, glycol dehydrators, storage tanks, and surface casing vents.
- In April 2020, BC concluded an equivalency agreement with the federal government, making the federal methane regulations inapplicable in the province. This allowed BC the flexibility to design its regulatory approach that recognizes the provincial context.
- In October 2021, the Province strengthened its methane emissions reduction commitments, through the release of the Roadmap to 2030. This included a 75 percent reduction target, below 2014 levels, by 2030 and a near elimination target set for all industrial sectors to be achieved by 2035. The Government of Canada has similarly established a 75 percent reduction target (below 2012 levels) for the oil and gas industry.
- In June 2021, a federal review of Canada's national approach to reducing oil and gas methane by 40-45 percent by 2025 relative to 2012 levels was launched.
- In December 2021, the federal government released a report, which concluded that Canada is on track to meet its 2025 target for methane reductions from the oil and gas sector. It also acknowledged that recent scientific studies indicate that methane emissions have historically been underestimated in Canada.
- A review of the provincial methane regulations is currently underway. This review, combined with research being directed by BC's Methane Emissions Research Collaborative, will inform the development of potential amendments to the DPR to ensure the provincial methane regulations are best in class.
- In spring 2022, the federal government expects to release a discussion paper to consult on Canada's new commitment to reducing oil and gas methane emissions by at least 75 percent by 2030 compared to 2012 levels. It intends to publish strengthened draft regulations for public comment by early 2023.
- The draft regulations being introduced by the federal government are unlikely to affect the existing equivalency agreement. The Province will work with the federal government to ensure it understands, and prepares for, any impacts to the next equivalency agreement. The current one is set to expire in 2025.

Contact:

Nathaniel
Amann-Blake

ADM

Oil and Gas
Division

Government
Financial
Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: CleanBC Roadmap to 2030

Drafted/Revised: March 22, 2022

Issue: Climate action and the oil and gas sector

Response:

- In October last year, our government released the CleanBC Roadmap to 2030 – our detailed plan to fully meet B.C.’s climate targets and set the province on the path to net-zero emissions by 2050.
- The Roadmap builds on actions already underway through CleanBC by doing more, faster, to create a vibrant resilient low carbon future and build a cleaner, stronger economy for everyone.
- The Roadmap includes commitments to reduce greenhouse gas (GHG) emissions produced by the oil and gas industry in line with its sectoral target of 33-38 percent reductions from 2007 levels by 2030.
- Roadmap commitments and actions, that support reducing oil and gas sector emissions, include:
 - Strengthened methane emissions targets – a 75 percent reduction target from 2014 levels by 2030 and near elimination of methane by 2035;
 - Requiring all new oil and gas facilities (including LNG facilities) to be net zero emissions by 2050;
 - Increasing the carbon tax to \$170/tonne by 2030 and promoting the electrification of upstream oil and gas production;
 - Creating an appropriate enabling environment to support key emissions reduction strategies such as carbon capture, use and storage and the production of low carbon hydrogen from natural gas; and
 - Establishing declining carbon intensity thresholds, over time, for hydrogen produced from natural gas to ensure that B.C. achieves its net zero emissions, by 2050, target.

Background/Status:

- On October 25, 2021, the Government released the CleanBC Roadmap to 2030 (Roadmap), which is a detailed plan that outlines how B.C. will meet its provincial and sector-specific emissions targets.
- The expanded climate actions in the Roadmap, accelerate the transition to a net-zero future, and ensure that B.C. meets its legislated GHG target of 40 percent below 2007 levels by 2030.
- The Roadmap includes several commitments aimed at reducing carbon and methane emissions produced by the upstream oil and gas industry.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Reduction and Elimination of Methane Emissions

- The Roadmap commits to a 75 percent emissions reduction target, from 2014 levels, by 2030 and near elimination by 2035. An emissions reduction target of 45 percent was established in the Province's precursor climate strategy, released in 2018.
- Given methane's high, short-term global warming potential, reducing and then eliminating methane provides the most expeditious opportunity to slow the rate of global warming, while B.C. works to decarbonize its energy systems.
- The methane emission regulations, a key policy instrument for achieving methane reductions came into force on January 1, 2020. Total expected reductions from these regulations are estimated to be 10.9 megatonnes of CO₂ equivalent over 10 years, which is akin to taking 390,000 cars off the road annually.
- A review of the provincial methane regulations is underway and is aimed at evaluating their effectiveness and efficiency as well as assessing whether any new knowledge or technological developments should be incorporated to ensure that they are world leading.

Increasing the Carbon Price and Promoting Electrification:

- Beginning in 2023, B.C.'s carbon tax will meet or exceed federal carbon price requirements, meaning that the tax rate will increase year over year until it reaches \$170/tonne by 2030. The current tax rate is \$45/tonne.
- A carbon pricing review is underway to assess the optimal tax design, which best supports provincial climate goals while minimizing impacts to household affordability and competitiveness.
- Work is also being advanced to reduce emissions in the oil and gas sector through the electrification of upstream oil and gas production.

Net-zero Industrial Facilities by 2050

- The Roadmap commits B.C. to a net zero future, which will be backed by legislation.
- As a result of its net zero pledge, the Province will be instituting a new requirement for all new industrial facilities, including oil and gas facilities, to have enforceable plans to achieve net-zero emissions by 2050.
- In addition to actions related to methane management and the promotion of electrification, the Province is also working to support other key emissions reduction strategies such as carbon capture, use and sequestration and low carbon hydrogen production from natural gas.
- To ensure that it achieves its net-zero goal, B.C. will establish declining carbon intensity thresholds, over time, for hydrogen produced from natural gas.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Canada Energy Regulator

Revised: March 22, 2022

Issue: Establishment of the Canada Energy Regulator and its evolving regulatory framework.

Response:

- In June 2019, Parliament passed Bill C-69, which replaced the *National Energy Board Act* with the *Canadian Energy Regulator Act*.
- Key themes in the *Canadian Energy Regulator Act* include: a modern governance structure; timely and predictable decisions; strengthened safety and environmental protection; greater Indigenous participation; and more inclusive public participation.
- On August 28, 2019, the National Energy Board became the Canada Energy Regulator. Regulations made under the *National Energy Board Act* remain in force under the *Canadian Energy Regulator Act* until they are repealed or others made in their stead.
- The Ministry's Oil and Gas Division monitors proposed natural gas pipeline projects under review by the Canada Energy Regulator and participates in hearings and regulatory initiatives where appropriate to support provincial interests.
- The Oil and Gas Division also monitors regulatory initiatives that may have an impact for the province and actively participates in related engagement processes.

Background/Status:

- Oil and natural gas pipeline systems are important to British Columbia (BC). Pipelines transport energy to service BC, Canada, the United States, and offshore markets.
- Pipelines that cross interprovincial or international borders, such as the Trans Mountain Expansion Project and the Enbridge BC Pipeline, are regulated by the Canada Energy Regulator (CER).
- BC monitors and, at times, registers as an intervenor with CER pipeline proposals that affect provincial access to energy markets.
- There remain concerns from industry and Alberta and Saskatchewan that energy projects, such as pipelines needing to go through the new CER approval process, may see:
 - Longer project reviews that are more costly to get approved, and

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Increased requirements from both the impact assessment and regulatory review which need to consider a broader range of factors.
- Regulations made under the former *National Energy Board Act* remain in force until they are repealed, or others made in their stead, as per the *Interpretation Act*. New regulations and updates to existing regulations are being implemented through a phased approach.
- The first set of regulatory updates were made in April 2020 and did not impact BC given that amendments were only made to certain names, terms and legislative references for consistency and alignment with the new CER Act.
- CER's Forward Regulatory Plan (2021-2023) outlines both regulatory updates and the development of new regulations covering a range of topics including administrative penalties, cost recovery, onshore pipelines, offshore energy production and agreements with Indigenous peoples. Two of these regulatory initiatives – amendments to the Onshore Pipeline Regulations and the development of the Ministerial Arrangements Regulations – are relevant to the Ministry of Energy, Mines and Low Carbon Innovation's (EMLI) Oil and Gas Division. The progress of these initiatives will be monitored by the Oil and Gas Division, which will likely participate in related consultations.
- CER has initiated a review of the Onshore Pipeline Regulations, CER's principal regulation for onshore pipelines. The review is part of CER's commitment to continual improvement of regulations that provide requirements for safety, security, and protection of the environment, and includes updates for alignment with the CER Act. Engagement on this initiative has commenced and the Oil and Gas Division expects to work with the BC Oil and Gas Commission to coordinate a response, Advice/Recommendations
- The Ministerial Arrangements Regulations are a feature of the CER Act that enable the Minister to enter into arrangements with Indigenous governing bodies for carrying out the purposes of the CER Act and may authorize any Indigenous governing body to conduct activities under the CER Act. An Indigenous governing body is defined in the CER Act as a council, government or other entity that is authorized to act on behalf of an Indigenous group, community or people that holds rights recognized and affirmed by section 35 of the *Constitution Act, 1982*. This regulatory initiative is in the early stages of development. Formal early engagement activities on this initiative have yet to occur.

Contact:

Nathaniel Amann-
Blake

ADM

Oil and Gas Division

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Hydraulic Fracturing and Responsible Resource Development

Revised: March 22, 2022

Issue: Responsible natural gas development

Response:

- British Columbians rely on natural gas and want to know that it is being responsibly developed in a way that does not harm our shared environment.
- An independent scientific panel reviewed the practice of hydraulic fracturing and British Columbia's (BC) associated regulatory regime to ensure that our natural gas development is safe and responsible.
- The Scientific Review of Hydraulic Fracturing report, released in February 2019, concluded that the regulatory regime appears robust, and it made no recommendations to curtail hydraulic fracturing.
- In response to the report, Government developed an Action Plan that directly responds to the recommendations of the report to advance improvements to regulatory and policy tools and processes, increase scientific research and baseline monitoring, and improve relations with the public and Indigenous peoples.
- Many actions to address the recommendations have already been completed through collaboration across government and with the BC Oil and Gas Commission, demonstrating our commitment to the protection of BC's environment.

Background/Status:

Panel Report on the Scientific Review of Hydraulic Fracturing

- In 2018, the provincial government (following up on an election platform commitment) commissioned an independent Scientific Review of Hydraulic Fracturing in BC to understand the role of hydraulic fracturing as it relates to impacts on water quantity and quality, induced seismicity and fugitive emissions.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The panel concluded that the current regulatory framework appears to be robust, and its recommendations focused mainly on regulatory enhancements and addressing knowledge gaps.

Response to Independent Review Panel Report

- In response, an Action Plan (internal, not publicly released) was developed by a cross-agency working group and submitted to the Minister in December 2019.
- The Action Plan directly responds to the scientific panel's recommendations by focusing on improvements to regulatory and policy tools and processes, increased scientific research and baseline monitoring, and improving relationships with the public and Indigenous peoples.

Progress to Date

- Progress has been made across all of the recommended action areas. Key actions include:
 - Initiating the Pilot Collaborative Water Monitoring Program in January 2020, aimed at collecting baseline water quantity and water quality data in the Peace River region. It is a partnership between the BC Oil and Gas Commission, Ministry of Energy, Mines and Low Carbon Innovation (EMLI), Geoscience BC and Shell and includes participation by Treaty 8 First Nations, which have co-selected the monitoring sites and will be bringing Indigenous knowledge and perspectives to the program. Program partners will be providing training in baseline water monitoring to local First Nations. The program is ongoing until March 2023.
 - Collaborating with University of BC's (UBC) Engineering and Environmental Research Initiative to study gas migration and regional hydrogeology.
 - Working with industry and the federal government, as part of the BC Seismic Research Consortium to improve seismic knowledge in Northeast BC.
 - Creating the Methane Emissions Research Collaborative to improve data accuracy and evaluate new technologies aimed at the detection and reduction of methane emissions.
 - Advancing a Regional Strategic Environmental Assessment with Treaty 8 First Nations for assessing cumulative impacts to surface water quality and quantity, moose, old growth forests, peaceful enjoyment, and environmental livelihood.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government Financial
Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Clean Growth Infrastructure Royalty Program

Revised: March 22, 2022

Issue: Summary of the current status of the Clean Growth Infrastructure Royalty Program.

Response:

- The Clean Growth Infrastructure Royalty Program (the Program) encourages new capital investment in oil and natural gas infrastructure.
- The Program creates and sustains good paying jobs for British Columbians and stimulates new royalty revenue while helping to achieve greenhouse gas and methane reduction targets.
- The Program was successfully run as a pilot in 2019 and then approved for funding through to 2022. The future of the Program in 2023 and beyond is subject to the current ongoing royalty review.
- The Province allocated up to \$150 million in royalty deductions to be competed for by industry in the 2022 Program across two categories of projects: Growth projects and Sustainability projects.
- Growth projects support jobs for British Columbians, upstream competitiveness and investment in rural communities and the province.
- Sustainability projects target greenhouse gas emission reductions through innovative infrastructure and increased electrification using clean British Columbia electricity.
- To date, the Program has approved a total of 87 projects, including 46 sustainability projects and 41 growth projects.
- These projects represent an estimated capital investment of \$1.1 billion, are expected to generate over 4,400 person years of employment, and contribute just over \$1 billion in new royalties paid to the Crown after 10 years.
- Total estimated emissions reductions for the sustainability projects are 938,200 tonnes carbon dioxide equivalent/year. This is equivalent to taking 335,000 vehicles off the road each year.
- Managing for cumulative effects is a high priority for the Province and the potential environmental and social impacts of a project are considered in the Program project evaluation process.

Background/Status:

- In early 2020, Treasury Board approved continuation of the Program for three years for \$150 million in royalty deductions annually.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The 2022 Program Request for Applications runs from March 8 – May 19, 2022.
- The Program is modeled on the previous Infrastructure Royalty Credit Program and Clean Infrastructure Royalty Credit Program, which provided royalty deductions for infrastructure projects related to electrification, emissions reductions, roads and pipelines.
- The Program also allows royalty deductions for value-added infrastructure projects.
- The Program targets reducing oil and gas sector greenhouse gas (GHG) emissions, fosters increased electrification using clean British Columbia electricity, and supports and grows jobs for British Columbians.
- To date, the program has approved a total of 87 projects under the 2019, 2020 and 2021 Program years, including 46 sustainability projects and 41 growth projects. These projects account for new electrification, pipeline and road infrastructure projects, and conserve freshwater resources and reduce greenhouse gas emissions, while increasing capital investments in northeast BC.
- These projects represent an estimated capital investment of \$1.1 billion, are expected to generate 4,417 person years of employment, and contribute just over \$1 billion in new royalties paid to the Crown after 10 years.
- For projects approved under the Program, applicants are required to fund the entire cost of an approved project and may receive royalty deductions for up to 50 percent of the project cost.
- All risks and costs in building an approved infrastructure project rest with the applicant.
- For growth projects, royalty deductions are released only when revenue neutrality is met – where net royalty revenue from new wells drilled due to the project exceeds the royalty deduction amount released.
- For sustainability projects, royalty deductions are released in two equal payments, half at completion of the project and half one year after completion.
- The Program is governed by the Petroleum and Natural Gas Royalty and Freehold Tax Regulation.
- Applicants applying to the 2022 RFA are advised that nothing in a Project Agreement made with the Province under the Program would authorize or should be construed as the authorization to conduct oil and gas activities that may require permits or other authorizations under applicable law.
- The Province is working with First Nations in the northeast to develop an approach for new authorizations that manages cumulative effects and their impacts on Indigenous people's treaty rights in northeast British Columbia.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial
Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Federally Funded Programs for Dormant, Orphan and Legacy Well Site Clean-up

Revised: March 22, 2022

Issue: Programs are creating jobs for British Columbians, stimulating the economy, and cleaning up the environment.

Response:

- British Columbia (BC) is taking action to accelerate the restoration of dormant/inactive, orphan and legacy oil and gas well sites with \$120 million of funding from the federal government.
- BC allocated the funding to three new programs: \$100 million to the Dormant Sites Reclamation Program (DSRP); \$15 million to the Orphan Sites Supplemental Reclamation Program (OSSRP); and \$5 million to the Legacy Sites Reclamation Program (LSRP).
- The Dormant Sites Reclamation Program (DSRP) was in May 2020 and received an overwhelming response.
- The DSRP included an on-line well site nomination process that provided the opportunity for Indigenous peoples, landowners and local governments to nominate sites to be considered for priority remediation.
- Work on approved projects from both increments is well underway and interim and final payments are being made to B.C. oil and gas field service companies as the restoration work is completed.
- In total, the DSRP has allocated funding for work to be completed at 2,462 unique dormant well sites.
- Under the OSSRP, all work activities have been completed for clean up on 120 orphan well sites as of December 31, 2021, utilizing the full \$15 million.
- Working in close collaboration with Treaty 8 First Nations a total of 11 projects to study and/or restore old seismic lines and legacy roads have been funded and initiated under the \$5 million Legacy Sites Reclamation Program.
- It is estimated that the three programs support up to 1,200 jobs for British Columbians.
- BC actively worked with Indigenous peoples and Indigenous-owned companies in the design and implementation of all three programs.

Background/Status:

- In April 2020, as a response to the economic challenges resulting from COVID-19, the Government of Canada announced a funding package designed to rapidly

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

increase employment in the oil and gas service sector while reducing the environmental footprint of the industry in relation to inactive and orphan well sites.

- BC allocated the \$120 million received from federal funds to three new programs: \$100 million to the DSRP; \$15 million to the Orphan Sites Supplemental Reclamation Program (OSSRP); and \$5 million to the Legacy Sites Reclamation Program (LSRP).
- Work under the programs must be completed by fall 2022 with funding dispersed by December 31, 2022, as per the agreement with the federal government.
- Funds not dispersed by the end of the term of the agreement must be returned to the federal government.

Dormant Sites Reclamation Program

- The DSRP offers opportunities for BC based oil and natural gas service sector contractors to apply for a financial contribution to undertake and complete work on the reclamation of dormant sites (i.e., wells that have been inactive for five consecutive years and are unlikely to be returned to service).
- The DSRP is providing some near-term relief to industry by offsetting a portion of eligible costs and ensuring that jobs are maintained in the BC oil and gas service sector while also allowing more rapid progress on the clean-up of dormant sites.
- The DSRP is offered in two increments of \$50 million to oil and gas field service contractors based in BC with registration, office, and operations in BC. Successful applicants are provided with up to \$100,000, or 50 percent of total costs, whichever is less, for dormant site clean-up projects.
- The DSRP included an on-line well site nomination process that provided the opportunity for Indigenous peoples, landowners and local governments to nominate sites to be considered for priority remediation. A total of 1,853 nominations were received on 1,464 dormant sites by 14 Indigenous Nations as well as communities and landowners. Most of the nominations were submitted by Indigenous Nations.
- Increment 2 accepted applications to complete work on dormant well sites from February 8, 2021 to March 8, 2021. Only work activities at nominated sites were eligible for the funding in the second funding increment of the DSRP. A total of 2,057 work activities at 715 dormant wellsites were approved for funding to 53 oil and gas field service contractors.
- As of February 16, 2022, approved applicants have received just over \$34 million in payments for well clean-up work performed under the DSRP.

Orphan Sites Supplemental Reclamation Program

- An orphan designation is given by the BC Oil and Gas Commission (the Commission) to wells and associated operating areas when the operator is insolvent or cannot be located. Orphan sites represent a financial and environmental liability directly to the province and are managed by the Commission.
- The federal terms for funding dictated that work must be incremental to that already planned by the Commission. The OSSRP supported supplemental work in fiscal 2020/21 and 2021/22 as per the Commission's Supplemental Orphan Work Plans.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- With approval of the Supplemental Orphan Work Plan by the Province, BC transferred \$15 million of the federal funds to the Commission to undertake the work. These funds were disbursed to oil and gas service companies and contractors retained by the Commission for reclamation work.
- The OSSRP also included the opportunity for Indigenous peoples, landowners and local governments to nominate orphan sites for restoration. A total of 81 out of 88 orphan well sites nominated were approved for work under the OSSRP.
- As of December 31, 2021, the Commission has expended all \$15 million of the federal funding on orphan clean-up work, and directly engaged a number of Indigenous owned companies in that work.

Legacy Sites Reclamation Program

- There are legacy disturbances in northeast BC associated with historic oil and gas development. These sites consist primarily of historic seismic cut lines. There are more than 70,000 kilometres of such features in northeast BC.
- A memorandum of understanding (MOU) has been completed between the Ministry of Energy, Mines and Low Carbon Innovation, the Commission, the Ministry of Forests, Lands and Natural Resource Operations and Rural Development, the Canadian Association of Petroleum Producers and the Explorers and Producers Association of Canada to provide funding and oversight for the reclamation of legacy sites. The MOU establishes a Restoration Management Committee (RMC), consisting of signatories to the MOU.
- The \$5 million of federal funds for the LSRP is being administered by the Oil and Gas Research and Innovation Society. This will augment the approximately \$1.5 million in existing funds dedicated to reclamation work under the MOU.
- Members of the RMC met with the Treaty 8 Restoration Advisory Committee in 2021. The Treaty 8 Restoration Advisory Committee is a forum set up by the Commission and has membership from all Treaty 8 First Nations.
- The Program Manager supporting the RMC held meetings with each Treaty 8 First Nation to discuss and design implementation details related to the LSRP.
- The results are 11 approved projects to First Nation proponents fully utilizing the allocated funding to study and/or restore old seismic lines and legacy roads.
- The partnerships with Treaty 8 communities have enabled reclamation work to be performed by Indigenous contractors within their traditional territories.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Sierra Yoyo Desan Road

Revised: March 22, 2022

Issue: Road maintenance contract.

Response:

- The Sierra Yoyo Desan (SYD) Road is a 180-kilometre-long road that is the primary corridor to over 27,000 square kilometres of oil and natural gas tenures and assets located east and north of Fort Nelson.
- The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) is responsible for the SYD Road under a 99-year lease of the road to the Ministry from the British Columbia Transportation Financing Authority (BCTFA) who owns the SYD Road.
- The SYD Concession Agreement (CA) that began in 2004 ended on September 30, 2020. It was replaced with a three-year maintenance contract, competed through a competitive procurement process, which began October 1, 2020.
- Oil and gas producers continue to fund road maintenance through the payment of road use fees as required under the Sierra Yoyo Desan Road System of Charges Order, approved by an Order in Council.
- Total annual maintenance costs in the first year of the new contract (October 1, 2020, to September 30, 2021) were \$3 million. This is a significant reduction from the approximately \$7 million per year under the CA. Much of this reduction was the result of ending availability payments for large, amortized, capital upgrades completed back in 2005.
- Given the lower level of revenue from road charges needed to meet annual maintenance costs, a 55% reduction in road use charges was approved on July 12, 2021. This new level of revenue has proven sufficient to fully meet road maintenance costs.
- SYD Road Users who pay the road use charges are all oil and gas producers using the SYD Road, and ministry staff actively works with them to provide them with the opportunity for input into road maintenance priorities.

Background/Status:

- The SYD Road provides the only year-round access for producers to active producing oil and gas operations, including over two dozen active gas plants, facilities and compressor sites, hundreds of kilometres of pipelines and over 1,600 producing natural gas wells.
- The SYD Road provides access to traditional territory for the Fort Nelson First Nation including numerous hunting and trapping sites and their cultural education centre located at kilometre 37 of the SYD Road.
- The BC Oil and Gas Commission (Commission) emphasizes that the road provides access to considerable orphan and dormant wells and is essential for necessary

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

abandonment and site remediation work by the Commission and industry.

- Dozens of Fort Nelson residents have jobs associated with the above natural gas operations in the area and use the SYD Road to go to work each day.
- The Ministry is responsible for the SYD Road from kilometre 8 located at the Fort Nelson airport to the end of the SYD Road at kilometre 188. This responsibility, which began in 2004, is charged under a 99-year lease of the road to the Ministry from the BCTFA who owns the SYD Road.
- The SYD Road was administered by the Ministry through a Public-Private Partnership (P3) Concession Agreement (CA) since 2004, with operations, maintenance and management (OMM) provided under a contract with a private sector company and funded by oil and gas producers who pay road use charges to the Province. The CA expired on September 30, 2020.
- Following a competitive procurement process using BC Bid, the CA was replaced with a shorter-term, three-year maintenance contract commencing on October 1, 2020.
- Ledcor Highways Ltd. was the successful applicant and has been providing effective road maintenance services.
- The SYD System of Charges remains in effect, and road use charges collected from oil and gas producers continue to fund all maintenance work on the SYD Road. To help share the burden for funding maintenance on the SYD Road, oil and gas royalty payors receive back 50 percent of road use charges in the form of a royalty deduction. This royalty deduction, which began in 1998 prior to the CA, continues to be a feature of the road charges arrangement with road users and has been accounted for as part of the Royalty Review to continue going forward.
- The annual value for the current contract, which the oil and gas industry pays through their road use charges, is \$2.65 million to \$3.5 million per year depending on road use volumes, summer moisture conditions and annual spring breakup conditions (all of which are variable) impact road condition. This is a reduction from approximately \$7 million per year during the CA, due to the change to a simpler maintenance contract and the end of availability payments for amortized capital upgrades completed under the CA.
- Given the lower level of revenue from road charges needed to meet annual maintenance costs, road use charges were reduced effective August 1, 2021, with an amendment to the System of Charges made through an Order in Council.
- The short-term three-year contract (which has an option to be extended to a fourth year) allows time to assess how the new contract is working and the ability of road users to continue to pay. It meets the Fort Nelson First Nation's strong desire that the Province continue to manage the road, and it also allows the Ministry to further re-evaluate the degree of the Province's longer-term involvement with the road.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Trans Mountain Expansion Project

Revised: March 22, 2022

Issue: Trans Mountain Expansion Project overview and permitting.

Response:

- The Trans Mountain Expansion Project (TMEP) is an interprovincial, federally regulated pipeline project under the jurisdiction of the Canada Energy Regulator (CER), (formerly the National Energy Board [NEB]).
- The Government of Canada purchased the Trans Mountain Pipeline and TMEP from Kinder Morgan in August 2018.
- TMEP requires approximately 1600 provincial permits, all of which require consultation with Indigenous groups. Approximately 1515 provincial permits have been issued to date.
- The Province continues to accept permit applications from the proponent and has an administrative obligation to review the applications it receives.
- TMEP's projected cost has been revised from \$12.6 billion to \$21.4 billion.
- The Province requires TMEP to follow all applicable regulations, health orders and guidelines, to ensure that workers, Indigenous communities and all British Columbians are protected from COVID-19.

Background/Status:

- TMEP falls under CER's jurisdiction as it crosses provincial borders.
- TMEP is organized into 7 spreads. Spreads 1 and 2 are in Alberta, and Spreads 3 to 7 are in British Columbia (B.C.). Spreads 6 and 7 are in the Lower Mainland. Spread 7 includes the Burnaby Terminal, Burnaby Mountain Tunnel and Westridge Marine Terminal. It begins near Edmonton, Alberta and terminates on the B.C. coast. (See Appendix 1 – Map)
- TMEP will twin Trans Mountain Corporation's (Trans Mountain) existing 1150-kilometre pipeline within the existing right-of way, where possible, from Edmonton to Vancouver.
- The existing pipeline has a sustainable capacity of 300,000 barrels per day (bbl/d) and the new pipeline will add a sustainable capacity of 590,000 bbl/d.
- On April 6, 2017, B.C. signed an agreement with Kinder Morgan that provides for revenue sharing of up to \$1 billion over 20 years that is to go towards initiatives and projects that protect the environment and benefit communities. The

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

agreement also commits B.C. to establish a project office to facilitate a timely and efficient regulatory and decision-making process for all provincial regulatory matters related to TMEP or the existing pipeline system.

- The Federal government agreed to honour that commitment when it purchased Trans Mountain.
- Provincial permitting agencies reviewing TMEP permit applications include:
 - Ministry of Forests, Lands, Natural Resource Operations and Rural Development;
 - Ministry of Environment and Climate Change Strategy (including BC Parks);
 - Ministry of Transportation and Infrastructure;
 - the BC Oil and Gas Commission; and
 - the Agricultural Land Commission.
- On February 18, 2022 TMC announced the retirement of Ian Anderson from his position as President and CEO of TMC and his departure from the Board, effective April 1, 2022. TMC has initiated a process to find a replacement President and CEO.
- On February 18, 2022 TMC also announced that the mechanical completion date of the project was extended from Q4 2022 to Q3 2023.
- Construction is over 50 percent complete, and the B.C. portion of the project has so far provided employment for 7025 workers; 12 percent of these workers were Indigenous. Trans Mountain advises the project will be at peak construction in 2022.
- Trans Mountain has so far committed over \$4.5 billion to provincial procurement opportunities with 30 percent to Indigenous companies.
- All forms of construction are taking place in all spreads, construction yards, terminals and pump stations in B.C.
- Appendix 2 details the current status of provincial permitting.
- Federal and provincial regulatory and court activity related to TMEP has been in progress since 2010. Appendix 3 contains a detailed account of these activities.

Attachments: Appendix 1 – Map
Appendix 2 – Permit Status Overview
Appendix 3 – Regulatory and Legal Timeline

Contact:

Nathaniel Amann-Blake	ADM	Oil and Gas Division	Government Financial Information
-----------------------	-----	----------------------	----------------------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

APPENDIX 1 – MAP OF TRANS MOUNTAIN EXPANSION PROJECT

Copyright

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Contact:			
Nathaniel Amann-Blake	ADM	Oil and Gas Division	Government Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Title: Trans Mountain Expansion Project – Overview and Permitting
 Appendix 2: Permit Status for the Period Ending March 7, 2022

Revised: March 7, 2022

AGENCY & PERMIT TYPE	TOTAL NOT YET SUBMITTED	TOTAL IN TECHNICAL REVIEW	TOTAL APPROVED PERMIT APPLICATIONS	GRAND TOTAL
BC Oil and Gas Commission	12	3	172	187
Ministry of Forests, Lands, Natural Resource Operations and Rural Development	0	10	153	163
BC Parks	0	1	6	7
Ministry of Environment and Climate Change Strategy	3	0	3	6
Ministry of Transportation and Infrastructure	46	23	1176	1245
Agricultural Land Commission	0	0	5	5
Grand Total	61	37	1515	1613

Contact:

Nathaniel Amann- ADM
 Blake

Oil and Gas Division

Government
 Financial

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

**Title: Trans Mountain Expansion Project Overview and Permitting –
Appendix 3: Regulatory and Legal Timeline**

Revised: March 22, 2022

- **June 21, 2010** an Environmental Assessment (EA) Equivalency Agreement signed by the Canada Energy Board (CER) and British Columbia (B.C.) Environmental Assessment Office (EAO) on June 21, 2010 allowed the EAO to accept a CER-led review and recommendations as equivalent to a provincial environmental assessment. As a result, the EAO did not require an EA for the Trans Mountain Expansion Project (TMEP) under the *B.C. Environmental Assessment Act*.
- **January 13, 2016** B.C. Supreme Court (BCSC) issued a decision on *Coastal First Nations v. British Columbia* (Environment) 2016 BCSC on the Northern Gateway Project, and by extension TMEP, that required the Province to render a decision on whether to issue an Environmental Assessment Certificate (EAC).
- **May 19, 2016** CER (then National Energy Board [NEB]) released its report to Governor in Council (GIC) supporting TMEP subject to 157 conditions.
- **November 29, 2016** the federal government approved TMEP subject to CER's 157 conditions.
- **December 1, 2016** CER issued the Certificate of Public Convenience and Necessity (CPCN) to Trans Mountain.
- **January 10, 2017** B.C. announced that an EAC with an additional 37 conditions had been issued for TMEP to respond to concerns raised by Indigenous groups and address key areas of provincial jurisdiction and interest.
- **April 12, 2017** the City of Vancouver commenced a judicial review in the BCSC to seek a declaration that the EAC is invalid.
- **April 20, 2017** the Squamish Nation commenced a judicial review in the BCSC of the decision of the Province to issue an EAC for TMEP asserting that it was issued without adequate consultation and that the Crown owed them a duty to consult concerning the Equivalency Agreement between B.C. and Canada.
- **May 24, 2018** the BCSC dismissed Squamish Nation and City of Vancouver challenges to the EAC. The parties shortly thereafter appealed the BCSC decision to the B.C. Court of Appeal (BCCA).
- **May 29, 2018** the Government of Canada announced its intention to purchase the Trans Mountain Pipeline and TMEP from Kinder Morgan for \$4.5B.
- **August 30, 2018** the Federal Court of Appeal (FCA decision *Tsleil-Waututh et al. v Attorney General of Canada et al.*), quashed federal approval citing inadequate consultation by Canada with Indigenous peoples and failure by CER to fully consider marine impacts.
- **August 31, 2018** purchase of Trans Mountain by Canada was completed.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

- **August 31, 2018** Trans Mountain was ordered to cease construction of TMEP and initiate the safe shut down of construction activity. B.C.'s EAC remained valid allowing Trans Mountain to apply for provincial permits.
- **September 20, 2018** the Government of Canada, by order in council (OIC), directed CER to undertake a reconsideration of the effects of project-related marine shipping and to produce a Reconsideration Report by February 22, 2019.
- **February 22, 2019** CER issued its Reconsideration Report and recommended that TMEP be approved, subject to 156 conditions and 16 new recommendations for federal initiatives which should accompany approval of the project.
- **May 6-8, 2019** the BCCA considered whether there are implications for the EAC arising from the "new" NEB report created in support of the second CPCN.
- **June 2019** Canada released its Crown Consultation and Accommodation Report (CCAR) which builds on the previous Joint Federal/Provincial Consultation and Accommodation Report for the TMEP released in November 2016.
- **June 18, 2019** the GIC issued a positive decision on TMEP, noting it was in the national interest and directed CER to issue a new CPCN, based on the CCAR and CER's Reconsideration Report.
- **June 21, 2019** CER issued CPCN to Trans Mountain.
- **September 17, 2019** the BCCA decision agreed with the BCSC decision of May 24, 2018 that the Province had fulfilled its duty to consult and accommodate but allowed the appeal to the limited extent of remitting the conditions in the EAC to the Ministers for reconsideration and consequent adjustment in light of the changes to the original CER report as set out in its Reconsideration Report. Consideration is ongoing and the EAC remains in place.
- **February 4, 2020** the FCA¹ rejected the applications from four Indigenous groups who sought judicial review of the June 18, 2019 GIC decision to issue the CPCN for TMEP concluding that Canada's decision was reasonable and that federal approvals for TMEP continue to be valid.
- **April 6-7, 2020** the Coldwater Indian Band, Squamish Indian Band, Tlseil-Waututh Nation, and the Ts'elxwéyeqw Tribes (Aitchelitz, Skowkale, Tzeachten, Squiala First Nation, Yakwekwioose, Shxwá:y and Soowhalie) have all filed applications seeking leave to appeal the FCA's February 4, 2020 decision to the Supreme Court of Canada (SCC).
- **April 16, 2020** the SCC received notice that Ts'elxwéyeqw have discontinued their application for leave to appeal to the SCC.
- **July 19, 2021** CER issued positive decision regarding the Coldwater West Alternative Route.

¹ *Coldwater et al v. Canada (Attorney General)*, 2020 FCA 34

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

- **October 27, 2021** EAC amendment for Coldwater West Alternative Route issued.
- **February 24, 2022** EAC Reconsideration Decision issued.

Contact:

Nathaniel Amann-
Blake

ADM

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Trans Mountain Expansion Project - Construction, Work Camps and COVID-19

Revised: March 22, 2022

Issue: Trans Mountain Expansion Project - construction, work camps and COVID-19.

Response:

- Construction of the Trans Mountain Expansion Project (TMEP) has been in progress since the issuance of the new Certificate of Public Convenience and Necessity (CPCN) on June 18, 2019.
- TMEP requires approximately 1600 provincial permits, all of which require consultation with Indigenous groups. Approximately 1515 provincial permits have been issued to date.
- The Province continues to accept permit applications from the proponent and has an administrative obligation to review the applications it receives.
- TMEP's projected cost has been revised from \$12.6 billion to \$21.4 billion.
- TMEP is committed to the safety of its workers and local communities, and is adhering to all public health orders, advice and guidelines concerning COVID-19.
- TMEP has five operating worker accommodation camps; three are operated by local Indigenous communities.

Background/Status:

- Overall, TMEP is progressing with over 50 percent of the physical construction completed.
- TMC has extended the construction schedule; mechanical completion estimate has been revised from Q4 2022 to Q3 2022.
- TMC attributes TMEP's delays and cost increases to necessary project enhancements, increased number of trenchless crossings, unplanned scope and route changes, schedule pressures, unanticipated challenges in both the marine and mountainous terrain environments, COVID-19, extreme weather events, contractor shortfalls and increased requirements for safety and security.
- Two recent challenges, include the mechanical drilling failure with the Fraser River Crossing and By-Law permitting issues at Burnaby Terminal

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

with the City of Burnaby. Both challenges have been resolved, but impacted construction.

- The British Columbia (B.C.) portion of the project has so far provided employment for 7025 workers; 12 percent of these workers were Indigenous. Trans Mountain advises the project will be at peak construction in 2022.
- The monthly spend rate on TMEP is in excess of \$300 million and Trans Mountain has so far committed over \$4.5 billion to provincial procurement opportunities with 30 percent to Indigenous companies.
- TMEP relies on a combination of worker accommodation camps (camps), hotels, motels, RVs and other housing arrangements to house its contracted worked force.
- TMEP is also prioritizing and maximizing Indigenous, local and regional hiring to the greatest extent possible, which will reduce worker accommodation needs and pressures.
- The five TMEP worker accommodation camps in B.C. are located near Valemount Blue River, Clearwater, Merritt and the Fraser Valley/Cheam First Nation area west of Hope.
- Camps are primarily regulated by the Industrial Camp Regulations under the *Public Health Act*.
- As of January 31, 2022, out of the total workforce of 13,000 for TMEP there were 345 active cases of COVID-19.
- Since the fall of 2021, the Northern Health Authority (NHA) has been concerned with the impacts TMEP workers are having on health services in nearby communities. The vaccination rate for TMEP workers and contractors is well below the 90 percent threshold required by NHA. TMEP workers and their families are also placing significant demand on the Valemount Health Centre, which was designed to serve a population of 1000 but is now serving a population of over 3000. TMC and NHA are collaborating to find a solution, but there are challenges on both sides.
- This issue was recently brought to the attention of the Provincial Health Officer by NHA. These pressures are related to the ramp up of TMEP construction and are likely to subside as workforce relocates to the recently opened Blue River camp, as Trans Mountain acquires/establishes additional resources to support the Valemount Health Centre and as construction winds down in 2023.

Cross Reference: Trans Mountain Expansion Project Overview and Permitting

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Trans Mountain Expansion Project Indigenous Consultation

Drafted/Revised: March 15, 2022

Issue: Overview of Indigenous engagement and consultation.

Response:

- Trans Mountain Expansion Project (TMEP) requires over 1600 provincial permits, under various provincial acts, all of which require consultation with Indigenous groups.
- Benefit Agreements (Agreements) are a result of ongoing engagement and negotiations between individual Indigenous groups and Trans Mountain Corporation (TMC). Each Agreement reflects the unique circumstances of the community involved.
- As of November 30, 2021 there are 69 Agreements – 57 in British Columbia (B.C.) that include 61 Indigenous groups (both First Nations and Métis). Agreements are worth more than \$580 million.
- B.C. Indigenous groups have benefitted from training, education and business opportunities. As of September 2021, TMC in B.C.:
 - has invested over \$42 million in training and education initiatives through Mutual Benefit Agreements with Indigenous groups; and
 - provided over \$1.3 billion (or 30 percent) in Contracts (Gross Dollar Value) to Indigenous groups representing 464 vendors.
- Consultation on provincial permit applications is ongoing.

Background/Status:

- Consultation efforts on provincial permitting have been ongoing since 2017, except for a pause at the request of the Federal Government to allow Indigenous groups to focus on the Phase III Federal consultation process.
- TMC and B.C. have established working arrangements with two large Indigenous entities to deal with provincial permits – Nlaka'pamux National Tribal Council (NNTC) and S'ólh Téméxw Stewardship Alliance (STSA) via the People of the River Referrals Office (PRRO).
- About 40 percent of provincial permit applications are within NNTC and STSA consultation areas.
- The Provincial regulatory agencies continue to provide recommendations to Statutory Decision Makers (SDM) in accordance with the working arrangements with NNTC and STSA to ensure that their input and recommendations on provincial permit conditions are included in information provided to SDMs.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Federal Consultation

- **Indigenous Advisory and Monitoring Committee (IAMC):** In 2017, Canada provided \$64.7 million to create the IAMC. It includes six federal members and 13 Indigenous representatives to provide advice to regulators and monitor the TMEP and the existing pipeline. There is no provincial participation on the IAMC, but the Canada Energy Regulator (CER) representatives on the IAMC have indicated an interest regarding open lines of communication for information exchange (currently facilitated through regular connections between Natural Resources Canada and B.C.).
- **Phase III Consultation process:** August 30, 2018, the Federal Court of Appeal (FCA decision *Tsleil-Waututh et al. v Attorney General of Canada et al.*), quashed the federal approval citing inadequate consultation by Canada with Indigenous peoples at the last stage of the consultation process (called Phase III) and failure by CER to fully consider marine impacts.
 - **January 2019:** Substantive consultations began with Consultation Teams assigned a defined number of Indigenous groups to maintain consistency and promote a dedicated and substantial dialogue.
- **First Nations Ownership:** In 2019 Finance Canada launched a multi-step engagement process on Indigenous economic participation in TMC and invited only the 129 Indigenous groups identified on the Crown consultation list.
 - From July to September 2019, Finance Canada held Step 1 of the engagement process.
 - In June 2020, Finance Canada launched Step 2 with two objectives:
 1. Build consensus on the form of economic participation in the Project preferred by participating Indigenous groups: equity and/or revenue sharing; and
 2. Identify or support formation of one or more entities to represent participating Indigenous groups in negotiations with Canada.
 - During the first part of Step 2 (June – December 2020), Finance Canada held a series of virtual bilateral meetings with Indigenous communities. In the second part (March – summer 2021), Finance Canada held a series of multilateral sessions.
 - On February 18, 2022 the federal government stated that it had been engaging affected Indigenous communities on further economic participation in Trans Mountain for more than two years, and will announce the next step toward that important objective later this year. The federal government also announced that it intends to launch a divestment process after the expansion project is further de-risked and after economic participation with Indigenous groups has progressed.

Cross Reference: Trans Mountain Expansion Project Overview and Permitting

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Contact:

Nathaniel Amann- Blake	ADM	Oil and Gas Division	Government Financial Information
---------------------------	-----	----------------------	-------------------------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: LNG and LPG Projects

Drafted:

Issue: British Columbia (BC) has a number of LNG and LPG projects at various stages of development, from those newly proposed and under construction to ones operating and sending cargoes to global markets.

Response:

- British Columbia's natural gas industry is operated by the private sector. The development of an LNG export facility is based on the commercial viability of each project and takes many years before operations can commence.
- Global demand for Liquefied Natural Gas (LNG) and Liquefied Petroleum Gas (LPG) products, such as propane, continued to expand in 2021 and looking ahead these energy products are expected to continue to play a significant role around the world.
- British Columbia's natural gas and propane export projects have continued to evolve with three projects having already shipped cargoes to global markets.
- One project (LNG Canada) is currently under construction and others have signaled that they could commence construction in 2022 and 2023.
- The Province will ensure that British Columbians benefit from LNG projects by requiring they meet our four stated conditions:
 - Proposals must include express guarantees of jobs and training opportunities for British Columbians;
 - Proposals must provide a fair return on our resource;
 - Proposals must respect and make partners of First Nations; and
 - Proposals must protect our air, land and water, including living up to our climate commitments.

Background/Status:

Tilbury LNG:

- The Tilbury LNG facility has been operating since 1971, contributing to the security of supply of BC's natural gas distribution system in the lower mainland. The facility is owned and operated by FortisBC.
- The Phase 1A expansion has been completed and is part of a two-phase, \$4.5 billion build out plan for the facility. The \$425 million Phase 1A involved a new liquefaction train and storage tank being brought into commercial service in 2018.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The FortisBC plan to further develop the facility over the next 5 years would see additional liquefaction and ancillary infrastructure to support LNG marine bunkering (Phase 1B) developed, followed by additional storage and processing capacity for LNG export (Phase 2) being developed.
- At present the facility has the ability to produce 0.25 million tonnes per annum (MTPA) of LNG. At full capacity (inclusive of Phase 2) the facility would be capable of producing nearly 2.5 MTPA.
- Fortis' Tilbury facility can play a key role in meeting the growing demand for LNG by the marine sector within the Port of Vancouver, the Port of Prince Rupert, and other major ports on the west coast of North America.
- FortisBC has also entered into a partnership with Seaspan to develop the Tilbury Marine Jetty, which is currently under consideration for its Environmental Assessment Certificate.

LNG Canada:

- The LNG Canada Project is a 28 MTPA facility that is located near Kitimat. In 2018 the project announced a positive Final Investment Decision on the first phase of development and is currently constructing the first two trains that would produce and export 14 MTPA.
- Please refer to the *LNG Canada Project Profile* note for further detail.

Woodfibre LNG:

- The Woodfibre LNG Project is a proposed 2.1 MTPA facility that is located near Squamish BC.
- Please refer to the *Status Update on Woodfibre LNG Project* note for further detail.

Cedar LNG:

- The Cedar LNG Project is a proposed floating liquefied natural gas (FLNG) facility in Kitimat, British Columbia, Canada, within the traditional territory of the Haisla Nation. The project is being proposed by the Haisla Nation and Pembina Pipelines and would export 3 MTPA of LNG.
- The project would receive its natural gas from the Coastal GasLink pipeline, the same pipeline that is providing feedstock to LNG Canada.
- The project submitted its application for an Environmental Assessment certificate early in 2022 and is currently in the 180-day Application Review period.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Kitimat LNG:

- Kitimat LNG is BC's longest standing proposed LNG facility that would be located in Bish Cove, near Kitimat. Both the project and its associated pipeline (Pacific Trails Pipeline) have Environmental Assessment certificates as well as substantial start decisions from the BC Environmental Assessment Office.
- In December 2019, Chevron announced its plan to divest its 50 percent interest in the project and early in 2021 announced that it would no longer be funding the project. Woodside has also announced their plan to divest in its 50 percent interest in the project.
- In January 2022, it was reported that Enbridge had acquired the Pacific Trails Pipeline project – the deal did not include any portion of the Kitimat LNG project.

Skeena & Totem LNG (Top Speed Energy):

- Skeena LNG is proposing to develop a small-scale, 0.15 MTPA LNG export facility that will utilize ISO-containers and ship through the Port of Prince Rupert.
- The facility does not trigger an Environmental Assessment and has received an LNG Facilities Permit from the BC Oil and Gas Commission
- Totem LNG is proposing to develop a small-scale, 0.075 MTPA LNG export facility that will utilize ISO-containers and ship through the Port of Prince Rupert.
- Following the passing of the company's owner in 2021, it was decided that Top Speed Energy would no longer develop Skeena LNG nor Totem LNG and has been engaged in commercial discussions with potential new owners since.

Port Edward LNG:

- Port Edward LNG is proposing to develop a small-scale, 0.3 MTPA LNG export facility that will utilize ISO-containers and ship through the Port of Prince Rupert.
- The project has entered into an agreement with the Municipality of Port Edward for the land as well as Pacific Northern Gas Pipeline for its feedstock.
- The facility does not trigger an Environmental Assessment and has received an LNG Facilities Permit from the BC Oil and Gas Commission
- Early works have commenced on the site and construction could commence in 2022.

Ksi Lisims LNG:

- On March 12, 2021, the Nisga'a Nation announced that it had entered into a Collaborative Endeavors Agreement with Western LNG and Rockies LNG Partners for the assessment and development of an LNG facility in the Nass Area.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The project envisions exporting upwards of 12 MTPA of LNG and is exploring the use of a floating Liquefied Natural Gas facility.
- The project submitted its initial project description with the Environmental Assessment Office in the summer of 2021 and is expected to come forward with a detailed project description early in 2022.

Ridley Island Propane Export Terminal:

- AltaGas' Ridley Island Propane Export Terminal (RIPET) was Canada's first propane export facility and is capable of moving 40,000 barrels per day and storing 600,000 barrels or 1.2 million tonnes of propane per year. The terminal offloads approximately 50 to 60 rail cars of liquid propane from BC and Alberta each day, which is then delivered to global markets through approximately 20 to 30 marine shipments per year.
- Since commencing operations in 2018, RIPET now accounts for approximately 10 per cent of the propane imported into Japan, who imported over \$1 billion worth of propane from Canada in 2021.

Prince Rupert Terminal:

- Advice/Recommendations
Advice/Recommendations The terminal can handle an average of 20,000 barrels per day with a capacity maximum of 25,000 barrels per day.
- On April 9, 2021, Pembina began loading propane onto vessels destined for international markets with some of the initial cargos destined for Hawaii and the majority of their 2021 cargoes landing in South Korea.

Vopak Pacific Canada:

- Vopak Development Canada Inc., a wholly owned subsidiary of Royal Vopak, is investigating the opportunity to construct, own and operate a new bulk liquids storage facility on port lands in Price Rupert.
- The project is expected to store liquefied petroleum gas' such as propane and butane, clean petroleum products as well as methanol. All products will be transported to the facility (from both BC and Alberta) via the existing CN Railway line before being exported to predominantly Asian markets.
- The project has applied for an Environmental Assessment Certification from the BC Environmental Assessment Office and is awaiting a decision by the Province.
- The project has also applied for an Environmental Assessment Certification from the federal government. As the project is situated on federal port lands, the decision on the Certification lies within the federal Ministry of Transportation – with inputs from the federal Ministry of Environment and Climate Change. At

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Advice/Recommendations

Prince Rupert Gas Transmission Pipeline:

- The Prince Rupert Gas Transmission Project (PRGT) is a proposed (TC Energy) 900-kilometre natural gas pipeline that would run from Hudson's Hope to Lelu Island near Prince Rupert.
- PRGT's Environmental Assessment Certificate (EAC) is set to expire on November 25, 2024 unless the pipeline is substantially started before that date.

Westcoast Connector Gas Transmission:

- The Westcoast Connector Gas Transmission (WCGT) is a proposed (Enbridge) 850-kilometre natural gas pipeline from the Cypress area in northeast BC to Ridley Island, near Prince Rupert.
- Similar to PRGT, WCGT's EAC is also set to expire on November 25, 2024.

Cross Reference: LNG Canada Project Profile

Status Update on Woodfibre LNG Project

Government's Four Conditions for LNG

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: LNG Marine Bunkering

Drafted: March 22, 2022

Issue: Update on LNG marine bunkering in British Columbia

Response:

- The use of Liquefied Natural Gas (LNG) as a marine fuel (LNG bunkering) to power and decarbonize the world's ocean-going vessels is expanding, and British Columbia (BC) is well positioned to benefit from this growth.
- Projects such as LNG bunkering in the Port of Vancouver have the potential to bring economic benefits and improve air quality in the Lower Mainland, Fraser River basin and coastal communities while improving the economic strength of the broader marine and natural gas sectors.
- Both BC Ferries and Seaspan have been powering vessels using LNG since 2016 and the joint venture between Haisla Nation and Seaspan announced that the LNG Canada tugs will also be partly powered by LNG.
- According to BC Ferries using LNG on the Spirit-class ferries means that carbon dioxide emissions will be cut by 12,500 tonnes every year – the equivalent to taking 2,500 cars off of the road. BC Ferries is also realizing lower operating costs by switching from diesel to LNG.
- The Province is supportive of the LNG marine bunkering initiative, as it displaces conventional bunker fuel oil with clean natural gas produced in BC and enhances economic activity at the Port of Vancouver.

Background/Status:

- On January 1, 2020, the International Maritime Organization (IMO) introduced a global 0.5% Sulphur cap and targets to reduce greenhouse gas (GHG) emissions 40% by 2030 and 70% by 2050 when compared to 2008 levels.
- LNG as a marine fuel is an attractive option to meet the IMO 2020 regulations, benefiting from lower Sulphur, Nitrogen and Carbon emissions than oil-based fuels.
- Greenhouse gas (GHG) emissions from maritime transport are estimated to account for 3% of the total human-induced GHG emissions. LNG bunker fuel from BC, where GHG intensity and methane emissions are reduced during production, are a part of the pathway to reducing maritime related GHG emissions.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- According to Wood Mackenzie's latest outlook global LNG bunkering demand is estimated to grow to 12 million tonnes by 2025, expand to nearly 30 million tonnes by 2030, 68 million tonnes by 2040 and 90 million tonnes by 2050.
- As part of its Clean Futures Plan, BC Ferries aims to meet the Clean BC 2030 climate targets by reducing the GHG intensity of their operations, including transitioning the fuel sources from non-renewable diesel to LNG and renewable diesel. In the future, BC Ferries plans to use renewable LNG and electricity to power its fleet.
 - BC Ferries has displaced nearly a quarter of total diesel fuel consumption with cleaner LNG produced in BC. The reduction in GHG emissions is the equivalent of taking nearly 2,000 cars off the road annually.
 - BC Ferries currently operates 5 LNG dual-fueled ferries, with its sixth starting service by the middle of 2022.
- LNG bunker fuel is produced at FortisBC's Tilbury LNG facility, which currently has a 46,000 cubic meter storage tank and liquefaction capacity of 0.25 million tonnes per annum (mtpa). FortisBC is looking to expand their facility (Phase 1B) to meet the rising demand for LNG as a marine fuel.
- The Tilbury LNG facility uses electricity as a power source in the liquefaction process, making its LNG among the lowest carbon intensity of LNG produced available.
- Seaspan, an association of Canadian companies primarily involved in coastal marine transportation and shipbuilding services in the Pacific Northwest, offers commercial ferry, shipyard and bunkering services through its affiliate companies.

C Advice/Recommendations

C

- Cryopeak LNG, a BC based company, is moving forward with its plans for an LNG bunker articulated tug barge unit for Canada's west coast. Cryopeak LNG also has a Memorandum of Understanding with Sumitomo to jointly develop an LNG bunker fuels supply chain in Canada's west coast ports.
- HaiSea Marine, a partnership formed between the Haisla Nation and Seaspan, will provide ship-assist and escort services to LNG carriers navigating Douglas Channel and approaches to LNG Canada. The escort and harbor tugs are being designed by Robert Allan Ltd. (RAL) and will feature leading edge technology.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

The harbor tugs will be battery electric powered, while the larger escort tugs will be LNG dual-fueled.

- LNG powered car carriers started to call on the Port of Vancouver in 2022, and with the number of LNG powered carrier vessels and cruise ships increasing, the local demand is expected to start increasing.
- Advice/Recommendations

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Government Action on LNG Competitiveness

Revised: March 22, 2022

Issue: Measures implemented by the Government to improve the competitiveness of LNG projects in British Columbia.

Response:

- The LNG Investment Fiscal Framework was implemented to improve British Columbia's (BC's) competitive position and secure a strategic investment that is bringing substantial employment, investment, and revenue to BC.
- The framework provided a level playing field for the Liquefied Natural Gas (LNG) industry with other major industries in BC.
- The Province continues to engage with LNG project proponents to understand their unique challenges.

Background:

LNG Fiscal Framework: Four Measures

- In March 2018, the Province of British Columbia (the Province) made a commitment to implement a fiscal framework that would include four measures intended to help improve the industry's competitive position.
- Implementation of the four measures was subject to receiving LNG Canada's (LNGC) notice of positive Final Investment Decision (FID) by November 30, 2018.
- On October 1, 2018, LNGC announced a positive FID for Phase 1 of development.
- All four measures are now in place through legislation, regulations, and policy.

Measure 1: Access to BC Hydro's Industrial Electricity Rate

- Regulation changes were made effective on October 2, 2018.
- Provides BC Hydro industrial (instead of the substantially higher LNG Rate) electricity rates and sees BC Hydro cover costs for some related transmission infrastructure consistent with other industries.

Measure 2: Provincial Sales Tax (PST) Relief

- PST exemption for the construction of the LNGC facility for an estimated value of \$596 million is replaced with future Operating Performance Payments.
- Scope of exemption includes LNG facility; export docks; storage and adjacent construction work camp.
- PST exemptions made effective October 2, 2018, are limited to 2-train facility – future expansion (Phase 2) would require a new agreement.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The Operating Performance Payments Agreement between the Province and LNGC was signed March 25, 2019, and is not an indemnity – which is expressly stated in Agreement.

Measure 3: Repeal *Liquefied Natural Gas Income Tax Act* (LNGITA) and Re-Introduce a *Natural Gas Tax Credit* (NGTC)

- Legislation brought into force with *Bill 10: Income Tax Amendment Act, 2019* (April 2019) repeals LNGITA and implements the NGTC.
- An amendment made to the *Income Tax Act* retains the natural gas income tax credit to encourage British Columbia-based companies that pay corporate income taxes.
- Credit calculated at 3 percent of the cost of natural gas and can reduce effective BC corporate income tax rate from 12 percent to 9 percent for qualifying corporations.

Measure 4: Allow LNG Facilities to Participate in CleanBC Program for Industry

- An amendment to the Carbon Tax Regulation was completed by Order in Council (OIC) and deposited in November 2019. It set out the details of the CleanBC Program for Industry, including the threshold and benchmark for the LNG sector.
 - For the LNG sector, the CleanBC Program for Industry benchmark will be set at 0.24 tonnes of carbon dioxide equivalent (CO₂e) per tonne of LNG produced. The benchmark is based on the top 5 operating facilities in the world and will be reviewed every 5 years.
- The Ministries of Finance and Environment and Climate Change Strategy are currently reviewing BC's carbon tax and CleanBC Program for Industry in the context of BC's commitment to meet or exceed Canada's proposed carbon price of \$170/t in 2030.
 - This review will consider the impacts of increased carbon pricing approaches on BC's industrial competitiveness, and will include detailed engagement with BC industry to gather their feedback on their short-term and long-term competitiveness challenges related to increasingly stringent climate policies

Project Economics

- A joint operating/financial model was developed by the Province and LNGC Phase 1 for the Project:
 - Referenced in the Premier's commitment letter and is the basis for the Province's consideration and implementation of the Measures.
 - Includes estimates of the project's revenues and costs over 40 years on a nominal and net present value basis.
 - Analyzed in the context of competitiveness (e.g., U.S. Gulf coast).
 - Joint model contains LNGC's confidential and commercial operating/financial information.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Contact:

Nathaniel Amann- Blake	ADM	Oil and Gas Division	Government Financial
---------------------------	-----	----------------------	-------------------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Opportunities for LNG Development to Support Climate Change Objectives

Revised: March 22, 2022

Issue: Liquefied Natural Gas (LNG) Development and the Ability to Support Global Climate Change Priorities.

Response:

- Multiple forecasts and long term energy outlooks agree that natural gas will continue to be needed in the global energy mix as the world shifts towards a clean-energy future.
- Once in operation, LNG Canada will have the lowest greenhouse gas (GHG) emissions per ton of LNG produced of any large facility - approximately 35% better than the top performing facilities currently operating in the world.
- Canadian LNG can contribute to a reduction in global GHG emissions through coal-to-gas switching for power generation and industrial use as well as through the displacement of bunker and diesel fuel in the marine transportation sector.
- This opportunity has been confirmed and quantified in peer-reviewed academic studies.

Background:

- Outlooks for global energy, such as those from the International Energy Agency (IEA), WoodMackenzie, BP and Shell, differ on views of future global natural gas demand, but all agree that natural gas will be critical to the energy transition and lowering emissions in hard to decarbonize sectors.
 - Shell's LNG Outlook 2022 and IEA's World Energy Outlook 2021 both indicate growth in natural gas demand will come from Asia Pacific, specifically China and developing nations.
- 2021 demonstrated that our global energy system is highly interdependent and fragile.
 - Supply constraints, a faster than expected global economic rebound, efforts to increase LNG inventory balances, and adverse weather events led to increased demand and constrained supply dynamics that contributed to a tight global natural gas market and consequently record high prices for LNG.
 - The global LNG market needs reliable and cost competitive LNG supply from jurisdictions that actively minimize fugitive methane emissions and associated emissions from production through clean technology such as Carbon Capture and Storage.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Demand for carbon neutral cargoes and LNG deals with emissions clauses continued to grow during 2021. There were 22 carbon neutral cargoes in 2021 according to BloombergNEF, increasing from 5 cargoes in 2020.
- Expectations of a tight global LNG market in the near-term is driving new demand in LNG contracts and investment.
- Energy security, emissions and economic growth in Asia will drive future LNG demand.
- Decarbonizing natural gas and LNG value chains will strengthen their role in the global energy transition as natural gas is a reliable partner to renewable power as a flexible energy source.
- Natural gas has already played a significant role in reducing GHG emissions through coal-to-gas switching. Coal-to-gas switching has also led to improvement in air quality (e.g., Beijing's winter air quality has improved 78 percent over recent years).

British Columbia's Natural Gas Development

- BC will begin significant exports of LNG mid-decade with the completion of LNG Canada.
- Not all natural gas supplies (and by extension LNG) are created equal; resource quality, production practices and supply chains can all impact the emissions intensity of natural gas relative to other fuels.
- It is a common criticism that natural gas produced through unconventional resource development techniques (horizontal drilling and hydraulic fracturing) has a comparable lifecycle emissions intensity to coal once burned by the end user. This is not the case for natural gas produced today in BC.
- BC's policy framework including emissions benchmarks, upstream electrification, and methane regulations means that LNG produced in BC will be amongst the cleanest in the world.
- As the producer of some of the cleanest LNG on the market, BC gas can play a key role in reducing global emissions by displacing more emissions-intensive forms of energy in other jurisdictions.
- In a 2022 peer reviewed article entitled "Liquefied natural gas exports from Canada to China: An analysis of internationally transferred mitigation outcomes (ITMO)" academics at the University of BC and the University of Calgary concluded that replacing conventional coal with natural gas could result in a significant reduction in greenhouse gas emissions. Further, the life cycle emissions quantification framework in the study provides stakeholders with a systematic approach to determine the total GHG emissions and emissions reduction potential of different LNG export scenarios.
- In a 2018 peer reviewed article entitled "Country-Level Life Cycle Assessment of Greenhouse Gas Emissions from Liquefied Natural Gas Trade for Electricity Generation", Kasumu et al. found BC LNG exports could reduce 25-53 million

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

tonnes of GHG emissions per year in China (based on 18.4 million tonnes per annum of exports) depending on whether only coal is displaced.

- LNG is also starting to play a key role in addressing emissions within the marine transportation, mining and heavy haul industries. A recent study commissioned by the Port of Vancouver and FortisBC concluded that BC LNG supply emissions (well-to-tank) are 29% lower when compared with the global average LNG supply.

Contact:

Nathaniel Amann- ADM
Blake

Oil and Gas Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Appendix 1: Peer Reviewed Articles on LNG supporting climate initiatives

Kotogodahetti, R., Hewage, K., Karunathilake, H., Prabatha, T., Krishnan, H., Kasumu, A., Bryant, T. & Sadiq, R. (2022). Liquefied natural gas exports from Canada to China: An analysis of internationally transferred mitigation outcomes (ITMO). *Journal of Cleaner Production*, 347.

Kasumu, A., Li, V., Coleman, J., Liendo, J. & Jordaan, S. (2018). Country-Level Life Cycle Assessment of Greenhouse Gas Emissions from Liquefied Natural Gas Trade for Electricity Generation. *Environmental and Science Technology*, 52, 4, 1735-1746.

McMillan, T., 2019. Canadian LNG Could Help Fight Climate Change. *Energy Examined*, Context.

Nie, Y., et al., 2020. Greenhouse-gas emissions of Canadian liquefied natural gas for use in China: comparison and synthesis of three independent life cycle assessments. *J. Clean. Prod.* 258, 120701.

C, C.C., Kinoshita, Y., 2020. Challenges for the Implementation of Cooperative Approaches under the Paris Agreement : Exploring the Transfer of ITMOs in the LNG Industry.

Abrahams, L.S., Samaras, C., Griffin, W.M., Matthews, H.S., 2015. Life cycle greenhouse gas emissions from U.S. liquefied natural gas exports: implications for end uses. *Environ. Sci. Technol.* 49 (5), 3237–3245.

Biswas, W.K., Engelbrecht, D., Rosano, M., 2013. Carbon footprint assessment of Western Australian LNG production and export to the Chinese market. *Int. J. Prod. Lifecycle Manag.* 6 (4), 339–356. Bracking, S., 2019.

Heath, G. A.; O'Donoghue, P.; Arent, D. J.; Bazilian, M. Harmonization of initial estimates of shale gas life cycle greenhouse gas emissions for electric power generation. *P. Natl. Acad. of Sci. USA.* 2014, 111 (31), E3167–E3176.

Kahrl, F.; Hu, J.; Kwok, G.; Williams, J. H. Strategies for expanding natural gas - fired electricity generation in China: Economics and policy. *Energy Strategy Reviews* 2013, 2, 182–189.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Skone, T. J.; Cooney, G.; Jamieson, M.; Littlefield, J.; Marriott, J. Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States; Report for U.S. Department of Energy / National Energy Technology Laboratory: Pittsburgh, PA, 2014

Fulton, M.; Mellquist, N.; Kitasei, S.; Bluestein, J. Comparing Life-Cycle Greenhouse as Emissions from Natural Gas and Coal; Report for Deutsche Bank Group: Frankfurt, Germany, 2011.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: LNG Canada Project Profile

Date: Update April 20, 2022

Issue: LNG Canada Project Overview

Response:

- LNG Canada is creating new, significant economic opportunities for British Columbia. The project is currently in its fourth year of construction.
- LNG Canada continues to hit critical construction milestones and it's around 60% complete. The project is on track to export LNG around mid-decade.
- At \$40 billion, LNG Canada is the largest private sector investment in Canadian history. The project is expected to generate approximately \$23 billion in public revenue over 40 years - funds to invest in health care, schools, childcare and other key public services in B.C.
- To date, the LNG Canada project has awarded over \$3.6 billion in contracts to businesses in B.C. and Canada. That includes around \$2.9 billion to Indigenous-owned and local area businesses.
- LNG Canada has also spent \$4 million, to date, on workforce development, and more than \$10 million so far in social investments.
- The project has had a workforce around 4,500 people over the last few months.
- Government is working closely with First Nations, local communities and industry to ensure benefits are being realized and that proponents continue to meet the conditions in their Environmental Assessment Certificate and permits.

Background/Status:

- The LNG Canada project is a joint venture comprised of Shell Canada (40%), PETRONAS (25%), PetroChina (15%), Mitsubishi Corporation (15%) and KOGAS (5%).

Project Description:

- On October 1, 2018, LNG Canada made a positive Final Investment Decision (FID) to construct a liquefied natural gas (LNG) export facility in Kitimat, B.C. It is the largest private sector investment in Canadian history.
- The project received a provincial Environmental Assessment Certificate (EAC) and federal approval through a substituted environmental assessment process (single process covering both the Province and Canada) in June 2015. Federal export approval was obtained from the National Energy Board in January 2016.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- LNG Canada has all the major permits in place from the BC Oil and Gas Commission (OGC), including B.C.'s first LNG facility permit. Other permits/authorizations from provincial and federal regulators are still in process.
- LNG Canada requires that the Coastal GasLink (CGL) pipeline be built as it will supply natural gas for the export facility (Phase 1 capacity is 2.1 billion cubic feet per day {bcf/d}). Phase 2 of LNG Canada would require two more trains on site and an expansion of CGL's capacity (to 5 bcf/d) through the addition of up to seven compressor stations (for a total of eight). A final decision on whether to pursue Phase 2 has not been made.

Construction Update:

- The export facility is now in its fourth year of construction. LNG Canada and their engineering procurement and construction contractor, JGC Fluor BC LNG JV (JFJV), continue to hit critical construction milestones and the project is on track to export LNG around mid-decade.
- Most of the site preparation is complete as LNG Canada transitions into the "building up" phase of the project, with modules, tanks and substations arriving this spring.
- The project had an approximate workforce of 4,500 over last three months (up to February 2022). The most recent details provided directly from LNG Canada identifies the total workforce as 4,524.

Benefits:

- Jobs and training: LNG Canada has invested over \$4 million since 2015 in trades workforce development programs. LNG Canada has prioritized local hiring first, followed by workers from within B.C. and Canada. LNG Canada has spent \$4 million to date on workforce development.
- Economic: LNG Canada will generate approximately \$23 billion in public revenue over 40 years. Of note as well, LNG Canada has spent over \$10 million to date on social investments.
- Indigenous Nations: LNG Canada has entered into agreements with all affected First Nations. To date, over \$2.4 billion has been awarded in contracts and procurement for Haisla Nation, and other Indigenous Nations (around \$2.9 billion including local).
- Environment/climate: LNG Canada is expected to have the lowest GHG emissions intensity of any LNG facility of its kind in the world.

Cross Reference: Coastal GasLink Project Overview

Contact:

Deborah Bowman

Assistant Deputy
Minister

LNG Canada
Implementation
Secretariat

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Coastal GasLink Pipeline Project Profile

Date: Update April 20, 2022

Issue: Coastal GasLink Project Overview

Response:

- The Coastal GasLink project remains on schedule to support LNG Canada's in-service target date around mid-decade.
- The project is permitted and approved for the work that is underway. Provincial agencies are coordinated, working directly with Treaty 8 First Nations on any permitting priorities in their territory.
- The pipeline project is just over 60% complete, including all engineering, procurement and construction activities. Construction progress, which encompasses clearing, grading and pipe installation, is over 50% done. Coastal GasLink expects to complete peak construction this year.
- Thousands of people are working on the project. Based on the most recent data, the current workforce is around 4,900 people.
- Economic benefits continue to increase. Approximately \$1.5 billion has been awarded to local B.C. businesses to date. Of this total, over \$1 billion has been awarded to Indigenous businesses.
- The pipeline project is supported by Indigenous communities along the entire pipeline route, including the majority of Wet'suwet'en elected councils.
- Government is working closely with First Nations, local communities and industry to ensure benefits are being realized and that proponents continue to meet the conditions in their Environmental Assessment Certificate and permits.
- Provincial regulators oversee Coastal GasLink's work to ensure it remains in compliance with their permits and provisions under legislation.

Background/Status:

- Coastal GasLink (CGL) is a project of TC Energy and 65% equity holders KKR and the Alberta Investment Management Corporation. The CGL project is a 670-kilometre pipeline that will deliver natural gas from northeastern B.C. to the LNG Canada facility in Kitimat. Once complete, the pipeline will have a capacity of 2.1 billion cubic feet per day (bcf/d) using two compressor stations.
- The project received its B.C. Environmental Assessment Certificate (EAC) in October 2014. Most of the permits required from provincial agencies for construction activities are in place, or in process (amendments and new permits are also expected during construction).

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The project's EAC covers a Phase 2 pipeline expansion of up to 5 billion cubic feet per day (bcf/d), which would require up to eight compressor stations. This expansion is dependent on LNG Canada's decision to increase capacity at its export facility in Kitimat. LNG Canada's EAC also covers this expansion, but it has not made a final decision on it.
- In addition to creating thousands of construction jobs, the pipeline project is projected to create up to 35 permanent field positions during operation and maintenance (2023 onwards). Should Phase 2 (of the LNG Canada project) proceed, further permanent field positions will be required.

Construction Update:

- Preliminary work commenced in early 2019, with final stages of construction to be completed at the end of 2022. The primary focus is now on critical scopes including erosion and sediment control, site maintenance and asset protection in advance of spring melt, pipe installation, moving into reclamation.
- The project is 61.6% complete (including all engineering, procurement and construction activities), with the construction progress at 52.2% complete (includes clearing, grading and pipe installation). Based on recent data there were 4,943 workers across the project in February 2022.
- CGL's most recent project update (current to the end of March 2022) indicates that permits are well in order. For environmental permits: of the 6,921 permits, approvals, authorizations or agreements required, there were 6,870 approved and 51 in progress – so only about 1% are outstanding. Land government agency permits: of the 497 required, only 3 are outstanding (494 obtained). Advice/Recommendations; Advice/Recommendations; Intergovernmental Communications

First Nations:

- To date, over \$1.5 billion has been awarded to local B.C. businesses by CGL. Of this total, over \$1 billion has been awarded to Indigenous owned businesses or joint venture partnerships.
- CGL has signed agreements with all twenty elected First Nations along the right-of-way. The province has signed pipeline benefits agreements (PBAs) with 17/20 First Nations along the pipeline right-of-way. Each mutually exclusive (provincial) agreement provides Indigenous Nations with financial support to address their priorities, such as training and education, contracting and employment, etc.
- On March 9th, 2022, 16 (of 20) First Nations communities signed option agreements to purchase an equity stake in the Coastal GasLink Pipeline Limited Partnership.

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Government Oversight:

- The BC Oil and Gas Commission, other ministries and the Environmental Assessment Office (EAO) have statutory responsibility to ensure CGL is compliant with all legislation and requirements, including conditions outlined in the EAC. CGL also has required plans to manage socio-economic effects directly associated with the project.
- The EAO has conducted over 40 inspections on the CGL project since construction started. There have been non-compliances with respect to erosion and sediment control (ESC) found. From December 2020 to November 2021, there were three orders related to ESC issued to the company. After the EAO considered CGL response to the non-compliances, an administrative penalty of \$72,500 was issued. This administrative penalty is the first issued by the EAO against a certificate holder. As a result of EAO inspections in the fall of 2021, a second administrative penalty is possible in the near future.

Cross Reference: LNG Canada Project Overview

Contact:

Deborah Bowman	Assistant Deputy Minister	LNG Canada Implementation Secretariat	Government
----------------	------------------------------	---	------------

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Coastal GasLink and the Morice River area

Date: March 15, 2022

Issue: A court-ordered injunction confirms Coastal GasLink is legally authorized to conduct their work in the Morice River area.

Response:

- The Coastal GasLink project is permitted and approved for the construction activities underway. The Supreme Court of British Columbia have reaffirmed that fact.
- Construction in Section 7, the portion that encompasses the Morice River area, is over 97% cleared - with significant works anticipated in 2022.
- British Columbia continues to engage with both the hereditary and elected Wet'suwet'en leadership in recognizing and implementing their rights, title, laws, and governance in their territory.
- Open, transparent, and timely communication with First Nations, including the Wet'suwet'en Hereditary Chiefs, has been the guiding principle of government.
- The Coastal GasLink project is supported by Indigenous communities along the entire pipeline route, including the majority of Wet'suwet'en elected councils.
- Details about the enforcement of a court-ordered injunction are best addressed by the Royal Canadian Mounted Police. The police operate at an arms-length from government.

Background/Status:

2021-2022 Key Events

- In September 2021 "Coyote Camp" was established by the Gidimt'en Clan on the Coastal GasLink (CGL) drill pad where the micro tunnel for the Morice River crossing will happen.
 - CGL contractors were unable to work at the site for over two months.
- On November 18th and 19th, 2021, the RCMP enforced the Injunction, clearing blockades established on the Morice Forest Service Road and Coyote Camp.
 - Obstructions created by blockades had cut off safe access, support and security for more than 500 CGL workers in CGL camps.
 - Twenty nine people were arrested, including two journalists who were released with an agreement to respect the peace and attend court at a future date. One individual was released with conditions.
 - On March 12th, 2022 CGL dropped charges for four more individuals.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- Security Concern

Court injunction

- On December 31, 2019, the Supreme Court of British Columbia granted CGL's application for an interlocutory injunction. The focal point is along the Morice River Forest Service Road (approximately 70 kilometres south of Houston) in Grizzly House territory, which is a member of the Gidimt'en Clan.
- As part of its reasons for decision, the court noted CGL has acquired the permits and authorizations to lawfully conduct work in the area and that the law does not condone remedies such as blockades. The court's decision also included enforcement provisions for the RCMP.
- Enforcement of the injunction is the responsibility of the RCMP.
- Following arrests in November 2021, there are matters currently before the Supreme Court of BC with the next hearing scheduled for March 21, 2022.

CGL Activities

- Peak construction will occur this year in Wet'suwet'en traditional territory, after initial delays caused by COVID 19 and continued impacts caused by opposition and protestor activities.
- CGL continues to engage provincial regulatory authorities and the some Wet'suwet'en Hereditary Chiefs on mitigation measures around construction impacts. CGL continues to seek further opportunities to engage the Wet'suwet'en Hereditary Chiefs on matters such as safety and access.

Wet'suwet'en

- Wet'suwet'en Nation membership is comprised of five hereditary clans – Gil seyhu (Big Frog), Laksilyu (Small Frog), Gidimt'en (Wolf/Bear), Laksamshu (Fireweed) and the Tsayu (Beaver Clan), which are divided into 13 houses.
- A hereditary house chief leads each house. Some hereditary chiefs have stated opposition to pipeline development.
- Five *elected* Wet'suwet'en band councils - Witset First Nation, Skin Tyee Nation, the Nee Tahi Buhn Band, Ts'il Kaz Koh First Nation (Burns Lake Band) and the

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Wet'suwet'en First Nation - have supported CGL and have Pipeline Benefit Agreements with the province, and Project Agreements with the company. The Hagwilget Nation is also an elected Wet'suwet'en council - they have not entered into negotiations.

Memorandum of Understanding (MOU)

- Since 2020, the province has been actively working with the Wet'suwet'en Nation on dialogue related to the CGL project. Separately, the Province and the Office of the Wet'suwet'en (OW) have been working on a reconciliation dialogue through the 2020 Memorandum of Understanding (MOU).
- Consultation and engagement have been ongoing since CGL was first submitted for provincial review in December 2012, and dialogue has continued throughout the construction period. The OGC started consulting with the OW about CGL in 2013. The EAO has been engaged with the OW since the initial environmental assessment process in 2012.
- The province recognizes Wet'suwet'en rights and title and has been actively working to facilitate positive reconciliation dialogue with the Wet'suwet'en Hereditary Chiefs. The MOU was signed in May 2020 between ten Wet'suwet'en Hereditary Chiefs and the provincial and federal governments. The MOU is an agreement to engage on affirming and implementing Wet'suwet'en rights and title on the Yintah.
- The MOU is at the foundation of positive, long-term focused discussions with the Wet'suwet'en Hereditary Chiefs to achieve reconciliation, and is separate from the CGL project.
- The Province and the Wet'suwet'en Hereditary Chiefs reached an agreement in March 2021 that provided \$7.22 million to support work to implement Wet'suwet'en rights and title. This was a deliverable identified under the MOU. These funds are intended to support immediate opportunities to advance reunification and enhance the relationship between the Wet'suwet'en and the Province. The funds included capacity for further work on Wet'suwet'en priorities, such as eco-system monitoring and landscape-level planning.

Contact:

Deborah Bowman

Assistant Deputy
Minister

LNG Canada
Implementation
Secretariat

Government
Financial Information

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

Title: Status Update on Woodfibre LNG Project

Revised: April 20, 2022

Issue: Woodfibre LNG

Response:

- Woodfibre LNG is proposing a 2.1 million tonnes per annum (MTPA) facility that will utilize electrically driven liquefied natural gas (LNG) trains situated on privately-owned upland.
- The company recently announced the approval of more than \$600 million CAD in spending with the intent to start pre-construction work in 2022.
- The project represents \$1.6 billion in new investment and hundreds of jobs.
- Woodfibre LNG announced a Notice to proceed on April 14, 2022 with construction expected to commence in 2023.
- Several significant commercial agreements have been completed.
- Woodfibre LNG, FortisBC and the Province have concluded impact benefit agreements with Squamish First Nation.

Background/Status:

Woodfibre LNG has achieved significant milestones in working towards a final Notice to Proceed:

- Received environmental approvals from the BC Environmental Assessment Office, Canadian Environmental Assessment Agency, and a Squamish Nation Environmental Assessment Agreement;
- Woodfibre was granted an extension to its Environmental Assessment Certificate for 5 additional years;
- Received its facilities permit from the BC Oil and Gas Commission;
- Pacific Oil and Gas completed the acquisition of Canbriam Energy, representing one of the largest investments in BC's upstream sector since 2014.
- Fully permitted on major Federal permits, permit plan in place for the issuance of supporting provincial and federal permits;
- In process of concluding commercial agreements with BC Hydro and FortisBC;
- Concluded Impact Benefit Agreements with Squamish Nation and is in negotiations with remaining impacted nations;
- Woodfibre commercial offtake agreements have the project's LNG capacity near fully committed;
- Underway with decommissioning, pre-construction work onsite;

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Hon. Bruce Ralston

- Local consultations regarding this project (over 320 community sessions) and the LNG industry in general have taken place over the past several years; and
- On June 9, 2017 the National Energy Board issued Woodfibre LNG a 40-year export licence.

PROJECT TABLE

Proponent	Pacific Oil and Gas / Royal Golden Eagle
Location	Squamish area (former Woodfibre pulp mill site)
Proposed Size	2.1 MTPA
Export Licence	40-year licence issued
Environmental Assessment	Federal and Provincial approvals completed
Pipeline	Eagle Mountain – Woodfibre Gas Pipeline
Estimated Investment	\$1.6 billion
Jobs	Construction: 650 Operations: 100

Contact:

Suzanne Manahan Executive Lead

Woodfibre
Implementation Group

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Energy, Mines and Low Carbon Innovation

Title: Woodfibre LNG

Revised: March 14, 2022

Issue: FortisBC Eagle Mountain Pipeline

Response:

- In support of the Woodfibre LNG facility, FortisBC will be constructing a 47 KM expansion of the existing natural gas pipeline system that currently serves Squamish, the Sunshine Coast and Vancouver Island.
- The Eagle Mountain Pipeline (EGP) adds a new 24-inch pipe, beginning north of Coquitlam watershed and terminating at the Woodfibre facility.
- FortisBC has issued a limited Notice to Proceed contract valued at \$341M CAD for the tunnel component of the pipeline project.
- FortisBC continues with commercial negotiations with Woodfibre LNG.
- FortisBC continues to work with impacted First Nations moving the project forward towards a final investment decision.

Background/Status:

- In addition to pipeline expansion, FortisBC will be increasing or constructing compression stations along the pipeline route.
- In Coquitlam, FortisBC will increase the size of two new electric powered compressor units at the existing Eagle Mountain station and will reconfigure the station to accommodate the expansion within the existing footprint, minimizing the environmental and visual impacts of this work.
- In Squamish, a new compression station will be constructed to keep the gas moving through the existing system to the facility. FortisBC initially applied for approval on the Mount Mulligan site. District of Squamish and local First Nations expressed concerns with that location and as a result, FortisBC is assessing an alternative location within the certified project area of the Woodfibre facility. Geotechnical assessments and regulatory approvals remain.
- FortisBC has issued a limited Notice to Proceed contract to Frontier-Kemper Constructors, a contract valued at \$341M CAD for the tunnel component of the pipeline project.
- FortisBC has a well-developed permit plan and designated project team for the EGP, the Oil and Gas Commission and other regulators have approved multiple permits for both the pipeline and compression facilities. First Nations agreements

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Energy, Mines and Low Carbon Innovation

are in place with Squamish First Nations^{Intergovernmental Communications}
Intergovernmental Communications

- Woodfibre LNG and FortisBC continue to negotiate the terms of the Transportation Services Agreement and the Construction Security Agreement. Negotiations continue with respect to the capital cost of the pipeline, the tolling amount assigned to Rate Schedule 50 and security/ financing provision associated with pipeline construction and operation.
- EGP's Environmental Assessment Certificate (EAC) will expire Q3, 2021. FortisBC's regulatory team has submitted the application for a 1 time, 5 years extension of the existing EAC.

Attachments: N/A

Cross Reference: N/A

Contact: Suzanne Manahan, Executive Lead Deputy Ministers Office, 250 952-0729

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: United Nations Declaration on the Rights of Indigenous Peoples

Drafted/Revised: March 14, 2022

Issue: Ministry Reconciliation Plan

Response:

- The Ministry of Energy, Mines and Low Carbon Innovation (EMLI) has developed a Reconciliation Plan to support Government's activities toward implementing the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The Plan was launched internally in June 2021.
- EMLI's Reconciliation Plan has four pillars: supporting implementation of the *Declaration on the Rights of Indigenous People's Act* (DRIPA), profiling current ministry initiatives that support reconciliation with Indigenous peoples, providing a consultation and cooperation guidance toolkit for EMLI staff, and implementing a Reconciliation Learning Program for staff.
- In the first year of the Reconciliation Plan, approximately 50% of EMLI staff, or 219 employees, participated in indigenous cultural safety training with a 91.5% completion rate, which is 3.5% above the provincial average.
- The Plan was developed in conjunction with other natural resource ministries, the PSA Learning Centre House of Indigenous Learning, and Indigenous partners. It reflects and supports the Province's broader work on Diversity and Inclusion and GBA+.

Background/Status:

- This Government's commitment to reconciliation is reflected in the Concrete Actions for Implementing the Commitment Document, the Ten Draft Principles to Guide the Province's Relationship with Indigenous People, Ministers' mandate letters, and the DRIPA.
- DRIPA confirms UNDRIP as the framework within which the Province will work with Indigenous partners towards the goal of reconciliation.
- The EMLI Reconciliation Plan has four pillars:
 - Supporting Implementation of DRIPA. EMLI is supporting work led by The Ministry of Indigenous Relations and Reconciliation (MIRR) and the First Nations Leadership Council (FNLC) to develop an Action Plan to implement UNDRIP (Consultation Draft due for release late spring 2021), to align B.C.'s laws, such as the *Mineral Tenure Act*, with UNDRIP (as guided by the Secretariat to be established by the Ministry of Indigenous Relations and Reconciliation), and to negotiate new kinds of shared

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

decision-making agreements with Indigenous Governing Bodies (e.g., Tahltan's Shared Prosperity Agreement).

- Providing Consultation and Cooperation Guidance. To support staff in implementing UNDRIP and ensuring the Ministry is able to meet its obligations under Section 3 of DRIPA, EMLI is implementing a Toolkit for staff that provides direction for how to consult and cooperate with Indigenous peoples on matters that impact them, such as strategic policy decisions and legislative and regulatory amendments.
- Profiling Current Initiatives. EMLI leads and participates in numerous innovative agreements and initiatives with Indigenous Nations that support reconciliation (e.g., collaborative land and resource stewardship agreements; revenue-sharing and economic and community development agreements; and shared decision-making agreements). EMLI worked with Indigenous partners to review and profile these initiatives.
- Reconciliation Learning Program. EMLI is implementing a comprehensive Learning Plan for staff to provide the knowledge, tools, and resources they need to understand and advance reconciliation in the context of their work, and to support the creation of a culturally safe environment for all staff within EMLI.

Contact:

Simon Coley

Assistant Deputy
Minister

Strategic and
Indigenous Affairs
Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Strategic and Indigenous Affairs Division Overview

Drafted/Revised: March 18, 2022

Issue: Purpose of the Strategic and Indigenous Affairs Division

Response:

- The Strategic and Indigenous Affairs Division (SIAD) supports mandate delivery of the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) and EMLI's Divisions on its energy, mining and natural gas mandates.
- SIAD supports EMLI efforts to advance reconciliation with Indigenous Nations including negotiating revenue sharing agreements, and mining-related collaboration agreements. This work is consistent with Government's objectives under the *Declaration on the Rights of Indigenous Peoples Act* (DRIPA) and ensures that First Nations actively participate in natural resource development in their traditional territories.
- Corporate oversight and coordination of policies such as environmental, social and governance, reporting requirements that transect multiple Ministry business lines, and intergovernmental relations by SIAD ensure that EMLI takes a strategic approach to the delivery of its programs and services.

Background/Status:

- SIAD was formed in late 2017 to address the need for corporate assistance and oversight of reconciliation-related initiatives and strategic policy functions. Administrative and operational components such as Freedom of Information and the Correspondence Unit were transferred from SIAD to the Deputy Minister's Office to align with similar arrangements across government.
- SIAD's mission is: Collaborative leadership and support of cross-ministry policy and planning initiatives, and Indigenous reconciliation, while advancing the interests of EMLI and the Province. The Division has three goals: Indigenous reconciliation and key negotiations are advanced; cross-ministry initiatives (policies, planning, strategies) are supported; and being a high-performing collaborative organization.
- SIAD's two branches align with its goals: Indigenous Affairs Branch (IAB) and Strategic Initiatives Branch (SIB):
 - **IAB** leads EMLI's involvement in the corporate implementation of the *Declaration on the Rights of Indigenous Peoples Act* (DRIPA), through the leadership on the development and implementation of the Ministry of Indigenous Relations and Reconciliation's (MIRR) DRIPA Action Plan. The

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Division also developed and implements EMLI's Reconciliation Plan and associated intranet site and works with all EMLI divisions to implement the Truth and Reconciliation Commission's Calls to Action, and the Government of B.C.'s 10 Principles. IAB also provides a point of contact with cross-government partners on Government's reconciliation-related priorities. IAB provides advice to EMLI staff on consultation and cooperation with Indigenous peoples for policy, regulatory and legislative initiatives. IAB co-ordinates ministry participation in reconciliation tables, leading EMLI's participation in Indigenous Nation negotiations related to major projects. For example, the Tahltan negotiations, collaborative mining tables and Site C related tables (Peace River Legacy Fund, and West Moberly mediation) and leads EMLI's budget management within the Indigenous Funding Envelope. IAB also leads the First Nations Leadership Council Relationship Protocol implementation and First Nations Energy and Mining Council coordination.

- **SIB** supports the ministry on those strategic planning, intergovernmental and policy files that transect multiple agencies and business lines. Examples include: The energy and mines digital trust, Energy and Mines Ministers' Conference, Council of the Federation, Clean Grid Initiative, energy competitiveness (e.g., ensuring EMLI's interests are reflected in cross-government Environmental and Social, Governance investment (ESG) strategies). SIB also supports energy and climate policy relating to CleanBC and manages all of EMLI's corporate reporting processes.
- SIAD's 2022/23 Estimates budget is \$2.515 million.

Contact:

Simon Coley

Assistant Deputy
Minister

Strategic and
Indigenous Affairs
Division

Government
Financial

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Tahltan Nation Overview

Revised: March 15, 2022

Issue: Summary of current initiatives

Response:

- Over the past years, the Province and Tahltan have entered into substantive economic, land-use, and reconciliation agreements that aim to establish world class mining and wildlife management regions within the Tahltan Traditional territory.
- Outcomes achieved so far from this important relationship include:
 - Tahltan making significant progress toward economic self-determination, including \$100M investment in mineral and energy companies and achieving nearly 100% employment;
 - \$180M investment in mineral exploration within the Tahltan territory (or 55% of mineral exploration spending for 2020 in the province); and,
 - Successful operation of three of B.C.'s 16 mines (Brucejack, Red Chris, Silvertip).
- Outcomes to achieve in the next 1-2 years include:
 - Tahltan and the Province working together to facilitate final investment decisions in the proposed \$2B Red Chris mine expansion and the development of the Eskay Creek mine (est. \$275M and \$355M in mineral tax and income tax over 10 years); and,
 - Setting the conditions for additional capital investment forecasted of up to \$11B in another 4 new mines in the territory.
 - Negotiation and implementation of land use and mineral permitting efficiency immediate measures that advance negotiation of the Tahltan/B.C. phase 1 land use plan.
 - Negotiation of the phase 1 land use plan, including taking steps to establish land protection and mineral co-management areas necessary to reduce mineral tension between Tahltan and B.C. and increase mineral permitting predictability.
 - Negotiation of the Tahltan/B.C. comprehensive reconciliation agreement (Foundation Agreement) to give effect to their intergovernmental relationship and capture their commitment to reconciliation milestones to be achieved over the next 5 years.

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

- The recent announcement by Tahltan, the Province, and Skeena Resources regarding the negotiation of the first of its kind agreement under Section 7 of the *Declaration on the Rights of Indigenous Peoples Act* regarding the requirement for Tahltan consent for the environmental assessment certificate for the Skeena Resource Eskay Creek mine project is evidence of how the Provincial/Tahltan/Industry partnership can achieve tangible reconciliation, land-use, and economic outcomes.
- In addition, the recent contribution of \$9M by this Government to support upgrades to the Dease Lake airport is a further demonstration of the Provincial/Tahltan partnership and how it supports increasing social, health, and economic outcomes.

Background/Status:

In March 2020, the Province and Tahltan signed the \$20K Shared Prosperity Agreement (SPA) that provides \$16M in economic reconciliation and \$4M in implementation funds over a 3-year term. It includes immediate measures aimed at reducing Tahltan membership tension over mineral activity and commitments to develop a land use plan for the Tahltan territory and the negotiation of a Comprehensive Reconciliation Agreement (called a "Foundation Agreement"). The measures under the SPA and other agreements aim to establish a long-term government-to-government partnership and world-class mineral development and wildlife management regions.

In fall 2020, the Province and Tahltan negotiated a Wildlife Accord to address Tahltan concerns regarding Caribou, Moose and predation management, and pressures from recreational hunters within the Tahltan Traditional territory. The Province is unable to sign the agreement until an implementation fiscal mandate is approved by Treasury Board (targeted for May 2022). In the interim, the Province has agreed to work with Tahltan to develop and implement interim wildlife initiatives. The Wildlife Accord is a critical imperative for Tahltan and has broad Provincial implications if not addressed.

Advice/Recommendations

Contact:

Simon Coley

Assistant Deputy
Minister

Strategic and
Indigenous Affairs
Division

Government
Financial Information

2022/23 Estimates Debate

Ministry of Forests

.....

Issue: Negotiations with Blueberry River First Nations

Recommend Response:

- BC and Blueberry River continue their negotiations on a path forward following the BC Supreme Court decision last June.
- The situation in the northeast, and the infringement of Blueberry River's treaty rights, was many years in the making.
- So, it is reasonable that addressing this situation, and developing a new path forward with the Nation, it takes some time.

• Advice/Recommendations; Intergovernmental Communications

Additional Response points (if needed):

- BC chose not to appeal the court decision, as we believe reconciliation is best addressed through negotiations and building partnerships.
- I will not be sharing further details about confidential negotiations with Blueberry River at this time. It could jeopardize the work we are doing with Blueberry River, and it would be inconsistent with our shared communications protocol.

Key Facts:

- BC and Blueberry River completed an initial agreement in October 2021. It included \$35M for restoration activities and \$30M for cultural, wildlife and capacity building activities.
- Negotiations paused through January/February with Chief and Council elections. Chief Judy Desjarlais started February 14. Negotiations resumed March 3.
- 1573 existing development applications, across the natural resource sector, are awaiting decision in Treaty 8 territory, as of March 18. Many of these are in Blueberry's civil claim area.
- Intergovernmental Communications; Government Financial Information

2022/23 Estimates Debate

Ministry of Forests

.....

- Intergovernmental Communications; Government Financial Information

Date Prepared/Revised: March 21, 2022

Ministry Executive Sponsor:

Name: Mike Hykaway

Phone: Government
Financial

Alternate Contact for Issue:

Name: Morgan Kennah

Information
Phone:

2022/23 Estimates Note - Advice to the Minister

Title: **Consular Corps Relations**

Issue: **B.C. Consular Corps**

Response:

- As Minister responsible for the Consular Corps of British Columbia, I intend to continue to use my relationships with consuls general and honorary consuls based in our province to build an economic recovery that works for everyone.
- The 80 countries who comprise the Consular Corps of B.C. represent their countries and promote their countries' trade within our province. As such they are key to B.C.'s goals of building connections in new markets, increasing exports and highlighting B.C. as a low-carbon supplier.

Background/Status:

- Maintaining strong relations with the B.C. Consular Corps is key to advancing British Columbia's international objectives and enables the Province to highlight British Columbia as a destination for trade, investment, tourism, education and immigration.
- The Province works to maintain strong relations with the foreign representatives in British Columbia through regular briefings and hosting official visits from foreign delegations.
- In the last fiscal year there were 68 virtual meetings and in-person meetings with foreign dignitaries and Canadian officials posted abroad. These included 46 meetings with Consuls General; 16 with Ambassadors or High Commissioners posted to Canada; and 3 with delegations. There are a further 11 meetings scheduled between February 23 and end of fiscal.
- These included the October 18, 2021 meeting between Premier Horgan and Dr. Stephan Holthoff-Pförtner, Minister for Federal, European and International Affairs of North Rhine-Westphalia, Germany, to sign a Declaration of Intent on co-operation (research, innovative industries, hydrogen, and circular economies).
- The B.C. Consular Corps is comprised of 34 consular posts staffed by foreign diplomats and 51 consular posts staffed by honorary consular officers who are Canadian citizens. In total, 80 countries have representation based in B.C.
- There are also four international organizations based in B.C.:
 - the Commonwealth of Learning;
 - the North Pacific Anadromous Fish Commission;
 - the North Pacific Marine Science Organization; and
 - the Pacific Salmon Commission.

2022/23 Estimates Note - Advice to the Minister

- In addition, there is one "Special Office" - the Taipei Economic and Cultural Office (TECO) in Vancouver and one "Other Office" - the Hong Kong (SAR) Economic and Trade Liaison Office.
- The Office of Protocol generally organizes two briefings per year for the Consular Corps by ministers and senior government staff. Due to the pandemic, no in-person briefings have taken place since 2019.
- On May 3, 2021 Minister Ralston hosted a video call for the Consular Corps of B.C. Minister Ralston provided a briefing on low carbon innovation/Cleantech and an overview of LNG/Liquid Hydrogen. There were also briefings by the:
 - Hon. Murray Rankin, Minister of Indigenous Relations and Reconciliation with an overview of the importance of reconciliation with the First Nations and Indigenous peoples of British Columbia;
 - Hon. Ravi Kahlon, Minister of Jobs, Economic Recovery & Innovation on the Economic Recovery Plan including progress on specific programs, including agritech, advanced manufacturing and mass timber;
 - Hon. Sheila Malcolmson, Minister of Mental Health & Addictions on B.C.'s Mental Health and Addiction response/strategy in the context of the COVID-19 pandemic; and by
 - Hon. George Heyman, Minister of Environment & Climate Change Strategy regarding B.C.'s Climate Change strategy and participation by B.C. in COP-26.
- Approximately 56 members of the Consular Corps participated in the May 3, 2021 virtual briefing.
- Minister Ralston has participated in more than 20 virtual video calls to extend national day and significant occasional greetings on behalf of the Government of B.C. with the Consuls General of the following countries between April 1, 2021 and the end of March 2022: Israel (video greeting), the Netherlands, Italy, the Philippines, the United Kingdom, Portugal, France, Colombia, India, Indonesia, Malaysia, Vietnam, Brazil, Mexico, Chile, China, New Zealand, Bulgaria (video greeting), Japan (TBC), Ireland (TBC in-person), Pakistan (TBC), and Greece (TBC) between April 1, 2021 and the end of March 2022.

Contact:

Lucy Lobmeier - Government
Chief of Protocol and Executive Director, Office of Protocol

Ministry of Energy, Mines and Low Carbon Innovation

February 2022 – 22/23 Estimates

Budget and Ministry Key Documents (Prepared by CSNR)

Budget Highlights.....	1
i. Minister Briefing Slides	
ii. Estimates Summary	
Service Plan & Estimates Blue Book	2
Budget Questions & Answers	3
Statistical Analysis - Operating Budget Summaries	4
i. Operating Budget by Core Business	
ii. Operating Budget by Group Accounting Classification	
iii. Operating Budget by STOB	
Capital.....	5
Revenue	6
Minister Mandate Letter	7
Other	8
i. B22 BN – Budget Transfer Summary EMLI	
ii. Key Messages Contracts and Direct Awards	
iii. Key Messages – COVID 19 Terminations	
iv. Ministry of Finance – CleanBC Budget 2022 Approval Breakdown	

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

2022 Budget Highlights

EMLI's 2022/23 budget is \$111,959M. **This represents a \$3.847M or 9.5% net increase from the restated previous year.** This net budget increase in Ministry Operations is comprised of:

- \$5.304M increase for CleanBC Roadmap to 2030
- \$4.000M increase to prioritize mineral project permitting & advance major projects to final investment decision
- \$2.341M to resource Regulatory Excellence in Mining
- \$1.758M increase to address regional permitting backlogs
- \$0.173M legal services charge back increase
- \$0.962M Budget 2021 CleanBC out year approval
- \$0.009M increase for Minister Office, off set by;
- (\$5.000M) planned decrease of one time funding for BC Hydrogen (CleanBC)
- (\$5.700M) ICE fund spending plan updates

\$000	2021/22 Estimates	Change	Restated 2021/22	2022/23	\$ Change	% Change
Vote 22 - Ministry Operations	100,597	(588)	100,009	109,556	9,547	9.5%
Innovative Clean Energy Fund Special Account	8,103	-	8,103	2,403	(5,700)	-
Total	108,700	(588)	108,112	111,959	3,847	9.5%

(\$0.588) reduction in EMLI restated 2021/22 budget due to Natural Resource Ministry reorganization:

(\$0.588M) Environmental Stewardship Initiative program (6FTEs) transferred to Ministry of Land, Water & Resource Stewardship



Budget 2022

Ministry of Energy, Mines and Low Carbon Innovation

Minister Briefing
February 2022

Ministry Budget 2021/22 – 2024/25

	2021/22 Restated	2022/23	2023/24	2024/25
Ministry Operations	\$000			
Mines Competitiveness and Authorizations	18,487	24,551	24,695	20,051
Mines Health, Safety and Enforcement	10,674	12,693	12,693	12,693
Electricity & Alternative Energy	39,347	38,888	39,414	39,526
Oil and Gas	16,855	17,271	17,280	17,288
Strategic and Indigenous Affairs	2,515	2,515	2,515	2,515
Executive and Support Services	12,131	13,638	14,120	12,812
Total Ministry Operations	\$100,009	\$109,556	\$110,717	\$104,885
<i>Changes from Budget 2021</i>		\$9,547	\$10,708	\$4,876
<i>Changes Year over Year</i>		\$9,547	\$1,161	(\$5,832)
Innovative Clean Energy Fund Special Account	8,103	2,403	10,103	7,903
Total Ministry Budget	108,112	111,959	120,820	112,788
Operations Budget Changes from Budget 2021				
CleanBC		\$5,304	\$6,232	\$6,382
Legal Services charge back		\$173	\$173	\$173
Mining Major Projects*		\$4,000	\$4,000	\$0
Mining Regional Permitting *		\$1,758	\$1,982	\$0
Regulatory Excellence in Mining		\$2,341	\$2,341	\$2,341
Prior Year Approvals				
Ministers Office (salary increments)		\$9	\$18	\$18
CleanBC		(\$4,038)	(\$4,038)	(\$4,038)
Total Changes		\$9,547	\$10,708	\$4,876
Percent Change to Operations from Budget 2021		10%	11%	5%

*temporary funding for 2022/23 and 2023/24 only to address regional permitting backlogs and to prioritize mineral project permitting and advance major project to a final investment decision.

2021/22 Restatement

	2021/22 Bluebook	2021/22 Restated
Ministry Operations	\$000	
Mines Competitiveness and Authorizations	18,487	18,487
Mines Health, Safety and Enforcement	10,674	10,674
Electricity and Alternative Energy	39,347	39,347
Oil and Gas	16,855	16,855
Strategic and Indigenous Affairs	3,055	2,515
Executive and Support Services	12,179	12,131
Total Ministry Operations	\$100,597	\$100,009
Innovative Clean Energy Fund Special Account	\$8,103	\$8,103
Total Ministry	\$108,700	\$108,112
<i>Changes from Budget 2021</i>		<i>(\$588)</i>
<u>Operations Budget Changes due to NRM Reorganization</u>		
Transfers to Ministry of Land, Water and Resource Stewardship		
Environmental Stewardship Initiative (6 FTEs)		<i>(\$588)</i>
Total Operations Changes		<i>(\$588)</i>



Budget 2022 Highlights Restatements

- (\$0.588M) per fiscal transferred to Ministry of Land, Water and Resource Stewardship for Environmental Stewardship Initiative (6 FTEs)



Budget 2022 Highlights

- \$30.618M to support CleanBC Roadmap to 2030
 - \$12.700M Go Electric (ICE Fund)
 - \$8.200M Hydrogen Fueling
 - \$4.500M Advanced Research & Commercialization
 - \$7.114M for Low Carbon Fuel Standard
 - \$5.197M for Clean Transportation
 - \$3.201M for Advancing Industrial Decarbonization
 - \$1.484M for Building Pathway
 - \$0.922M to reduce Emission from Natural Gas
- \$11.740M moved from contingency to base funding in 2022/23 and 2023/24 to support Mining Major Projects and Regional permitting.
- \$7.023M Regulatory Excellence in Mining to fully resource 65 FTEs from *Budget 2019*.

Clean BC Base Budget Funding (Current & Prior Year)

CleanBC Initiative	2022/23	2023/24	2024/25	TOTAL
Low Carbon Fuel Standard	1,968	2,537	2,609	7,114
Clean Transportation	1,673	1,745	1,779	5,197
Advancing Industrial Decarbonization	884	1,148	1,169	3,201
Building Pathway	483	493	508	1,484
Reduce Emissions from Natural Gas	296	309	317	922
Go Electric funded by ICE Fund	-	7,700	5,000	12,700
<i>sub-total of new Base Budget 2022</i>	<i>5,304</i>	<i>13,932</i>	<i>11,382</i>	<i>30,618</i>
<i>Previous Budget Approvals:</i>				
Efficiency BC Expansion (Better Buildings Better Homes)	23,490	23,490	23,490	70,470
Efficiency BC Expansion (Clean Building)	3,000	3,000	3,000	9,000
Go Electric	1,843	1,843	1,843	5,529
Low Carbon Fuels	1,732	1,732	1,732	5,196
Clean Energy Vehicle Supply Standard	948	948	948	2,844
Low Carbon Fuels - BC Hydrogen	240	240	240	720
Remote Community	164	165	165	494
Building Energy Codes	140	140	140	420
Grand Total CleanBC Base Budget	36,861	45,490	42,940	125,291

Page 467 of 537

Withheld pursuant to/removal as

Advice/Recommendations ; Government Financial Information



Questions ?

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION
Budget 2022 Estimates Summary

By Core Business																																		
5000s																																		
Budget 2022 Decisions															Budget 2022 Decisions for Out Years																			
Estimates 2021/22	ESI to ENV	Restated Estimates 2021/22	Regional Permitting Operations	Major Mines	Mining Excellence	Clean Transportation	Building Pathways	Low Carbon Fuel Standard	Advancing Industrial Decarbonization	Reduce Emissions from Natural Gas	Legal Services Chargeback	CleanBC (B2021)	ICE Fund Spending Plan (B2021)	Minister's Office (B2021)	Estimates 2022/23	Regional Permitting Operations	Clean Transportation	Building Pathways	Low Carbon Fuel Standard	Advancing Industrial Decarbonization	Reduce Emissions from Natural Gas	ICE Spending Plan	Minister's Office (B2021)	2023/24 Estimates	Regional Permitting Operations	Major Mines	Clean Transport ation	Building Pathways	Low Carbon Fuel Standard	Advancing Industrial Decarbonization	Reduce Emissions from Natural Gas	ICE Spending Plan	2024/25 Estimates	
Ministry Operations																																		
Mines Competitiveness and Authority	18,487	18,487		1,451	3,175	1,034			404						24,551	27					117			24,695		(1,478)	(3,175)				9			20,051
Mines Health, Safety and Enforcement	30,674	30,674			2,019										12,693									12,693										12,693
Electricity & Alternative Energy	39,347	39,347					1,431	423	1,634				(4,038)		39,942		44	10	465			7		39,548				46	15	43		8		39,680
Oil and Gas	36,855	16,855													17,271									17,280										17,288
Strategic & Indigenous Affairs	3,055	2,515	(540)						416						2,515						9			2,515							8			2,515
Minister's Office	586	586												9	595								8	603										603
Executive and Support Services	11,593	(48)	11,545	307	825	(712)	242	60	334	64	51	173			12,889	197	28	-	104	138	7			13,363	(504)	(825)	(12)	-	29	4	-		12,055	
Sub-Total	100,597	(588)	100,009	1,758	4,000	2,341	1,673	483	1,968	884	296	173	(4,038)	9	109,556	224	72	10	569	264	14	-	8	110,717	(1,982)	(4,000)	94	15	72	21	8	-	104,885	
Innovative Clean Energy Fund	8,103	8,103											(5,700)		2,403	-						-	7,700	10,103									(2,200)	7,903
TOTAL MINISTRY	108,700	(588)	108,112	1,758	4,000	2,341	1,673	483	1,968	884	296	173	(4,038)	9	111,959	224	72	10	569	264	14	7,700	8	120,820	(1,982)	(4,000)	94	15	72	21	8	(2,200)	112,788	

Restated Estimates 2021/25
(50.588M) Environmental Stewardship Initiative program (BFTs) transferred to Ministry of Land, Water & Resource Stewardship

Budget 2022 Decisions:
Contingency moved to base funding in 2022/23 and 2023/24 to support 38 temporary FTEs for **Mining Major Projects** and **Regional permitting operations**.
Mining Excellence
Clean BC roadmap to 2030 received approvals to support **Clean Transportation**, **Low Carbon Fuels**, **Building Pathway**, **Advancing Industrial Decarbonization** and **Reducing emission from Natural Gas**, this includes 41 new FTEs.
The ministry received a budget lift to support **legal service chargebacks** from the Ministry of Attorney General
planned **CleanBC B2021** reduction of one year \$5,000M funding in Low Carbon Fuels off set by increase in FTEs to support CleanBC initiatives
Planned B2021 Innovative Clean Energy Fund (**ICE**) **spending plan**, reducing one time 2021/22 funding for of \$0.700M SDTC Joint Call and \$5.00M for SDTC Extended Agreement.
salary increment for **Minister Office (B2021)** salaries

Budget 2022 and Prior Year Decisions for Out Years
Out year adjustments for salary increments for **Regional Permitting Operations** in 2023/24 and removal of temporary funding in 2024/25 for **Regional Permitting Operations** and **Major Mines**
Out year adjustments for salary increments for **Clean Transportation**, **Low Carbon Fuels**, **Building Pathway**, **Advancing Industrial Decarbonization** and **Reducing emission from Natural Gas**.
Go Electric funding approved in the **ICE Fund spending plan** (Hydrogen Fueling and Advanced Research Commercialization)
Out year adjustment for salary increments to the **Minister's Office (B2021)** approval

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Title: Ministry Service Plan

Drafted/Revised: March 15, 2022

Issue: Ministry of Energy, Mines and Low Carbon Innovation Service Plan
2022/23 – 23/24

Response:

- Goals and objectives outlined in this service plan support Government's five foundational principles that inform each ministry's work:
 - putting people first,
 - lasting and meaningful reconciliation,
 - equity and anti-racism,
 - a better future through fighting climate change and meeting our greenhouse gas reduction commitments, and
 - a strong, sustainable economy that works for everyone.
- The energy and mining sectors provide jobs and business opportunities throughout the province, driving the economy and generating millions of dollars in revenue to support programs that the citizens of B.C. rely on.
- The Ministry of Energy, Mines and Low Carbon Innovation (EMLI) is well positioned to deliver on the Service Plan for fiscal 2022/23.
- I believe this is an excellent service plan that ensures the responsible development of B.C.'s energy and mining sectors.

Background/Status:

- EMLI's Service Plan was prepared in accordance with the Service Plan Guidelines released by the Crown Agencies and Board Resourcing Office (CABRO) in October 2021. The coordination of Ministry and Crown Corporation service plans is performed by CABRO at the Ministry of Finance.
- The EMLI 2022/23 Service Plan is consistent with the Minister's November 26, 2020 Mandate Letter from Premier Horgan.
- The 2022/23 goals, objectives and strategies, both new and carried forward, expand upon the Ministry's 2021/22 – 2023/24 Service Plan published in April 2021.
 - Goal 1: An innovative, low carbon energy portfolio that advances CleanBC economic opportunities across all sectors.
 - Objective 1.1: Accelerate efforts to decarbonize B.C.'s energy sectors and usage to support the provincial CleanBC

2022/23 Estimates Note

Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

plan.

- Objective 1.2: Quality programs and incentives that encourage British Columbians to choose greener homes, buildings and transportation.
- Goal 2: A sustainable and competitive mining sector that supports Indigenous reconciliation, reflects high environmental, social and governance (ESG) standards and contributes to the transition to a low carbon economy with responsibly produced minerals and metals.
 - Objective 2.1: A strong, innovative mining sector that positions B.C. as a desirable and responsible jurisdiction for investment.
 - Objective 2.2: Oversight of the mining industry is continuously improved to protect the environment, health and safety, and the public interest.
- Goal 3: B.C.'s oil and gas industry reduces its carbon footprint in a manner that supports economic sustainability, advances Indigenous reconciliation and exhibits high ESG performance.
 - Objective 3.1 Policies, technologies and processes that support the reduction of greenhouse gas (GHG) emissions in the oil and gas sector.
 - Objective 3.2: Value-added development of B.C.'s oil and gas resources to maximize the benefits to all British Columbians and provide a fair return from our resources.
- The Service Plan supports Government's commitment to implement the *B.C. Declaration on the Rights of Indigenous Peoples Act* and Calls to Action of the Truth and Reconciliation Commission through several goals and strategies.
- During development of the EMLI Service Plan, a thorough review of current resources was completed to enable the Ministry to focus on programs designed to achieve Service Plan goals and objectives.
- The Service Plan incorporates direction from the CleanBC plan and includes goals, objectives and strategies that make progress towards the CleanBC targets to protect our air, land and water.
- The complete 2022/23 Service Plan is attached.

Attachment: 2022/23 Service Plan

2022/23 Estimates Note Advice to the Minister

Ministry: Ministry of Energy, Mines and Low Carbon Innovation
Minister Responsible: Bruce Ralston

Contact:
Simon Coley ADM Strategic and
Indigenous Affairs
Division Government Financial
Information

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

The mission of the Ministry of Energy, Mines and Low Carbon Innovation is to facilitate sustainable, safe, environmentally responsible, and competitive natural gas, oil, energy, and mining sectors for the benefit of British Columbians and effective service delivery in all areas of business.

MINISTRY SUMMARY

(\$000)

	Estimates 2021/22 ¹	Estimates 2022/23
VOTED APPROPRIATION		
Vote 23 — Ministry Operations.....	100,009	109,556
STATUTORY APPROPRIATION		
Innovative Clean Energy Fund Special Account.....	8,103	2,403
OPERATING EXPENSES	<u>108,112</u>	<u>111,959</u>
CAPITAL EXPENDITURES ²	299	586
LOANS, INVESTMENTS AND OTHER REQUIREMENTS ³	—	—
REVENUE COLLECTED FOR, AND TRANSFERRED TO, OTHER ENTITIES ⁴	—	—

NOTES

¹ For comparative purposes, figures shown for the 2021/22 operating expenses; capital expenditures; loans, investments and other requirements; and revenue collected for, and transferred to, other entities are restated to be consistent with the presentation of the 2022/23 *Estimates*. A reconciliation of restated operating expenses and capital expenditures is presented in Schedule A.

² A listing of estimated capital expenditures by ministry is presented in Schedule C.

³ A summary of loans, investments and other requirements by ministry is presented in Schedule D.

⁴ A summary of revenue collected for, and transferred to, other entities by ministry is presented in Schedule E.

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

SUMMARY BY CORE BUSINESS

(\$000)

	2021/22	2022/23 ESTIMATES		
	Net	Gross	External Recoveries	Net
OPERATING EXPENSES				
Core Business				
Mines Competitiveness and Authorizations.....	18,487	27,604	(3,053)	24,551
Mines Health, Safety and Enforcement.....	10,674	12,695	(2)	12,693
Electricity and Alternative Energy.....	39,347	38,890	(2)	38,888
Oil and Gas.....	16,855	57,273	(40,002)	17,271
Strategic and Indigenous Affairs.....	2,515	2,517	(2)	2,515
Executive and Support Services.....	12,131	13,644	(6)	13,638
Innovative Clean Energy Fund Special Account.....	8,103	2,405	(2)	2,403
TOTAL OPERATING EXPENSES	108,112	155,028	(43,069)	111,959
CAPITAL EXPENDITURES				
	Capital Expenditures	Capital Expenditures	Receipts and P3 Liabilities	Net
Core Business				
Executive and Support Services.....	299	586	—	586
TOTAL	299	586	—	586
REVENUE COLLECTED FOR, AND TRANSFERRED TO, OTHER ENTITIES				
	Net	Disbursements	Receipts	Net
Core Business				
Oil and Gas.....	—	44,000	(44,000)	—
TOTAL REVENUE COLLECTED FOR, AND TRANSFERRED TO, OTHER ENTITIES	—	44,000	(44,000)	—

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

VOTE DESCRIPTIONS

(\$000)

Estimates
2021/22

Estimates
2022/23

VOTE 23 — MINISTRY OPERATIONS

This vote provides for the programs, operations, and other activities described in the voted appropriations under the following core businesses: Mines Competitiveness and Authorizations; Mines Health, Safety and Enforcement; Electricity and Alternative Energy; Oil and Gas; Strategic and Indigenous Affairs; and Executive and Support Services.

MINES COMPETITIVENESS AND AUTHORIZATIONS

Voted Appropriation

Mines Competitiveness and Authorizations.....	18,487	24,551
---	--------	--------

Voted Appropriation Description: This sub-vote provides for the management and responsible development of the province's mineral, coal, and aggregate resources through developing and delivering geoscience databases and surveys; profiling British Columbia's mineral and coal opportunities; providing secure mineral and coal tenure systems; delivering a fair, effective, and transparent permitting process; developing and implementing policies and legislation to attract investment in British Columbia; developing strategies and actions to continuously enhance provincial competitiveness; collecting fees and securities associated with permits and tenures; advising government agencies on mineral and coal resources and their potential; and engaging and collaborating with Indigenous communities, stakeholders, local and federal governments, and the public. Costs may be recovered from ministries, Crown agencies, other levels of government, and parties external to government for activities described within this sub-vote.

MINES HEALTH, SAFETY AND ENFORCEMENT

Voted Appropriation

Mines Health, Safety and Enforcement.....	10,674	12,693
---	--------	--------

Voted Appropriation Description: This sub-vote provides for oversight of the mining sector, including health and safety on all mineral, coal, and aggregate mine sites during exploration, development, production, and reclamation; performing independent auditing and effectiveness monitoring for continuous improvements to mining regulatory oversight; undertaking investigations and enforcement; providing data-driven process and policy to support robust compliance and enforcement; engaging with Indigenous communities in relation to mining regulatory oversight; and providing for a standing Code Review Committee to ensure labour, Indigenous, and industry representatives are involved in developing British Columbia's mine safety standards. Costs may be recovered from ministries, Crown agencies, other levels of government, and parties external to government for activities described within this sub-vote.

ELECTRICITY AND ALTERNATIVE ENERGY

Voted Appropriation

Electricity and Alternative Energy.....	39,347	38,888
---	--------	--------

Voted Appropriation Description: This sub-vote provides for development of legislation, policies, and programs to support all forms of electrical power generation, transmission, distribution, and marketing; regional electricity trading and electricity system reliability and coordination, including the Columbia River Treaty; province-wide energy efficiency and clean fuel-switching measures and programs; alternative energy resource development; the advancement of leading edge energy technologies; and the management of geothermal resources. This sub-vote also provides for legislative and regulatory initiatives and programs to increase energy technology innovation and the adoption of zero emission vehicles; reduce the carbon intensity of transportation fuels; and expand the production and use of renewable fuels. This sub-vote supports the provision of policy advice or direction to electrical and gas utilities and the regulator, the British Columbia Utilities Commission; ministers' governance roles in respect of Crown corporations; private sector, Indigenous communities, and community investment in new electricity and alternative energy resources; and strategic policy development for clean, renewable energy producers. Costs may be recovered from ministries, including activities related to the Columbia River Treaty, Columbia Basin Trust, and Columbia Power Corporation; Crown agencies; other levels of government; and parties external to government for activities described within this sub-vote.

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

VOTE DESCRIPTIONS

(\$000)

	Estimates 2021/22	Estimates 2022/23
OIL AND GAS		
Voted Appropriation		
Oil and Gas.....	16,855	17,271
<p>Voted Appropriation Description: This sub-vote provides for the management and responsible development of the province's oil and gas resources, including issuing and administering Crown petroleum and natural gas subsurface tenures, as well as the revenues associated with those tenures; incenting infrastructure that supports resource development and contributes to lowering carbon intensity; undertaking analysis to develop and implement policies and programs, including the province's royalty regime; identifying, stimulating, and facilitating development and market opportunities, such as development of the province's liquefied natural gas industry and other industries that add value to British Columbia's oil and gas resources; developing provincial statutes and regulations that apply to the oil and gas sector; representing the province's interests before energy regulatory tribunals; facilitating and leading the development and implementation of major projects (liquefied natural gas and oil pipelines) and related infrastructure; developing and maintaining petroleum geology databases; assessing and collaborating cross-government on environmental monitoring and research, as well as on managing cumulative effects and land planning; providing for the restoration and remediation of oil and gas and related sites; and engaging and collaborating with Indigenous communities, stakeholders, local and federal governments, and the public. This sub-vote also provides for the receipt of funds to support Surface Rights Board orders relating to private land by oil and gas companies. Costs may be recovered from ministries, Crown agencies, other levels of government, and parties external to government for activities described within this sub-vote.</p>		
STRATEGIC AND INDIGENOUS AFFAIRS		
Voted Appropriation		
Strategic and Indigenous Affairs.....	2,515	2,515
<p>Voted Appropriation Description: This sub-vote provides for leadership and support in areas of strategic and cross-ministry policy, Indigenous relations, intergovernmental relations, business review and planning, the legislative affairs of the ministry, and liaising on Indigenous policy with the Oil and Gas Commission and the British Columbia Hydro and Power Authority. Costs may be recovered from ministries, Crown agencies, other levels of government, and parties external to government for activities described within this sub-vote.</p>		
EXECUTIVE AND SUPPORT SERVICES		
Voted Appropriations		
Minister's Office.....	586	595
Corporate Services.....	11,545	13,043
	12,131	13,638
<p>Voted Appropriations Description: This sub-vote provides for the office of the Minister of Energy, Mines and Low Carbon Innovation; executive support, including the deputy minister's office; and coordination of legislation. This sub-vote also provides for corporate services and corporate business innovation, including legislation; internal communications; correspondence; records management; and information and privacy. This sub-vote also provides for executive direction to the ministry; finance, administrative, and strategic human resources; information management services and systems; revenue collection; and trust fund management for ministry operations, programs, and clients. Costs may be recovered from ministries, Crown agencies, other levels of government, and parties external to government for activities described within this sub-vote.</p>		
VOTE 23 — MINISTRY OPERATIONS	100,009	109,556

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

STATUTORY DESCRIPTIONS

(\$000)

Estimates
2021/22Estimates
2022/23

STATUTORY APPROPRIATIONS

This statutory appropriation provides for the programs, operations, and other activities of the following special account: Innovative Clean Energy Fund.

INNOVATIVE CLEAN ENERGY FUND

Statutory Appropriation

Innovative Clean Energy Fund special account.....	8,103	2,403
---	-------	-------

Statutory Appropriation Description: This statutory appropriation provides for the Innovative Clean Energy Fund special account which is governed under the *Special Accounts Appropriation and Control Act*.

MINISTRY GROUP ACCOUNT CLASSIFICATION SUMMARY

GROUP ACCOUNT CLASSIFICATION

Salaries and Benefits	46,902	58,675
Operating Costs	29,059	31,326
Government Transfers	77,496	66,746
Other Expenses	1,682	2,586
Internal Recoveries	(3,958)	(4,305)
External Recoveries	(43,069)	(43,069)
TOTAL OPERATING EXPENSES.....	108,112	111,959

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

SPECIAL ACCOUNTS¹

(\$000)

	Estimates 2021/22	Estimates 2022/23
INNOVATIVE CLEAN ENERGY FUND SPECIAL ACCOUNT		
This account was created by the <i>Finance Statutes (Innovative Clean Energy Fund) Amendment Act</i> in 2007 and is continued under the <i>Special Accounts Appropriation and Control Act</i> . The purpose of the account is to support government's energy and environmental priorities through programs, projects, and initiatives that promote the expanded use of clean energy resources and technologies, energy efficiency and conservation initiatives, and the accelerated commercialization of emerging clean energy technologies. Revenues credited to the account come from a levy applied to all final purchases of specified 'energy products' in British Columbia administered under the <i>Provincial Sales Tax Act</i> or any amount received for payment into the special account. Program expenses are recovered from the special account and are limited to those permitted within the scope of the <i>Special Accounts Appropriation and Control Act</i> , including administration of the account. Costs may be recovered from ministries, Crown agencies, other levels of government, and parties external to government for activities described within this account.		
SPENDING AUTHORITY AVAILABLE AT THE BEGINNING OF THE FISCAL YEAR ²	8,185	5,582
OPERATING TRANSACTIONS		
Revenue.....	5,500	6,000
Expense.....	(8,106)	(2,406)
Internal and External Recoveries.....	3	3
Net Revenue (Expense).....	(2,603)	3,597
FINANCING TRANSACTIONS		
Receipts.....	—	—
Disbursements.....	—	—
Capital Expenditures.....	—	—
Net Cash Source (Requirement).....	—	—
PROJECTED SPENDING AUTHORITY AVAILABLE AT THE END OF THE FISCAL YEAR ²	5,582	9,179

NOTES

¹ A Special Account is an account in the General Fund where the authorization to spend money from the account is located in an Act other than the *Supply Act*.

² The Spending Authority Available at the Beginning of the Fiscal Year 2021/22 is based on the 2020/21 *Public Accounts*. The Projected Spending Authority Available at the End of the Fiscal Year represents the cash and temporary investments projected to be available at the end of each fiscal year.

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

REVENUE COLLECTED FOR, AND TRANSFERRED TO, OTHER ENTITIES BY CORE BUSINESS
(\$000)

	Estimates 2021/22	Estimates 2022/23
OIL AND GAS		
OIL AND GAS COMMISSION — Disbursements are provided by the province to the Oil and Gas Commission with respect to oil and gas industry fees, levies, and taxes assessed and collected on behalf of the Commission under the <i>Oil and Gas Activities Act</i> and the Fee, Levy and Security Regulation. Administration costs are funded through the ministry's voted appropriations.		
Disbursements.....	41,574	44,000
Receipts.....	<u>(41,574)</u>	<u>(44,000)</u>
Net Cash Requirement (Source).....	<u>—</u>	<u>—</u>

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

(\$000)

VOTE 23 Ministry Operations

Description	Total 2021/22 Operating Expenses	50	51	52	54	Total Salaries and Benefits	55	57	59	60	63	65	67	68	69
Mines Competitiveness and Authorizations	18,487	17,887	1,243	4,544	—	23,674	50	1,161	—	2,025	213	233	—	—	58
Mines Health, Safety and Enforcement	10,674	7,849	868	1,993	—	10,710	50	818	—	588	124	281	—	—	29
Electricity and Alternative Energy	39,347	9,723	—	2,458	—	12,181	—	209	—	4,606	264	181	374	—	—
Oil and Gas	16,855	6,031	—	1,532	—	7,563	—	354	—	2,490	306	340	—	—	69
Strategic and Indigenous Affairs	2,515	1,373	—	349	—	1,722	—	91	—	513	14	73	—	—	—
Executive and Support Services	12,131	1,861	36	495	56	2,448	—	177	3,631	438	715	1,868	—	—	—
Minister's Office	586	357	—	113	56	526	—	47	—	—	10	15	—	—	—
Corporate Services	11,545	1,504	36	382	—	1,922	—	130	3,631	438	705	1,853	—	—	—
Total	100,009	44,724	2,147	11,371	56	58,298	100	2,810	3,631	10,660	1,636	2,976	374	—	156

Statutory Appropriations

Description	Total 2021/22 Operating Expenses	50	51	52	54	Total Salaries and Benefits	55	57	59	60	63	65	67	68	69
Innovative Clean Energy Fund special account	8,103	301	—	76	—	377	—	5	—	16	—	5	—	—	—
Total	8,103	301	—	76	—	377	—	5	—	16	—	5	—	—	—

70	72	73	75	Total Operating Costs	77	79	80	Total Govt Transfers	81	83	85	Total Other Expenses	86	88	Total Internal Recoveries	89	90	Total External Recoveries	Total 2022/23 Operating Expenses
59	—	—	—	3,799	—	—	116	116	—	—	16	16	—	(1)	(1)	(1)	(3,052)	(3,053)	24,551
29	—	—	—	1,919	—	—	59	59	—	—	8	8	—	(1)	(1)	(1)	(1)	(2)	12,693
—	—	—	—	5,634	—	—	24,368	24,368	—	—	4	4	—	(3,297)	(3,297)	(1)	(1)	(2)	38,888
63	—	5,934	—	9,556	—	—	40,100	40,100	—	—	55	55	—	(1)	(1)	(1)	(40,001)	(40,002)	17,271
—	—	—	—	691	—	—	100	100	—	—	5	5	—	(1)	(1)	(1)	(1)	(2)	2,515
279	—	1,093	1,500	9,701	—	—	—	—	—	—	2,498	2,498	—	(1,003)	(1,003)	(3)	(3)	(6)	13,638
—	—	—	—	72	—	—	—	—	—	—	—	—	—	(1)	(1)	(1)	(1)	(2)	595
279	—	1,093	1,500	9,629	—	—	—	—	—	—	2,498	2,498	—	(1,002)	(1,002)	(2)	(2)	(4)	13,043
430	—	7,027	1,500	31,300	—	—	64,743	64,743	—	—	2,586	2,586	—	(4,304)	(4,304)	(8)	(43,059)	(43,067)	109,556

70	72	73	75	Total Operating Costs	77	79	80	Total Govt Transfers	81	83	85	Total Other Expenses	86	88	Total Internal Recoveries	89	90	Total External Recoveries	Total 2022/23 Operating Expenses
—	—	—	—	26	—	—	2,003	2,003	—	—	—	—	—	(1)	(1)	(1)	(1)	(2)	2,403
—	—	—	—	26	—	—	2,003	2,003	—	—	—	—	—	(1)	(1)	(1)	(1)	(2)	2,403

**Ministry of Energy, Mines and
Low Carbon Innovation**

**2022/23 – 2024/25
Service Plan**

February 2022



For more information on the Ministry of Energy, Mines and Low Carbon Innovation contact:

Deputy Minister's Office

PO Box 9313

STN PROV GOVT

V8W 9N3

778-698-7283

Or visit our website at

www.gov.bc.ca/EMLI

Published by the Ministry of Energy, Mines and Low Carbon Innovation

Minister's Accountability Statement



The *Ministry of Energy, Mines and Low Carbon Innovation 2022/23 – 2024/25 Service Plan* was prepared under my direction in accordance with the *Budget Transparency and Accountability Act*. I am accountable for the basis on which the plan has been prepared.

A handwritten signature in dark ink, appearing to read "Bruce Ralston", written over a light background.

Honourable Bruce Ralston
Minister of Energy, Mines and Low Carbon Innovation
February 4, 2022

Table of Contents

Minister’s Accountability Statement 3

Purpose of the Ministry 5

Strategic Direction 5

Performance Planning 6

Financial Summary 13

Appendix A: Agencies, Boards, Commissions and Tribunals..... 14

Purpose of the Ministry

The Ministry of Energy, Mines and Low Carbon Innovation (Ministry) is responsible for British Columbia's (B.C.'s) electricity, alternative energy, hydrogen, oil, natural gas and related infrastructure, and the province's mining and mineral exploration sectors. These sectors are made up of diverse interests that explore for and produce oil, natural gas, coal, and other valuable minerals and that develop energy and electricity generation, transmission and distribution infrastructure. To support Government's coordinated climate, energy and economic objectives, the Ministry focuses on advancing energy efficiency and clean or renewable energy sources and technologies, making sure that the energy we use, develop and export is the cleanest possible.

The Ministry facilitates electricity, mining and oil and gas sectors which are globally competitive, demonstrate leading environmental practices, and advance reconciliation with Indigenous peoples, while providing opportunities and quality jobs for British Columbians and a fair return on resources to support the province's economic recovery following the COVID-19 global pandemic.

The Ministry carries out this work in support of the CleanBC plan and Roadmap to 2030, as well as commitments to Indigenous reconciliation. In fulfilling its mandate, the Ministry consults and collaborates with other ministries and levels of government, private sector stakeholders, Indigenous people, communities, regulators, environmental and industry organizations, and the public.

The Ministry supports the Minister in discharging responsibilities for the following Crown Corporations: British Columbia Hydro and Power Authority (BC Hydro), the BC Oil and Gas Commission (OGC), and is also responsible for the Assayers Certification Board of Examiners.

Strategic Direction

In 2022/2023, the Government of British Columbia will continue its whole-of-government response to the COVID-19 pandemic with a focus on protecting the health, social and economic well-being of British Columbians. Building on our economic, environmental, and social strengths while looking to seize opportunities to improve outcomes for all British Columbians will be an important aspect of each ministry's work as we respond to COVID-19 and recover from devastating floods and wildfires. The policies, programs and projects developed over the course of this service plan period will align with the five foundational principles established by Government in 2020: putting people first; working toward lasting and meaningful reconciliation; supporting equity and anti-racism; ensuring a better future through fighting climate change and meeting our greenhouse gas reduction targets; and supporting a strong, sustainable economy that works for everyone. This 2022/23 service plan outlines how the Ministry of Energy, Mines and Low Carbon Innovation will support the government's priorities including the foundational principles listed above and selected action items identified in the November 2020 Minister's Mandate Letter.

Performance Planning

Goal 1: An innovative, low carbon energy portfolio that advances CleanBC economic opportunities across all sectors.

Objective 1.1: Accelerate efforts to decarbonize B.C.'s energy sectors and usage to support the provincial CleanBC plan.

Key Strategies

- Work with Canada and stakeholders to expand electrification of industries of all sizes across sectors to fast-track their efforts to go green.
- Ensure the carbon-intensity of transportation fuels is reduced through the Low Carbon Fuel Standard.
- Continue to incorporate direction from the CleanBC plan and CleanBC Roadmap to 2030 into ministry legislation, policies, programs, and operations to meet provincial energy, economic and climate goals.
- Work with BC Hydro to ensure the Province's generation, transmission and distribution assets continue to deliver reliable and cost-effective service.
- Implement the B.C. Hydrogen Strategy.
- Work with the Ministry of Transportation and Infrastructure to develop a Clean Transportation Action Plan for 2023, that takes an "efficiency first" approach to decarbonizing the transportation sector, and that focuses on five pillars: reduce distance travelled, increase mode shift, improve vehicle efficiency, adopt zero-emission vehicles, use clean fuels.
- Continue to implement legislation and policies to advance energy efficiency and zero-emission vehicles in the transportation sector, including increasing light-duty vehicle targets, and establishing targets for other vehicle weight classes, under the *Zero-Emissions Vehicle Act* and Regulation.

Performance Measure(s)	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
1.1 Clean, renewable and low carbon energy as a share of total utility and transportation energy sales ¹	31%	32%	33%	34%

Data Source: Compiled by the Ministry of Energy, Mines and Low Carbon Innovation and includes data from BC Hydro.

¹ The following data is tracked to provide the performance measure: BC Hydro's performance in clean procurement; FortisBC's performance in deploying Renewable Natural Gas; relative sales of electricity and natural gas using data from the largest utilities; and transportation fuels data.

Linking Performance Measure to Objective

The provincial energy objectives in the CleanBC plan confirm the role of electricity and BC Hydro in reducing greenhouse gas (GHG) emissions where it displaces higher carbon energy sources. This performance measure supports the objective of decarbonization, as the Ministry's programs and regulations directly impact energy utilities and the transportation fuels industries.

Objective 1.2: Quality programs and incentives that encourage British Columbians to choose greener homes, buildings and transportation.

Key Strategies

- Increase affordability and accessibility of clean transportation options through GoElectric program investments in public awareness, skills training, advanced research and commercialization, home and workplace charging rebates, public charging and hydrogen fuelling infrastructure, fleets, vehicle rebates across all vehicle classes, and commercial vehicle pilots.
- Introduce income-based rebates for new Zero Emission Vehicles (ZEVs).
- Work with utility, private and public partners to complete B.C.'s Electric Highway by 2024, ensuring geographic connectivity for EVs across all highways and major roads in B.C., and to install 10,000 public chargers by 2030.
- Enhance utility and provincial energy efficiency programs through improved accessibility, alignment with CleanBC and increased supports for low-income households.
- Continue to implement legislation and policies to advance energy efficiency and conservation in the built environment, including energy efficiency standards and a system to provide energy efficiency information on listed homes.

Performance Measure(s)	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
1.2 Zero-Emission Vehicle sales per cent of new light-duty vehicle sales.	10%	12%	14%	18%

Data Source: Compiled by Ministry of Energy, Mines and Low Carbon Innovation staff from BC Hydro, ICBC and ZEV sales. Transport Canada defines a light-duty vehicle as one that weighs 3,856kg (8,500lbs) or less.

Linking Performance Measure to Objective

Transportation currently accounts for 38 per cent of B.C.'s total GHG emissions. As a result, to reduce GHG emissions and meet [B.C.'s climate targets](#), significant and sustained action needs to be taken to reduce GHG emissions from light, medium and heavy-duty vehicles. Increased adoption of light duty ZEVs will contribute to reductions in B.C.'s GHG emissions and improve air quality. This performance measure supports progress towards Government's target of increasing the number of light duty ZEVs in B.C., reaching 100% of all new light-duty vehicle sales by 2035.

Goal 2: A sustainable and competitive mining sector that supports Indigenous reconciliation, reflects high environmental, social and governance (ESG) standards and contributes to the transition to a low carbon economy with responsibly produced minerals and metals.

Objective 2.1: A strong, innovative mining sector that positions B.C. as a desirable and responsible jurisdiction for investment.

Key Strategies

- Explore the potential implementation of a Mining Innovation Hub to support training in new technology, low carbon approaches, environmental management and regulatory excellence.
- Continue to implement the recommendations of the Mining Jobs Task Force.
- To support reconciliation with Indigenous peoples, continuously improve consultation and engagement processes on relevant permit applications and supporting work on strategic agreements for major mine developments.
- Continue to improve the approvals process for mining applications by implementing new governance and process approaches to major mines and regional operations.

Performance Measure(s)	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
2.1 B.C.'s share of Canadian mineral resource development investments	16%	17%	18%	19%

Data Source: Ministry of Energy, Mines and Low Carbon Innovation and Natural Resources Canada

Linking Performance Measure to Objective

The Ministry continuously strives to attract long-term investment in B.C.'s mining sector and related service industries. Government can help to reduce risk and sustain investment levels through streamlined processes for mine project permitting, and this performance measure reflects B.C.'s efforts to achieve its objective.

Objective 2.2: Oversight of the mining industry is continuously improved to protect the environment, health and safety, and the public interest.

Key Strategies

- Continue to review legislation and regulations to enhance the integrity of environmental, climate, health and safety standards.
- Ensure that owners of mining and exploration projects are bonded and responsible for environmental clean up costs associated with any abandoned projects.
- Continue implementing the newly created audit function to evaluate the effectiveness of the regulatory framework for mining in B.C.
- Implement actions in response to audit recommendations to support continuous improvement of the mining regulatory framework.
- Continue the work of the Code Review Committee to ensure the Health, Safety and Reclamation Code for Mines in B.C. is responsive to emerging trends and changing standards of practice and contributes to reconciliation with Indigenous nations.
- Ensure timely communication about health and safety incidents to support continuous improvement opportunities for mine operators.

Performance Measure(s)	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
2.2 Minimum mine inspections	1,600	1,600	1,600	1,600

Data Source: Manually compiled by Ministry of Energy, Mines and Low Carbon Innovation.

Linking Performance Measure to Objective

The Ministry's Mines Inspectors conduct inspections of mine sites to promote operator awareness of regulatory requirements, to verify compliance with the *Mines Act*, the Health, Safety and Reclamation Code for Mines in B.C., and individual permit conditions, and to take enforcement action as necessary. Inspections are a key compliance verification tool to ensure the protection of the environment, human health and public safety.

Goal 3: B.C.'s oil and gas industry reduces its carbon footprint in a manner that supports economic sustainability, advances Indigenous reconciliation and exhibits high environmental, social and governance (ESG) performance.

Objective 3.1: Policies, technologies and processes that support the reduction of greenhouse gas (GHG) emissions in the oil and gas sector.

This Objective supports Government's climate goals and the implementation of the CleanBC Roadmap to 2030 in relation to the oil and gas sector.

Key Strategies

- Work with the BC Oil and Gas Commission and the Climate Action Secretariat (CAS) to develop a policy framework that requires new oil and gas facilities to minimize greenhouse gas emissions as much as possible and achieve net zero emissions by 2050.
- Work with the BC Oil and Gas Commission and CAS on the development of a sector-specific approach to reducing methane emissions through world-class regulations and research, an integrated methane measurement and monitoring program, and the promotion of innovative technologies.
- Encourage industry to invest in clean technologies through infrastructure royalty credit programs.
- Work with the BC Oil and Gas Commission and CAS to ensure an appropriate enabling environment to support the deployment of carbon capture and sequestration to reduce carbon dioxide emissions from the oil and gas sector.

Performance Measure(s)	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
3.1 Annual GHG reductions from infrastructure improvements under infrastructure royalty credit programs offered by the Province	163,000 tonnes	210,000 tonnes	290,000 tonnes	410,000 tonnes

Data Source: Ministry of Energy, Mines and Low Carbon Innovation

Linking Performance Measure to Objective

This measure tracks the GHG reductions from oil and gas infrastructure royalty programs, which directly relates to the environmentally sustainable development of oil and gas resources in B.C. These targets align with the Province's legislated GHG reduction targets: 40 per cent below 2007 levels by 2030, 60 per cent by 2040 and 80 per cent by 2050. Through royalty deductions, infrastructure royalty programs partner with industry in projects to advance new technologies and processes that reduce methane emissions and promote innovative infrastructure including electrification projects to support reaching GHG emission reduction targets. The purpose of the programs is to help achieve GHG reduction goals and methane reduction targets, while also facilitating job creation, rural development and maintaining competitiveness.

In order to receive royalty deductions under the infrastructure programs, project proponents for emission reduction projects must submit an Emissions Reductions Report that provides a summary of emissions reductions attributed to completion of the project and include a Verification Statement provided by an accredited third-party.

A change to this performance measure may occur within the three-year period of the service plan as a result of the royalty review and subsequent changes to infrastructure royalty credit programs.

Objective 3.2: Value-added development of B.C.'s oil and gas resources to maximize the benefits to all British Columbians and provide a fair return from our resources.

Key Strategies

- Promote price transparency and public accountability in the gasoline and diesel market through the implementation of the *Fuel Price Transparency Act*.
- Continue to review B.C.'s oil and gas royalty credits to ensure they meet the province's goals for economic development, economic reconciliation with Indigenous peoples, a fair return on public resources and environmental protection.
- Oversee and support the continued implementation of the LNG Canada Project to ensure government's goals and expectations are being met.
- Add value to B.C.'s abundant natural gas resources by continuing to work with industry, Indigenous Peoples, BC Hydro, and the Climate Action Secretariat to ensure oil and gas development and related infrastructure supports CleanBC and clean growth.
- Seek to update the LNG framework and work with companies involved in or pursuing LNG projects to implement the approach.

Performance Measure(s)	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
3.2 Relative annual investment in natural gas and oil exploration and development (B.C. as % of Canada)	14%	14%	14%	14%

Data Source: Ministry of Energy, Mines and Low Carbon Innovation based on Canadian Association of Petroleum Producers Net Cash Expenditure historical data and forecasts for 2020. All data is only available and provided by calendar year.

Linking Performance Measure to Objective

Investment in the development of and reducing emissions from B.C.'s oil and gas resources are important for maximizing value to British Columbians. Maintaining B.C.'s share of annual investment in Canadian oil and gas resources, including value-added oil and gas development, to support job creation, economic growth, and infrastructure development in B.C. is important to provincial revenues and economic growth. The target is set to maintain B.C.'s share of

investment at a level consistent with recent years reflecting government's goal to see the responsible development of the province's resources.

Financial Summary

Core Business Area	2021/22 Restated Estimates ¹	2022/23 Estimates	2023/24 Plan	2024/25 Plan
Operating Expenses (\$000)				
Mines Competitiveness and Authorizations	18,487	24,551	24,695	20,051
Mines Health, Safety and Enforcement	10,674	12,693	12,693	12,693
Electricity and Alternative Energy	39,347	38,888	39,414	39,526
Oil and Gas	16,855	17,271	17,280	17,288
Strategic and Indigenous Affairs	2,515	2,515	2,515	2,515
Executive and Support Services	12,131	13,638	14,120	12,812
Innovative Clean Energy Fund Special Account	8,103	2,403	10,103	7,903
Total	108,112	111,959	120,820	112,788
Ministry Capital Expenditures (Consolidated Revenue Fund) (\$000)				
Executive and Support Services	299	586	333	333
Total	299	586	333	333
² Other Financing Transactions (\$000)				
Oil and Gas Commission Receipts	(41,574)	(44,000)	(45,000)	(46,000)
Oil and Gas Commission Disbursements	41,574	44,000	45,000	46,000
Net Cash Requirements (Source)	0,000	0,000	0,000	0,000
Total Receipts	(41,574)	(44,000)	(45,000)	(46,000)
Total Disbursements	41,574	44,000	45,000	46,000
Total Net Cash Requirements (Source)	0,000	0,000	0,000	0,000

¹ For comparative purposes, amounts shown for 2021/22 have been restated to be consistent with the presentation of the 2022/23 Estimates.

² The ministry collects production levies (operating) and OSRF revenues on behalf of the Oil and Gas Commission, but not pipeline revenues.

* Further information on program funding and vote recoveries is available in the [Estimates and Supplement to the Estimates](#).

Appendix A: Agencies, Boards, Commissions and Tribunals

As of February 28, 2022, the Minister of Energy, Mines and Low Carbon Innovation is responsible and accountable for the following:

BC Oil and Gas Commission

The BC Oil and Gas Commission is a single-window regulatory agency with responsibilities for regulating oil, gas and renewable geothermal operations in B.C. The Commission regulates activities from exploration and development, to pipeline transportation and reclamation.

British Columbia Hydro and Power Authority

BC Hydro is one of the largest electricity suppliers in Canada, generating and delivering electricity to 95 per cent of the population of B.C., and serving over four million people.

Assayers Certification Board of Examiners

The Board of Examiners provides for the training, examination, and certification of assayers. This ensures that assayers practicing in the province meet the high standards of competency required by the mining and securities industries and that skilled and qualified assayers are available in B.C. as well as other jurisdictions.

Page 496 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 497 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 498 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 499 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 500 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 501 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 502 of 537

Withheld pursuant to/removed as

Advice/Recommendations

- Total Salary budget is \$0.526M. Salary and benefits per positions are:
Personal Information

- Pressures are managed within the Ministry Operations Vote salary allocation.

Advice/Recommendations

Page 504 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 505 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 506 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 507 of 537

Withheld pursuant to/removed as

Advice/Recommendations

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION
OPERATING BUDGET - 2021/22 to 2024/25

By Core Business							
	\$000s						
	2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	Change	2024/25 Plan
Ministry Operations							
Mines Competitiveness and Authorizations	18,487	6,064	24,551	144	24,695	(4,644)	20,051
Mines Health, Safety and Enforcement	10,674	2,019	12,693	-	12,693	-	12,693
Electricity and Alternative Energy	39,347	(459)	38,888	526	39,414	112	39,526
Oil and Gas	16,855	416	17,271	9	17,280	8	17,288
Strategic & Indigenous Affairs	2,515	-	2,515	-	2,515	-	2,515
Minister's Office	586	9	595	8	603	-	603
Executive and Support Services	11,545	1,498	13,043	474	13,517	(1,308)	12,209
Sub-Total	100,009	9,547	109,556	1,161	110,717	(5,832)	104,885
Innovative Clean Energy Fund	8,103	(5,700)	2,403	7,700	10,103	(2,200)	7,903
TOTAL MINISTRY	108,112	3,847	111,959	8,861	120,820	(8,032)	112,788

2022/23 Changes include:

Ministry Operations: net increase of \$9.547M

\$5.304M increase as part of CleanBC roadmap to 2030
 \$1.968M increase for Low Carbon Fuel Standard (19 FTEs)
 \$1.673M increase for Clean Transportation (11 FTEs)
 \$0.884M increase to support advancing Industrial Decarbonization (8 FTEs)
 \$0.483M increase for Building Pathways (1 FTE)
 \$0.296M to reduce Emissions from Natural Gas (2 FTEs)
 \$4.000M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
 \$2.341M increase to resource Regulatory Excellence in Mining
 \$1.758M temporary increase to address regional permitting backlogs (13 FTEs)
 \$0.173M legal services charge back increase
 \$0.962M planned Budget 2021 CleanBC increase
 \$0.009M planned increase for Minister Office, off set by;
 (\$5.000M) planned decrease of one time funding for BC Hydrogen (CleanBC)

Innovative Clean Energy (ICE) Fund: decrease of (\$5.700M)

(\$5.700M) planned decrease for one time 2021/22 funding of \$0.700M SDTC Joint Call and \$5.00M for SDTC Extended Agreement.

2023/24 Changes include:

Ministry Operations: increase of \$1.161M

\$0.929M increase as part of CleanBC Roadmap to 2030
 \$0.264M increase to support advancing Industrial Decarbonization (9 FTEs)
 \$0.569M increase for Low Carbon Fuel Standard (19 FTEs)
 \$0.072M increase for Clean Transportation (11 FTEs)
 \$0.014M increase to reduce Emissions from Natural Gas as part of CleanBC roadmap to 2030
 \$0.010M increase for Building Pathways (1 FTE)
 \$0.224M increase to address regional permitting backlogs
 \$0.008M increase to Minister Office

Innovative Clean Energy (ICE) Fund: increase of \$7.700M

\$7.700M increase for CleanBC Go Electric
 \$5.200M Hydrogen Fueling
 \$2.500M Advanced Research and Commercialization

2024/25 Changes include:

Ministry Operations: net decrease of (\$5.832M)

(\$4.000M) decrease due to temporary approval for prioritizing mineral project permitting & advance major projects to final investment decisions
 (\$1.982M) due to temporary increase to address regional permitting backlogs, off set by;
 \$0.150M increase as part of CleanBC Roadmap to 2030
 \$0.072M increase for Low Carbon Fuel Standard (19 FTEs)
 \$0.034M increase for Clean Transportation (11 FTEs)
 \$0.021M increase to support advancing Industrial Decarbonization
 \$0.015M increase for Building Pathways (1 FTE)
 \$0.008M increase to reduce Emissions from Natural Gas

Innovative Clean Energy (ICE) Fund: net decrease of (\$2.200M)

(\$2.700M) decrease for CleanBC Go Electric
 (\$2.200M) Hydrogen Fueling
 (\$0.500M) Advanced Research and Commercialization, off set by
 \$0.500M increase in Partnerships funding

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

OPERATING BUDGET - 2021/22 to 2022/23

by Group Account Classification (GAC)

\$000s

Group Account Classification	2021/22 Restated	2022/23 Estimates	Increase (Decrease)	% Change
All Votes and Special Accounts				
Salaries and benefits	46,824	58,597	11,773	25.1%
Operating costs	29,137	31,404	2,267	7.8%
Government transfers	77,496	66,746	(10,750)	(13.9%)
Other expenses	1,682	2,586	904	53.7%
Recoveries	(47,027)	(47,374)	(347)	0.7%
Total Operating Budget	108,112	111,959	3,847	3.6%

2022/23 Changes include:

Salaries & Benefits: increase of \$11.773M

- \$2.728M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
- \$2.559M increase to resource Regulatory Excellence in Mining
- \$1.365M temporary increase to address regional permitting backlogs (13 FTEs)
- \$4.296M increase as part of CleanBC Roadmap to 2030
 - \$1.594M Low Carbon Fuel Standard (19 FTEs)
 - \$1.232M Clean Transportation (11 FTEs)
 - \$0.820M increase to support advancing Industrial Decarbonization (8 FTEs)
 - \$0.411M Building Pathways (1 FTEs)
 - \$0.239M to reduce Emissions from Natural Gas (2 FTEs)
- \$0.734M Budget 2021 CleanBC salary increments
 - \$0.511M Low Carbon Fuels
 - \$0.212M Go Electric
 - \$0.011M Remote Community
- \$0.082M spending plan adjustment for Columbia River Treaty (CRT), fully recovered through FLNRORD
- \$0.009M salary increment in Minister's Office

Operating Costs: net increase of \$2.267M

- \$1.062M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
- 0.509M increase as part of CleanBC Roadmap to 2030
 - \$0.276M Clean Transportation
 - \$0.194M Low Carbon Fuel Standard
 - \$0.027M to reduce Emissions from Natural Gas
 - \$0.012M Building Pathways
- \$0.315M spending plan adjustment for Columbia River Treaty (CRT), fully recovered through FLNRORD
- \$0.228M Budget 2021 CleanBC increments
 - \$0.138M Low Carbon Fuel Standard
 - \$0.099M Go Electric
 - (\$0.009M) Remote Community
- \$0.198M temporary increase to address regional permitting backlogs (13 FTEs)
- \$0.173M increase for legal services charges backs
- (\$0.218M) decrease due to STOB reallocation for resource Regulatory Excellence in Mining

Government Transfers: decrease of (\$10.750M)

- (\$5.700M) decrease in ICE Fund
- (\$5.000M) one time BC Hydrogen (Clean BC)
- (\$0.050M) decrease for Columbia River Treaty (CRT), fully recovered through FLNRORD

Other Expenses: increase of \$0.904M

- \$0.210M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
- \$0.195M temporary increase to address regional permitting backlogs (13 FTEs)
- \$0.499M increase as part of CleanBC Roadmap to 2030
 - \$0.180M Low Carbon Fuel Standard
 - \$0.165M Clean Transportation
 - \$0.064M increase to support advancing Industrial Decarbonization
 - \$0.060M Building Pathways
 - \$0.030 to reduce Emissions from Natural Gas

Internal & External Recoveries: net increase of \$0.347M

- \$0.347M Columbia River Treaty (CRT) recovery from FLNRORD

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

2021/22 to 2024/25

Operating Budget Changes by STOB

\$000s							
All Votes and Special Accounts	2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	Change	2024/25 Plan
50 Base Salaries and Overtime	35,967	9,030	44,997	566	45,563	(3,087)	42,476
51 Supplementary Salary Costs	1,720	509	2,229	24	2,253	(133)	2,120
52 Employee Benefits	9,159	2,234	11,393	120	11,513	(786)	10,727
54 Legislative Salaries - Indemnities	56	-	56	-	56	-	56
Total Salaries & Benefits	46,902	11,773	58,675	710	59,385	(4,006)	55,379
55 Boards, Commissions, Courts Fees	100	-	100	-	100	-	100
57 Public Servant Travel Expenses	2,015	800	2,815	-	2,815	(131)	2,684
59 Centralized Management Services	3,208	423	3,631	(250)	3,381	-	3,381
60 Professional Services	10,196	380	10,576	(550)	10,026	(300)	9,726
61 Professional Services - Advisory	50	187	237	(137)	100	137	237
63 Information Systems - Operating	1,356	158	1,514	142	1,656	(159)	1,497
65 Office and Business Expenses	2,963	3	2,966	27	2,993	(66)	2,927
67 Advertising	364	10	374	(10)	364	-	364
68 Statutory Advertising and Publications	-	-	-	-	-	-	-
69 Utilities Materials and Supplies	156	-	156	-	156	-	156
70 Operating Equip, Vehicles and Other	430	-	430	-	430	-	430
73 Amortization Expenses	6,790	237	7,027	197	7,224	(451)	6,773
75 Building Occupancy Charges	1,431	69	1,500	197	1,697	(469)	1,228
Total Operating Expenditures	29,059	2,267	31,326	(384)	30,942	(1,439)	29,503
77 Transfers - Grants	-	-	-	-	-	-	-
79 Entitlements	-	-	-	-	-	-	-
80 Transfers Under Agreement	77,496	(10,750)	66,746	7,450	74,196	(42,200)	31,996
Total Grants and Transfers	77,496	(10,750)	66,746	7,450	74,196	(42,200)	31,996
81 Trsf Payment Between Votes	-	-	-	-	-	-	-
84 Interest Costs - Non Public Debt	-	-	-	-	-	-	-
85 Other Expenses	1,682	904	2,586	83	2,669	(387)	2,282
Total Other Expenses	1,682	904	2,586	83	2,669	(387)	2,282
88 Recoveries - Internal	(3,958)	(347)	(4,305)	1,002	(3,303)	-	(3,303)
89/90 Recoveries - External	(43,069)	-	(43,069)	-	(43,069)	40,000	(3,069)
Total Recoveries	(47,027)	(347)	(47,374)	1,002	(46,372)	40,000	(6,372)
TOTAL	108,112	3,847	111,959	8,861	120,820	(8,032)	112,788
Percent Change			3.6%		7.9%		(6.6%)

2022/23 Changes include: net increase of \$3.847M

Salaries & Benefits: net increase of \$11.773M

- \$2.728M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
- \$2.559M increase to resource Regulatory Excellence in Mining
- \$1.365M temporary increase to address regional permitting backlogs (13 FTEs)
- \$4.296M increase as part of CleanBC Roadmap to 2030
 - \$1.594M Low Carbon Fuel Standard (19 FTEs)
 - \$1.232M Clean Transportation (11 FTEs)
 - \$0.820M increase to support advancing Industrial Decarbonization (8 FTEs)
 - \$0.411M Building Pathways (1 FTEs)
 - \$0.239M to reduce Emissions from Natural Gas (2 FTEs)
- \$0.734M increase for Clean BC (Budget 2021)
- \$0.082M increase for Columbia River Treaty (CRT); fully recovered through FLNRORD
- \$0.009M adjustment to Minister's office

Operating Costs: net increase of \$2.267M

- \$1.062M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
- \$0.509M increase as part of CleanBC Roadmap to 2030
 - \$0.276M Clean Transportation
 - \$0.194M Low Carbon Fuel Standard
 - \$0.027M to reduce Emissions from Natural Gas
 - \$0.012M Building Pathways
- \$0.315M spending plan adjustment for Columbia River Treaty (CRT), fully recovered through FLNRORD
- \$0.228M Budget 2021 CleanBC increments
 - \$0.138M Low Carbon Fuel Standard
 - \$0.099M Go Electric
 - (\$0.009M) Remote Community
- \$0.198M temporary increase to address regional permitting backlogs (13 FTEs)
- \$0.173M increase for legal services charges backs
- (\$0.218M) decrease due to STOB reallocation for

Government Transfers: net decrease of (\$10.750M)

- (\$5.000M) decrease for Sustainable Development Technology Canada (SDTC) Extension Agreement
- (\$0.700M) decrease for SDTC Joint Call
- (\$5.000M) decrease for Clean BC Hydrogen
- (\$0.050M) decrease for Columbia River Treaty (CRT); fully recovered through FLNRORD

Other Expenses: increase of \$0.904M

- \$0.210M temporary increase to prioritize mineral
- \$0.195M temporary increase to address regional permitting backlogs (13 FTEs)
- \$0.499M increase as part of CleanBC Roadmap to 2030
 - \$0.180M Low Carbon Fuel Standard
 - \$0.165M Clean Transportation
 - \$0.064M increase to support advancing Industrial Decarbonization
 - \$0.060M Building Pathways
 - \$0.030 to reduce Emissions from Natural Gas

Internal & External Recoveries: increase of (\$0.347M)

- (\$0.347M) increase for Columbia River Treaty (CRT) recovery from FLNRORD

2023/24 Changes include: net increase of \$8.861M

Salaries & Benefits: net increase of \$0.710M

\$0.036M temporary increase to address regional permitting backlogs (13 FTEs)
\$0.636M increase as part of CleanBC Roadmap to 2030
 \$0.450M Low Carbon Fuel Standard (19 FTEs)
 \$0.044M Clean Transportation (11 FTEs)
\$0.126M increase to support advancing
\$0.010M Building Pathways (1 FTEs)
\$0.006M to reduce Emissions from Natural Gas (2 FTEs)
\$0.001M increase for Clean BC (Budget 2021)
\$0.029M increase for Columbia River Treaty (CRT); fully recovered through FLNRORD
\$0.008M adjustment to Minister's office

Operating Costs: decrease of (\$0.384M)

(\$0.781M) decrease for Columbia River Treaty, offset by recovery from FLNRORD
\$0.044M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
\$0.188M increase to address regional permitting backlogs
\$0.028M increase to support FTEs for Clean Transportation
\$0.007M increase to support FTEs for Reduced Emissions from Natural Gas
\$0.130M increase to support FTEs for Advancing Industrial Decarbonization

Government Transfers: net increase of \$7.450M

(\$0.250M) decrease for Columbia River Treaty (CRT); fully recovered through FLNRORD
\$5.200M increase for Hydrogen Fueling for CleanBC Go Electric
\$2.500M increase for Advanced Research and Commercialization for CleanBC Go Electric

Other Expenses: increase of \$0.083M

\$0.075M increase to support FTEs for Low Carbon Fuel Standard
\$0.008M increase to support FTEs for Advancing Industrial Decarbonization

Internal & External Recoveries: net decrease of \$1.002M

\$1.002M decrease for Columbia River Treaty (CRT) recovery from FLNRORD

2024/25 Changes include: net decrease of (\$8.032M)

Salaries & Benefits: net increase of (\$4.006M)

(\$2.728M) end of temporary increase to prioritize mineral project permitting & advance major
(\$1.401M) end of temporary increase to address regional permitting backlogs (13 FTEs)
\$0.009M Advancing Industrial Decarbonization
\$0.046M increase to support Clean Transportation as part of Clean BC road map to 2030
\$0.037M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
\$0.015M increase to support Building Pathways, including 1 FTE for HERS
\$0.008M increase Reducing emissions from Natural Gas (2 FTEs)
\$0.008M increase to support Advancing industrial decarbonization as part of CleanBC map to 2030

Operating Costs: decrease of (\$1.439M)

(\$0.447M) end of temporary increase to prioritize mineral project permitting & advance major
(\$0.077M) end of temporary funding for Regional Permitting
\$0.006M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
(\$0.615M) decrease to support temporary FTEs for Major Mines
(\$0.309M) decrease to support FTEs Regional Permitting,
(\$0.001M) adjustment to support FTEs for Low Carbon Fuel Standard, off set by:
\$0.004M increase to support FTEs for Advancing Industrial Decarbonization

Government Transfers: net decrease of (\$42.200M)

(\$40.000M) planned decrease for Orphan and Dormant Sites Program, offset by recovery
(\$2.200M) decrease in Hydrogen Fueling for CleanBC GoElectric
(\$0.500M) decrease for Advanced Research and Commercialization for CleanBC Go Electric, off set by
\$0.500M increase trusted partnership

Other Expenses: increase of (\$0.387M)

(\$0.210M) decrease to support temporary FTEs for Major Mines
(\$0.195M) decrease to support FTEs Regional Permitting
(\$0.012M) adjustment to support FTEs for Clean Transportation
\$0.030M increase to support FTEs for Low Carbon Fuel Standard

Internal & External Recoveries: net decrease of \$40.000M

\$40.000M decrease for Orphan and Dormant Sites recovery from federal government

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

2021/22 to 2024/25

Operating Budget Changes by STOB

Ministry Operations	\$000s						
	2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	Change	2024/25 Plan
50 Base Salaries and Overtime	35,667	9,029	44,696	566	45,262	(3,087)	42,175
51 Supplementary Salary Costs	1,720	509	2,229	24	2,253	(133)	2,120
52 Employee Benefits	9,082	2,235	11,317	120	11,437	(786)	10,651
54 Legislative Salaries - Indemnities	56	-	56	-	56	-	56
Total Salaries & Benefits	46,525	11,773	58,298	710	59,008	(4,006)	55,002
55 Boards, Commissions, Courts Fees	100	-	100	-	100	-	100
57 Public Servant Travel Expenses	2,010	800	2,810	-	2,810	(131)	2,679
59 Centralized Management Services	3,208	423	3,631	(250)	3,381	-	3,381
60 Professional Services	10,180	380	10,560	(550)	10,010	(300)	9,710
61 Professional Services - Advisory	50	187	237	(137)	100	137	237
63 Information Systems - Operating	1,356	158	1,514	142	1,656	(159)	1,497
65 Office and Business Expenses	2,958	3	2,961	27	2,988	(66)	2,922
67 Advertising	364	10	374	(10)	364	-	364
68 Statutory Advertising and Publications	-	-	-	-	-	-	-
69 Utilities Materials and Supplies	156	-	156	-	156	-	156
70 Operating Equip, Vehicles and Other	430	-	430	-	430	-	430
73 Amortization Expenses	6,790	237	7,027	197	7,224	(451)	6,773
75 Building Occupancy Charges	1,431	69	1,500	197	1,697	(469)	1,228
Total Operating Expenditures	29,033	2,267	31,300	(384)	30,916	(1,439)	29,477
77 Transfers - Grants	-	-	-	-	-	-	-
79 Entitlements	-	-	-	-	-	-	-
80 Transfers Under Agreement	69,793	(5,050)	64,743	(250)	64,493	(40,000)	24,493
Total Grants and Transfers	69,793	(5,050)	64,743	(250)	64,493	(40,000)	24,493
81 Trsf Payment Between Votes	-	-	-	-	-	-	-
84 Interest Costs - Non Public Debt	-	-	-	-	-	-	-
85 Other Expenses	1,682	904	2,586	83	2,669	(387)	2,282
Total Other Expenses	1,682	904	2,586	83	2,669	(387)	2,282
88 Recoveries - Internal	(3,957)	(347)	(4,304)	1,002	(3,302)	-	(3,302)
89/90 Recoveries - External	(43,067)	-	(43,067)	-	(43,067)	40,000	(3,067)
Total Recoveries	(47,024)	(347)	(47,371)	1,002	(46,369)	40,000	(6,369)
TOTAL MINISTRY OPERATIONS	100,009	9,547	109,556	1,161	110,717	(5,832)	104,885
Percent Change			9.5%		1.1%		(5.3%)

2022/23 Changes include: net increase of 9.547M

Salaries & Benefits: net increase of \$11.773M

- \$2.728M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
- \$2.559M increase to resource Regulatory Excellence in Mining
- \$1.365M temporary increase to address regional permitting backlogs (13 FTEs)
- \$4.296M increase as part of CleanBC Roadmap to 2030
 - \$1.594M Low Carbon Fuel Standard (19 FTEs)
 - \$1.232M Clean Transportation (11 FTEs)
 - \$0.820M increase to support advancing Industrial Decarbonization (8 FTEs)
 - \$0.411M Building Pathways (1 FTEs)
 - \$0.239M to reduce Emissions from Natural Gas (2 FTEs)
- \$0.734M increase for Clean BC (Budget 2021)
- \$0.082M increase for Columbia River Treaty (CRT); fully recovered through FLNRORD
- \$0.009M adjustment to Minister's office

Operating Costs: net increase of \$2.267M

- \$1.062M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
- \$0.509M increase as part of CleanBC Roadmap to 2030
 - \$0.276M Clean Transportation
 - \$0.194M Low Carbon Fuel Standard
 - \$0.027M to reduce Emissions from Natural Gas
 - \$0.012M Building Pathways
- \$0.315M spending plan adjustment for Columbia River Treaty (CRT), fully recovered through FLNRORD
- \$0.228M Budget 2021 CleanBC increments
 - \$0.138M Low Carbon Fuel Standard
 - \$0.099M Go Electric
 - (\$0.009M) Remote Community
- \$0.198M temporary increase to address regional permitting backlogs (13 FTEs)
- \$0.173M increase for legal services charges backs
- (\$0.218M) decrease due to STOB reallocation for resource Regulatory

Government Transfers: net decrease of (\$5.050M)

- (\$5.000M) decrease for Clean BC
- (\$0.050M) decrease for Columbia River Treaty (CRT); fully recovered through FLNRORD

Other Expenses: increase of \$0.904M

- \$0.210M temporary increase to prioritize mineral project permitting &
- \$0.195M temporary increase to address regional permitting backlogs (13 FTEs)
- \$0.499M increase as part of CleanBC Roadmap to 2030
 - \$0.180M Low Carbon Fuel Standard
 - \$0.165M Clean Transportation
 - \$0.064M increase to support advancing Industrial Decarbonization
 - \$0.060M Building Pathways
 - \$0.030 to reduce Emissions from Natural Gas

Internal & External Recoveries: increase of (\$0.347M)

- (\$0.347M) increase for Columbia River Treaty (CRT) recovery from FLNRORD

2023/24 Changes include: net increase of \$1.161M

Salaries & Benefits: net increase of \$0.710M

\$0.036M temporary increase to address regional permitting backlogs (13 FTEs)
\$0.636M increase as part of CleanBC Roadmap to 2030
\$0.450M Low Carbon Fuel Standard (19 FTEs)
\$0.044M Clean Transportation (11 FTEs)
\$0.126M increase to support advancing Industrial Decarbonization (8
\$0.010M Building Pathways (1 FTEs)
\$0.006M to reduce Emissions from Natural Gas (2 FTEs)
\$0.001M increase for Clean BC (Budget 2021)
\$0.029M increase for Columbia River Treaty (CRT); fully recovered through FLNRORD
\$0.008M adjustment to Minister's office

Operating Costs: decrease of (\$0.384M)

(\$0.781M) decrease for Columbia River Treaty, offset by recovery from FLNRORD
\$0.044M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
\$0.188M increase to address regional permitting backlogs
\$0.028M increase to support FTEs for Clean Transportation
\$0.007M increase to support FTEs for Reduced Emissions from Natural Gas
\$0.130M increase to support FTEs for Advancing Industrial Decarbonization

Government Transfers: net decrease of (\$0.250M)

(\$0.250M) decrease for Columbia River Treaty (CRT); fully recovered through FLNRORD

Other Expenses: increase of \$0.083M

\$0.075M increase to support FTEs for Low Carbon Fuel Standard
\$0.008M increase to support FTEs for Advancing Industrial Decarbonization

Internal & External Recoveries: net decrease of \$1.002M

\$1.002M decrease for Columbia River Treaty (CRT) recovery from FLNRORD

2024/25 Changes include: net decrease of (\$5.832M)

Salaries & Benefits: net increase of (\$4.006M)

(\$2.728M) end of temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)
(\$1.401M) end of temporary increase to address regional permitting backlogs (13 FTEs)
\$0.009M Advancing Industrial Decarbonization
\$0.046M increase to support Clean Transportation as part of Clean BC road map to 2030
\$0.037M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
\$0.015M increase to support Building Pathways, including 1 FTE for HERS
\$0.008M increase Reducing emissions from Natural Gas (2 FTEs)
\$0.008M increase to support Advancing industrial decarbonization as part of CleanBC map to 2030

Operating Costs: decrease of (\$1.439M)

(\$0.447M) end of temporary increase to prioritize mineral project permitting & advance major projects to final investment
(\$0.077M) end of temporary funding for Regional Permitting
\$0.006M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
(\$0.615M) decrease to support temporary FTEs for Major Mines
(\$0.309M) decrease to support FTEs Regional Permitting,
(\$0.001M) adjustment to support FTEs for Low Carbon Fuel Standard, off set by:
\$0.004M increase to support FTEs for Advancing Industrial Decarbonization

Government Transfers: net decrease of (\$40.000M)

(\$40.000M) planned decrease for Orphan and Dormant Sites Program, offset by recovery

Other Expenses: increase of (\$0.387M)

(\$0.210M) decrease to support temporary FTEs for Major Mines
(\$0.195M) decrease to support FTEs Regional Permitting
(\$0.012M) adjustment to support FTEs for Clean Transportation
\$0.030M increase to support FTEs for Low Carbon Fuel Standard

Internal & External Recoveries: net decrease of \$40.000M

\$40.000M decrease for Orphan and Dormant Sites recovery from federal government

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

2021/22 to 2024/25

Operating Budget Changes by STOB

		\$000s						
Mines Competitiveness and Authorizations		2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	Change	2024/25 Plan
50	Base Salaries and Overtime	13,797	4,084	17,881	122	18,003	(3,178)	14,825
51	Supplementary Salary Costs	1,010	315	1,325	24	1,349	(133)	1,216
52	Employee Benefits	3,504	964	4,468	7	4,475	(809)	3,666
54	Legislative Salaries - Indemnities	-	-	-	-	-	-	-
Total Salaries & Benefits		18,311	5,363	23,674	153	23,827	(4,120)	19,707
55	Boards, Commissions, Courts Fees	50	-	50	-	50	-	50
57	Public Servant Travel Expenses	814	347	1,161	-	1,161	(131)	1,030
59	Centralized Management Services	-	-	-	-	-	-	-
60	Professional Services	1,725	300	2,025	-	2,025	(300)	1,725
61	Professional Services - Advisory	-	-	-	-	-	-	-
63	Information Systems - Operating	147	66	213	-	213	(40)	173
65	Office and Business Expenses	245	(12)	233	(9)	224	(53)	171
67	Advertising	-	-	-	-	-	-	-
68	Statutory Advertising and Publications	-	-	-	-	-	-	-
69	Utilities Materials and Supplies	58	-	58	-	58	-	58
70	Operating Equip, Vehicles and Other	59	-	59	-	59	-	59
73	Amortization Expenses	-	-	-	-	-	-	-
75	Building Occupancy Charges	-	-	-	-	-	-	-
Total Operating Expenditures		3,098	701	3,799	(9)	3,790	(524)	3,266
77	Transfers - Grants	-	-	-	-	-	-	-
79	Entitlements	-	-	-	-	-	-	-
80	Transfers Under Agreement	116	-	116	-	116	-	116
Total Grants and Transfers		116	-	116	-	116	-	116
81	Trsf Payment Between Votes	-	-	-	-	-	-	-
84	Interest Costs - Non Public Debt	-	-	-	-	-	-	-
85	Other Expenses	16	-	16	-	16	-	16
Total Other Expenses		16	-	16	-	16	-	16
88	Recoveries - Internal	(1)	-	(1)	-	(1)	-	(1)
89/90	Recoveries - External	(3,053)	-	(3,053)	-	(3,053)	-	(3,053)
Total Recoveries		(3,054)	-	(3,054)	-	(3,054)	-	(3,054)
TOTAL		18,487	6,064	24,551	144	24,695	(4,644)	20,051
Percent Change				32.8%		0.6%		(18.8%)

2022/23 Changes include: net increase of \$6.064M

Salaries & Benefits: net increase of \$5.363M

\$2.728M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)

\$1.365M temporary increase to address regional permitting backlogs (13 FTEs)

\$0.866M to resource Regulatory Excellence in Mining

\$0.404M Advancing Industrial Decarbonization (4 FTEs)

Operating Costs: net decrease of \$0.701M

\$0.447M temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions

\$0.086M temporary increase to address regional permitting backlogs

\$0.168M Regulatory Excellence in Mining

2023/24 changes include: net increase of \$0.144

Salaries & Benefits: net increase of \$0.153M

\$0.036M temporary increase to address regional permitting backlogs

\$0.117M Advancing Industrial Decarbonization

Operating Costs: net increase of (\$0.009M)

(\$0.009M) increase to address regional permitting backlogs

2024/25 changes include: net decrease of (\$4.644M)

Salaries & Benefits: net increase of (\$4.120M)

(\$2.728M) end of temporary increase for mineral project permitting & advance major projects to final investment decisions (25 FTEs)

(\$1.401M) end of temporary funding for regional permitting

\$0.009M Advancing Industrial Decarbonization

Operating Costs: net increase of (\$0.524M)

(\$0.447M) end of temporary increase to prioritize mineral project permitting & advance major projects to final investment decisions (25 FTEs)

(\$0.077M) end of temporary funding for Regional Permitting

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

2021/22 to 2024/25

Operating Budget Changes by STOB

\$000s							
Mines Health, Safety and Enforcement	2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	Change	2024/25 Plan
50 Base Salaries and Overtime	6,653	1,183	7,836	-	7,836	-	7,836
51 Supplementary Salary Costs	674	194	868	-	868	-	868
52 Employee Benefits	1,690	316	2,006	-	2,006	-	2,006
54 Legislative Salaries - Indemnities	-	-	-	-	-	-	-
Total Salaries & Benefits	9,017	1,693	10,710	-	10,710	-	10,710
55 Boards, Commissions, Courts Fees	50	-	50	-	50	-	50
57 Public Servant Travel Expenses	398	420	818	-	818	-	818
59 Centralized Management Services	-	-	-	-	-	-	-
60 Professional Services	588	-	588	-	588	-	588
61 Professional Services - Advisory	-	-	-	-	-	-	-
63 Information Systems - Operating	74	50	124	-	124	-	124
65 Office and Business Expenses	425	(144)	281	-	281	-	281
67 Advertising	-	-	-	-	-	-	-
68 Statutory Advertising and Publications	-	-	-	-	-	-	-
69 Utilities Materials and Supplies	29	-	29	-	29	-	29
70 Operating Equip, Vehicles and Other	29	-	29	-	29	-	29
73 Amortization Expenses	-	-	-	-	-	-	-
75 Building Occupancy Charges	-	-	-	-	-	-	-
Total Operating Expenditures	1,593	326	1,919	-	1,919	-	1,919
77 Transfers - Grants	-	-	-	-	-	-	-
79 Entitlements	-	-	-	-	-	-	-
80 Transfers Under Agreement	59	-	59	-	59	-	59
Total Grants and Transfers	59	-	59	-	59	-	59
81 Trsf Payment Between Votes	-	-	-	-	-	-	-
84 Interest Costs - Non Public Debt	-	-	-	-	-	-	-
85 Other Expenses	8	-	8	-	8	-	8
Total Other Expenses	8	-	8	-	8	-	8
88 Recoveries - Internal	(1)	-	(1)	-	(1)	-	(1)
89/90 Recoveries - External	(2)	-	(2)	-	(2)	-	(2)
Total Recoveries	(3)	-	(3)	-	(3)	-	(3)
TOTAL	10,674	2,019	12,693	-	12,693	-	12,693
Percent Change			18.9%		-		-

2022/23 Changes include: net increase of \$2.019M

Salaries & Benefits: net increase of \$1.693M

\$1.693M increase from Mining Excellence resources

Operating Costs: net increase \$0.326M

\$0.326M increase from Mining Excellence resources

2023/24 No Changes

2024/25 No Changes

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

2021/22 to 2024/25

Operating Budget Changes by STOB

		\$000s					
Electricity and Alternative Energy		2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	2024/25 Plan
50	Base Salaries and Overtime	6,291	3,423	9,714	430	10,144	10,229
51	Supplementary Salary Costs	-	-	-	-	-	-
52	Employee Benefits	1,598	869	2,467	110	2,577	2,598
54	Legislative Salaries - Indemnities	-	-	-	-	-	-
Total Salaries & Benefits		7,889	4,292	12,181	540	12,721	12,827
55	Boards, Commissions, Courts Fees	-	-	-	-	-	-
57	Public Servant Travel Expenses	176	33	209	-	209	209
59	Centralized Management Services	-	-	-	-	-	-
60	Professional Services	4,426	80	4,506	(550)	3,956	3,956
61	Professional Services - Advisory	50	187	237	(137)	100	237
63	Information Systems - Operating	92	50	142	142	284	165
65	Office and Business Expenses	130	36	166	39	205	193
67	Advertising	364	10	374	(10)	364	364
68	Statutory Advertising and Publications	-	-	-	-	-	-
69	Utilities Materials and Supplies	-	-	-	-	-	-
70	Operating Equip, Vehicles and Other	-	-	-	-	-	-
73	Amortization Expenses	-	-	-	-	-	-
75	Building Occupancy Charges	-	-	-	-	-	-
Total Operating Expenditures		5,238	396	5,634	(516)	5,118	5,124
77	Transfers - Grants	-	-	-	-	-	-
79	Entitlements	-	-	-	-	-	-
80	Transfers Under Agreement	29,418	(5,050)	24,368	(250)	24,118	24,118
Total Grants and Transfers		29,418	(5,050)	24,368	(250)	24,118	24,118
81	Trsf Payment Between Votes	-	-	-	-	-	-
84	Interest Costs - Non Public Debt	-	-	-	-	-	-
85	Other Expenses	4	-	4	-	4	4
Total Other Expenses		4	-	4	-	4	4
88	Recoveries - Internal	(3,200)	(97)	(3,297)	752	(2,545)	(2,545)
89/90	Recoveries - External	(2)	-	(2)	-	(2)	(2)
Total Recoveries		(3,202)	(97)	(3,299)	752	(2,547)	(2,547)
TOTAL		39,347	(459)	38,888	526	39,414	39,526
Percent Change				(1.2%)		1.4%	0.3%

2022/23 Changes include: net decrease of (\$0.459M)

Salaries and Benefits: net increase of \$4.292M

- \$1.594M increase to support Low Carbon Fuels (19 FTEs) as part of CleanBC road map to 2030
- \$1.232M increase to support Clean Transportation (11 FTEs) as part of Clean BC road map to 2030
- \$0.411M increase to support Building Pathways, including 1 FTE for HERS
- \$0.239M increase Reducing emissions from Natural Gas (2 FTEs)
- \$0.511M increment of prior year approval for Low Carbon Fuels
- \$0.212M increment of prior year approval for Go Electric
- \$0.082M spending plan update for Columbia River Treaty, offset by recovery from FLNRORD
- \$0.011M increment of prior year approval for Remote Community

Operating Costs: net increase of \$0.396M

- \$0.199M increase to support Clean Transportation as part of Clean BC road map to 2030
- \$0.040M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
- \$0.012M increase to support Building Pathways, including 1 FTE for HERS
- \$0.006M increase Reducing emissions from Natural Gas (2 FTEs)
- \$0.065M increase for Columbia River Treaty, offset by recovery from FLNRORD
- \$0.062M increment of prior year approval for Low Carbon Fuels
- \$0.012M increment of prior year approval for Go Electric

Government Transfers: net decrease of (\$5.050M)

- (\$5.000M) decrease on time funding BC Hydrogen
- (\$0.050M) decrease for Columbia River Treaty, offset by recovery from FLNRORD

Internal Recoveries: increase of (\$0.097M)

- (\$0.097M) increase for Columbia River Treaty recovery from FLNRORD

2023/24 Changes include: net increase of \$0.526M

Salaries and Benefits: net increase of \$0.540M

\$0.450M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
\$0.044M increase to support Clean Transportation as part of Clean BC road map to 2030
\$0.010M increase to support Building Pathways, including 1 FTE for HERS
\$0.006M increase Reducing emissions from Natural Gas (2 FTEs)
\$0.029M increase for Columbia River Treaty, offset by recovery from FLNRORD
\$0.001M increment of prior year approval for Remote Community

Operating Costs: net decrease of (\$0.516M)

(\$0.531M) decrease for Columbia River Treaty, offset by recovery from FLNRORD
\$0.015M increase to support Low Carbon Fuels as part of CleanBC road map to 2030

Government Transfers: net decrease of (\$0.250M)

(\$0.250M) decrease for Columbia River Treaty, offset by recovery from FLNRORD

Internal Recoveries: increase of \$0.752M

\$0.752 decrease for Columbia River Treaty recovery from FLNRORD

2024/25 Changes include: net increase of \$0.112M

Salaries and Benefits: net increase of \$0.106M

\$0.046M increase to support Clean Transportation as part of Clean BC road map to 2030
\$0.037M increase to support Low Carbon Fuels as part of CleanBC road map to 2030
\$0.015M increase to support Building Pathways, including 1 FTE for HERS
\$0.008M increase Reducing emissions from Natural Gas (2 FTEs)

Operating Costs: increase of \$0.006M

\$0.006M increase to support Low Carbon Fuels as part of CleanBC road map to 2030

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

2021/22 to 2024/25

Operating Budget Changes by STOB

		\$000s					
Oil and Gas Division		2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	2024/25 Plan
50	Base Salaries and Overtime	5,699	332	6,031	7	6,038	6,044
51	Supplementary Salary Costs	-	-	-	-	-	-
52	Employee Benefits	1,448	84	1,532	2	1,534	1,536
54	Legislative Salaries - Indemnities	-	-	-	-	-	-
Total Salaries & Benefits		7,147	416	7,563	9	7,572	7,580
55	Boards, Commissions, Courts Fees	-	-	-	-	-	-
57	Public Servant Travel Expenses	354	-	354	-	354	354
59	Centralized Management Services	-	-	-	-	-	-
60	Professional Services	2,490	-	2,490	-	2,490	2,490
61	Professional Services - Advisory	-	-	-	-	-	-
63	Information Systems - Operating	306	-	306	-	306	306
65	Office and Business Expenses	340	-	340	-	340	340
67	Advertising	-	-	-	-	-	-
68	Statutory Advertising and Publications	-	-	-	-	-	-
69	Utilities Materials and Supplies	69	-	69	-	69	69
70	Operating Equip, Vehicles and Other	63	-	63	-	63	63
73	Amortization Expenses	5,934	-	5,934	-	5,934	5,934
75	Building Occupancy Charges	-	-	-	-	-	-
Total Operating Expenditures		9,556	-	9,556	-	9,556	9,556
77	Transfers - Grants	-	-	-	-	-	-
79	Entitlements	-	-	-	-	-	-
80	Transfers Under Agreement	40,100	-	40,100	-	40,100	(40,000) 100
Total Grants and Transfers		40,100	-	40,100	-	40,100	(40,000) 100
81	Trsf Payment Between Votes	-	-	-	-	-	-
84	Interest Costs - Non Public Debt	-	-	-	-	-	-
85	Other Expenses	55	-	55	-	55	55
Total Other Expenses		55	-	55	-	55	55
88	Recoveries - Internal	(1)	-	(1)	-	(1)	(1)
89/90	Recoveries - External	(40,002)	-	(40,002)	-	(40,002)	40,000 (2)
Total Recoveries		(40,003)	-	(40,003)	-	(40,003)	40,000 (3)
TOTAL		16,855	416	17,271	9	17,280	8 17,288
Percent Change				2.5%		0.1%	0.0%

2022/23 Changes include: net increase of \$0.416M

Salaries and Benefits: increase of \$0.416M

\$0.416M increase to support Advancing industrial decarbonization (4 FTEs) as part of CleanBC map to 2030

2023/24 Changes include: net increase of \$0.009M

Salaries and Benefits: increase of \$0.009M

\$0.009M increase to support Advancing industrial decarbonization as part of CleanBC map to 2030

2024/25 Changes include: net increase of \$0.008M

Salaries and Benefits: increase of \$0.008M

\$0.008M increase to support Advancing industrial decarbonization as part of CleanBC map to 2030

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION
2021/22 to 2024/25

Operating Budget Changes by STOB

		\$000s					
Strategic & Indigenous Affairs		2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	2024/25 Plan
50	Base Salaries and Overtime	1,373	-	1,373	-	1,373	1,373
51	Supplementary Salary Costs	-	-	-	-	-	-
52	Employee Benefits	349	-	349	-	349	349
54	Legislative Salaries - Indemnities	-	-	-	-	-	-
Total Salaries & Benefits		1,722	-	1,722	-	1,722	1,722
55	Boards, Commissions, Courts Fees	-	-	-	-	-	-
57	Public Servant Travel Expenses	91	-	91	-	91	91
59	Centralized Management Services	-	-	-	-	-	-
60	Professional Services	513	-	513	-	513	513
61	Professional Services - Advisory	-	-	-	-	-	-
63	Information Systems - Operating	14	-	14	-	14	14
65	Office and Business Expenses	73	-	73	-	73	73
67	Advertising	-	-	-	-	-	-
68	Statutory Advertising and Publications	-	-	-	-	-	-
69	Utilities Materials and Supplies	-	-	-	-	-	-
70	Operating Equip, Vehicles and Other	-	-	-	-	-	-
73	Amortization Expenses	-	-	-	-	-	-
75	Building Occupancy Charges	-	-	-	-	-	-
Total Operating Expenditures		691	-	691	-	691	691
77	Transfers - Grants	-	-	-	-	-	-
79	Entitlements	-	-	-	-	-	-
80	Transfers Under Agreement	100	-	100	-	100	100
Total Grants and Transfers		100	-	100	-	100	100
81	Trsf Payment Between Votes	-	-	-	-	-	-
84	Interest Costs - Non Public Debt	-	-	-	-	-	-
85	Other Expenses	5	-	5	-	5	5
Total Other Expenses		5	-	5	-	5	5
88	Recoveries - Internal	(1)	-	(1)	-	(1)	(1)
89/90	Recoveries - External	(2)	-	(2)	-	(2)	(2)
Total Recoveries		(3)	-	(3)	-	(3)	(3)
TOTAL		2,515	-	2,515	-	2,515	2,515
Percent Change							

2022/23 No Changes

2023/24 No Changes

2024/25 No Changes

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

2021/22 to 2024/25

Operating Budget Changes by STOB

		\$000s					
Executive and Support Services		2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	2024/25 Plan
50	Base Salaries and Overtime	1,854	7	1,861	7	1,868	1,868
51	Supplementary Salary Costs	36	-	36	-	36	36
52	Employee Benefits	493	2	495	1	496	496
54	Legislative Salaries - Indemnities	56	-	56	-	56	56
Total Salaries & Benefits		2,439	9	2,448	8	2,456	2,456
55	Boards, Commissions, Courts Fees	-	-	-	-	-	-
57	Public Servant Travel Expenses	177	-	177	-	177	177
59	Centralized Management Services	3,208	423	3,631	(250)	3,381	3,381
60	Professional Services	438	-	438	-	438	438
61	Professional Services - Advisory	-	-	-	-	-	-
63	Information Systems - Operating	723	(8)	715	-	715	715
65	Office and Business Expenses	1,745	123	1,868	(3)	1,865	1,864
67	Advertising	-	-	-	-	-	-
68	Statutory Advertising and Publications	-	-	-	-	-	-
69	Utilities Materials and Supplies	-	-	-	-	-	-
70	Operating Equip, Vehicles and Other	279	-	279	-	279	279
73	Amortization Expenses	856	237	1,093	197	1,290	839
75	Building Occupancy Charges	1,431	69	1,500	197	1,697	1,228
Total Operating Expenditures		8,857	844	9,701	141	9,842	8,921
77	Transfers - Grants	-	-	-	-	-	-
79	Entitlements	-	-	-	-	-	-
80	Transfers Under Agreement	-	-	-	-	-	-
Total Grants and Transfers		-	-	-	-	-	-
81	Trsf Payment Between Votes	-	-	-	-	-	-
84	Interest Costs - Non Public Debt	-	-	-	-	-	-
85	Other Expenses	1,594	904	2,498	83	2,581	2,194
Total Other Expenses		1,594	904	2,498	83	2,581	2,194
88	Recoveries - Internal	(753)	(250)	(1,003)	250	(753)	(753)
89/90	Recoveries - External	(6)	-	(6)	-	(6)	(6)
Total Recoveries		(759)	(250)	(1,009)	250	(759)	(759)
TOTAL		12,131	1,507	13,638	482	14,120	12,812
Percent Change				12.4%		3.5%	(9.3%)

2022/23 Changes include: net increase of \$1.507M

Salaries and Benefits: net increase of \$0.009M

\$0.009M increase for Minister's Office

Operating Costs: net increase of \$0.844M

\$0.615M increase to support temporary FTEs for Major Mines
 \$0.173M increase to support legal charge back from Ministry of Attorney General
 \$0.154M increase to support FTEs for Low Carbon Fuel Standard
 \$0.112M increase to support FTEs Regional Permitting
 \$0.077M increase to support FTEs for Clean Transportation
 \$0.021M increase to support FTEs for Reduced Emissions from Natural Gas
 (\$0.712M) STOB re alignment of Budget 2019 approval for Mining Excellence
 \$0.250M increase for Columbia River Treaty, offset by recovery from FLNRORD
 \$0.087M prior year increase for Go Electric
 \$0.076M prior year increase for Low Carbon Fuels
 (\$0.009M) prior year decrease for Remote Community

Other Expenses: increase of \$0.904M

\$0.210M increase to support temporary FTEs for Major Mines
 \$0.195M increase to support FTEs Regional Permitting
 \$0.180M increase to support FTEs for Low Carbon Fuel Standard
 \$0.165M increase to support FTEs for Clean Transportation
 \$0.064M increase to support FTEs for Advancing Industrial Decarbonization
 \$0.060M increase to support FTEs for Building Pathways
 \$0.030M increase to support FTEs for Reduced Emissions from Natural Gas

Recoveries: increase of (\$0.250M)

(\$0.250M) increase for Columbia River Treaty recovery from FLNRORD

2023/24 Changes include: net increase of \$0.482M

Salaries and Benefits: increase of \$0.008M

\$0.008M increase for Minister's Office

Operating Costs: net increase of \$0.141M

\$0.028M increase to support FTEs for Clean Transportation

\$0.029M increase to support FTEs for Low Carbon Fuel Standard

\$0.007M increase to support FTEs for Reduced Emissions from Natural Gas

\$0.130M increase to support FTEs for Advancing Industrial Decarbonization

\$0.197M increase to support FTEs Regional Permitting

(\$0.250M) decrease for Columbia River Treaty, offset by recovery from FLNRORD

Other Expenses: increase of \$0.083M

\$0.075M increase to support FTEs for Low Carbon Fuel Standard

\$0.008M increase to support FTEs for Advancing Industrial Decarbonization

Recoveries: decrease of \$0.250M

\$0.250M decrease for Columbia River Treaty recovery from FLNRORD

2024/25 Changes include: net decrease of (\$1.308M)

Operating Costs: decrease of (\$0.921M)

(\$0.615M) decrease to support temporary FTEs for Major Mines

(\$0.309M) decrease to support FTEs Regional Permitting,

(\$0.001M) adjustment to support FTEs for Low Carbon Fuel Standard, off set by:

\$0.004M increase to support FTEs for Advancing Industrial Decarbonization

Other Expenses: decrease of (\$0.387M)

(\$0.210M) decrease to support temporary FTEs for Major Mines

(\$0.195M) decrease to support FTEs Regional Permitting

(\$0.012M) adjustment to support FTEs for Clean Transportation

\$0.030M increase to support FTEs for Low Carbon Fuel Standard

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION
2021/22 to 2024/25

Operating Budget Changes by STOB

		\$000s						
Innovative Clean Energy (ICE) Fund		2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	Change	2024/25 Plan
50	Base Salaries and Overtime	300	1	301	-	301	-	301
51	Supplementary Salary Costs	-	-	-	-	-	-	-
52	Employee Benefits	77	(1)	76	-	76	-	76
54	Legislative Salaries - Indemnities	-	-	-	-	-	-	-
Total Salaries & Benefits		377	-	377	-	377	-	377
55	Boards, Commissions, Courts Fees	-	-	-	-	-	-	-
57	Public Servant Travel Expenses	5	-	5	-	5	-	5
59	Centralized Management Services	-	-	-	-	-	-	-
60	Professional Services	16	-	16	-	16	-	16
61	Professional Services - Advisory	-	-	-	-	-	-	-
63	Information Systems - Operating	-	-	-	-	-	-	-
65	Office and Business Expenses	5	-	5	-	5	-	5
67	Advertising	-	-	-	-	-	-	-
68	Statutory Advertising and Publications	-	-	-	-	-	-	-
69	Utilities Materials and Supplies	-	-	-	-	-	-	-
70	Operating Equip, Vehicles and Other	-	-	-	-	-	-	-
73	Amortization Expenses	-	-	-	-	-	-	-
75	Building Occupancy Charges	-	-	-	-	-	-	-
Total Operating Expenditures		26	-	26	-	26	-	26
79	Entitlements	-	-	-	-	-	-	-
80	Transfers Under Agreement	7,703	(5,700)	2,003	7,700	9,703	(2,200)	7,503
Total Grants and Transfers		7,703	(5,700)	2,003	7,700	9,703	(2,200)	7,503
85	Other Expenses	-	-	-	-	-	-	-
Total Other Expenses		-	-	-	-	-	-	-
88	Recoveries - Internal	(1)	-	(1)	-	(1)	-	(1)
89/90	Recoveries - External	(2)	-	(2)	-	(2)	-	(2)
Total Recoveries		(3)	-	(3)	-	(3)	-	(3)
TOTAL		8,103	(5,700)	2,403	7,700	10,103	(2,200)	7,903
Percent Change				(70.3%)		320.43%		(21.78%)

2022/23 Changes include: decrease of (\$5.700M)

Government Transfers: decrease of (\$5.700M)

(\$5.000M) decrease for Sustainable Development Technology Canada (SDTC) Extension Agreement
(\$0.700M) decrease for SDTC Joint Call

2023/24 changes include : increase of \$7.700M

Government Transfers: increase of \$7.700M

\$5.200M increase for Hydrogen Fueling for CleanBC Go Electric
\$2.500M increase for Advanced Research and Commercialization for CleanBC Go Electric

2024/25 changes include: decrease of (\$2.200M)

Government Transfers: decrease of (\$2.200M)

(\$2.200M) decrease in Hydrogen Fueling for CleanBC GoElectric
(\$0.500M) decrease for Advanced Research and Commercialization for CleanBC Go Electric, off set by
\$0.500M increase trusted partnership

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

CAPITAL BUDGET - 2021/22 to 2024/25

\$000s

	2021/22 Restated	Change	2022/23 Estimates	Change	2023/24 Plan	Change	2024/25 Plan
Ministry Operations							
Furniture & Equipment	1	-	1	-	1	-	1
Specialized Equipment	45	-	45	-	45	-	45
Information Technology		-	-	-	-	-	-
Vehicles	253	287	540	(253)	287	-	287

Advice/Recommendations; Government Financial Information

Ministry Operations

Specialized Equipment funding for Mines Health and Safety equipment

Vehicles - The lead ministry for vehicle management is Labour and Citizens' Services. Funding reflects costs for replacing old/retired vehicles. Includes reprofiling of net new vehicle purchases associated with Mining Excellence Budget approvals

Advice/Recommendations; Government Financial Information

Page 524 of 537

Withheld pursuant to/removal as

Advice/Recommendations ; Government Financial Information



February 25, 2022

Honourable Bruce Ralston
Minister of Energy, Mines and Low Carbon Innovation
Parliament Buildings
Victoria, British Columbia V8V 1X4

Dear Minister Ralston:

Thank you for agreeing to serve British Columbians as Minister of Energy, Mines and Low Carbon Innovation.

In this past year, as a member of Cabinet, your work has contributed to this government's efforts to support British Columbians as they face the impacts of COVID-19. People throughout the province continue to work together to stay safe and rebuild their lives and communities from the effects of the pandemic. Our government remains committed to getting through the pandemic and its aftereffects by building on this resilience and focusing on what matters most to people.

British Columbians voted for a government focused on their priorities: providing better health care for people and families, delivering affordability and security in our communities, and investing in good jobs and livelihoods in a clean-energy future.

I expect you –with support of your ministry – to focus on the commitments detailed in our platform, *Working for You*, along with the following foundational principles:

- **Putting people first:** Since 2017, our government has focused on making decisions to meet people's needs. That focus drove our work in our first term and will continue to be our priority. British Columbians are counting on the government to keep them safe and to build an economic recovery that works for everyone, not just those at the top. Keeping people at the centre of everything we do means protecting and enhancing the public services people rely on and working to make life more affordable for everyone.

.../2

**Office of the
Premier**

Web Site:
www.gov.bc.ca

Mailing Address:
PO Box 9041 Stn Prov Govt
Victoria BC V8W 9E1

Location:
Parliament Buildings
Victoria

- **Lasting and meaningful reconciliation:** Reconciliation is an ongoing process and a shared responsibility for us all. The unanimous passage of the *Declaration on the Rights of Indigenous Peoples Act* was a significant step forward in this journey. True reconciliation will take time and ongoing commitment to work with Indigenous peoples as they move toward self-determination. Our government – and every ministry – must remain focused on creating opportunities for Indigenous peoples to be full partners in our economy and providing a clear and sustainable path for everyone to work toward lasting reconciliation.
- **Equity and anti-racism:** Our province's history, identity and strength are rooted in its diverse population. Yet racialized and marginalized people face historic and present-day barriers that limit their full participation in their communities, workplaces, government, and their lives. Our government has a moral and ethical responsibility to tackle systemic discrimination in all its forms – and every ministry has a role in this work. While our caucus elected a record number of women, more work remains to address gender equity. Delivering on our commitments to address racial discrimination will require a commitment by all of government to ensure increased IBPOC (Indigenous, Black and People of Colour) representation within the public service, including in government appointments. Our efforts to address systemic discrimination must also inform policy and budget decisions by reviewing all decisions through a Gender-Based Analysis Plus (GBA+) lens.
- **A better future through fighting climate change:** In 2018, our government launched our CleanBC climate action plan. CleanBC puts British Columbia on the path to a cleaner, better future by building a low-carbon economy with new clean-energy jobs and opportunities, protecting our air, land and water and supporting communities to prepare for climate impacts. It is every Minister's responsibility to ensure your ministry's work continues to achieve CleanBC's goals.
- **A strong, sustainable economy that works for everyone:** We will continue our work to support British Columbians through the pandemic and the economic recovery by investing in health care, getting people back to work, helping businesses and communities, and building the clean, innovative economy of the future. Our plan will train the workforce of tomorrow, help businesses hire and grow and invest in the infrastructure needed to build our province.

The pandemic has reminded us that we're strongest when we work together. Delivering on our commitments to people will require a coordinated effort with your cabinet and caucus colleagues, supported by the skilled professionals in the public service. You will also support your cabinet colleagues to do their work, particularly where commitments cross ministry lines.

.../3

British Columbians expect their elected representatives to work together to advance the broader public good despite their partisan perspectives. That means seeking out, fostering, and championing good ideas, regardless of their origin. I expect you to reach out to elected members from all parties as you deliver on your mandate. Further, you will build thoughtful and sustained relationships through public and stakeholder engagement plans that connect with people to incorporate their perspectives early in the policy development process. These plans must include measurable outcomes and ensure active dialogue and ongoing outreach in your ministry's actions and priorities.

Over the course of our mandate, I expect you will make progress on the following items:

- Work with cabinet colleagues to advance clean economic opportunities and CleanBC goals as our government responds to and recovers from the COVID-19 pandemic.
- Accelerate the adoption of zero emission vehicles with income-tested rebates, new incentives for purchasing used electric vehicles and an expansion of the CleanBC Specialty-Use Vehicle Incentive program.
- Increase vehicle charging capacity by providing additional incentives to expand home and workplace electric vehicle charging.
- Enhance energy efficiency programs and incentives for residential and commercial buildings, including Property Assessed Clean Energy financing to help homeowners make energy-saving retrofits and repay the cost of them over time.
- Establish the BC Centre for Innovation and Clean Energy to drive made-in-BC innovations such as carbon capture and storage and renewable fuels.
- Drawing on the findings of the independent review, ensure the cost and schedule pressures facing construction of the Site C project are addressed in a manner that protects the best interests of British Columbians.
- Undertake a review of oil and gas royalty credits to ensure they meet BC's goals for economic development, a fair return on our resources and environmental protection.
- Complete implementation of the Fuel Price Transparency Act to ensure oil and gas companies are publicly accountable for unexplained markups and price increases.
- Implement world-leading regulations and technologies to support detection and reduction of harmful methane emissions in the oil and gas sector.

.../4

- Work with the federal government and BC Hydro to fast track the expansion of electrification by working with industries of all sizes across sectors to make it easier for them to go green.
- Continue to implement the recommendations of the Mining Jobs Task Force to strengthen this important sector and create good jobs for people.
- Create a Mining Innovation Hub to identify and support innovation, training for workers in new technologies, regulatory excellence, environmental management, and low-carbon approaches.
- Support the Minister of Environment and Climate Change Strategy to ensure owners of large industrial projects are bonded moving forward so that they – not BC taxpayers – pay the full costs of environmental cleanup if their projects are abandoned.

Our work as a government must continually evolve to meet the changing needs of people in this province. Issues not contemplated in this letter will come forward for government action and I ask you to bring such matters forward for consideration by the Planning and Priorities Committee of cabinet, with the expectation that any proposed initiatives will be subject to the usual cabinet and Treasury Board oversight. Your ministry's priorities must reflect our government's overall strategic plan as determined by cabinet.

All cabinet members are expected to review, understand and act according to the *Members' Conflict of Interest Act* and conduct themselves with the highest level of integrity. As a minister of the Crown, your conduct will reflect not only on you, but on cabinet and our government.

You are responsible for providing strong, professional, and ethical leadership within cabinet and your ministry. You will establish a collaborative working relationship with your deputy minister and the public servants under their direction who provide the professional, non-partisan advice that is fundamental to delivering on our government's priorities. You must ensure your minister's office meets the highest standards for integrity and provides a respectful and rewarding environment for all staff.

My commitment to all British Columbians is to do my level best to make sure people's lives are better, safer, and more affordable. I believe the challenges we face can and will be overcome by working together. By way of this letter, I am expressing my faith that people can expect the same commitment from you.

Sincerely,

A handwritten signature in dark ink, reading "John J. Horgan". The signature is fluid and cursive, with a long horizontal stroke at the end.

John Horgan
Premier

Budget 2022 Briefing Note

Ministry of Energy, Mines and Low Carbon Innovation

.....

Issue: Budget Transfer Summary

Recommended Response:

The Lands and Natural Resource Operations Secretariat completed a comprehensive analysis of the natural resource sector that led to the creation of a new ministry and the reorganization of several programs across government.

Specifically, EMLI transferred the Environmental Stewardship Initiatives (ESI) program and corresponding budget of \$0.588M to the new Ministry of Land, Water and Resource Stewardship.

Key Facts:

Established in May 2014, the Environmental Stewardship Initiative (ESI) is an innovative form of collaboration and partnership between the Province and First Nations, designed to produce high-quality, accessible, and trusted environmental information.

Program Function	EMLI	
	Budget	FTEs
Environmental Stewardship Initiatives (ESI)	588,000	-6
Total transfers	-588,000	-6

Date Prepared/Revised: «add date»

Ministry Executive Sponsor:

Name: Ranbir Parmar

Phone: 778 698-3756

Program Contact for Issue:

Name: Michelle Roland

Phone: (778)698-3752

Page 530 of 537

Withheld pursuant to/removed as

Advice/Recommendations

ADVICE TO MINISTER

KEY POINTS AND BACKGROUND:

- For fiscal **21/22**, no formal vendor complaints were filed under the Vendor Complaint Review Program pertaining to the Ministry.
- The Ministry has a process in place to ensure contracts are awarded based on a fair and open tendering process as per government policy. Specifically:
 - The Ministry has a website which provides up-to-date information on procurement and links to training resources;
 - The Ministry has a hierarchical contract approval process based on the dollar value of the contract.
- Contracts of a material value may be negotiated and directly awarded in limited circumstances, including the following:
 - **Public sector organization** – The contract is with another government organization;
 - **Sole Source** – The Ministry can strictly prove that only one contractor is qualified and available to provide the goods/services;
 - **Emergency** – An unforeseeable emergency exists and the goods/services could not be obtained in time by any other means;
 - **Confidentiality** – The acquisition is of a confidential or privileged nature;
 - **Security** – A competitive process, such as open bidding, would interfere with the Ministry's ability to maintain security or confidentiality;
 - **Under \$25,000** (Services and Construction) – A contract is less than \$25,000 and a competitive process was not cost effective or reasonable;
 - A transfer payment may be direct awarded where a competitive process is not appropriate or to benefit a specific target population; or
 - **Notice of Intent** – A contract may be direct awarded after posting a Notice of Intent on BC Bid, thus advising the vendor community of the intent to direct award. Vendors have the opportunity to challenge the proposed direct award.

ADVICE TO MINISTER

The table below lists the largest **10** of the **51** direct award contracts:

Supplier Name	Procurement Code	Description	Contract Value/ Encumbrance
British Columbia Hydro and Power Authority	Sole source	FY22 BC Hydro Contribution to the Columbia River Treaty (CRT) Negotiations	\$ 400,000
IHS Markit Canada Ulc	Sole source	FY22 Provision of Light Duty Vehicle Units in Operation and New Vehicle Sales Data	302,693
Klohn Crippen Berger Ltd.	Sole source	FY22 - Mines Health and Safety Code Review - Part 10 Sub-Committee	200,000
SLR Consulting (Canada) Ltd.	Sole source	FY22 - Valuation of Three Northwest Bc Properties - Iskut, Sheslay and Gitanyow	142,000
Elevate Consulting Inc.	Notice of Intent	FY22 - Responsible Minerals and Metals Action Plan	110,000
Four Directions Management Services Ltd.	Sole source	FY22 - Facilitation Support and Strategic Advice	100,000
ALS Canada Ltd.	Sole source	FY22 - Re-Analyses of BCGS Archived Igneous Lithogeochemistry Samples from Northwestern BC	100,000
Ernst & Young LLP	Sole source	FY22 – B.C. Oil and Gas Royalty Review: Accounting	70,000
Provincial Health Services Authority	Sole source	FY22- San'Yas Core Indigenous Cultural Safety Foundations Training	65,700
Hazen and Sawyer, D.P.C.	Sole source	FY22 - Columbia River Treaty Planning Model (CRTPM) Support	64,000
<i>Sum of all other direct award contracts</i>			542,036
Total			\$ 2,096,429

ADVICE TO MINISTER

APPENDIX A – ANALYSIS OF DIRECT AWARDS FOR CONTRACTS

In fiscal 21/22 as at February 28, 2022, **34** direct award contracts were entered into with a total value of **\$2,096,429**. This accounts for **26%** of Ministry contract dollars.

The contracts were directly awarded by the Ministry as allowed under CORE policy, as follows:

- 26 contracts totalling \$1,851,804 were directly awarded under the criterion that the Ministry can strictly prove only one contractor was qualified and available to provide the goods/services.
- 1 contract totalling \$110,000 was directly awarded after posting a Notice of Intent on BC Bid, thus advising the vendor community of the intent to direct award.
- 4 contracts totalling \$79,625 were directly awarded due to an unforeseeable emergency and the goods/services could not be obtained in time by any other means.
- 1 contract totalling \$35,000 was directly awarded as being of a confidential or privileged nature.
- 2 contracts totalling \$20,000 were directly awarded under another Corporate Policy or Legislation.

ADVICE TO MINISTER

APPENDIX B – TOP 10 DIRECT AWARD TRANSFERS, BY DOLLAR VALUE

Supplier Name	Procurement Code	Description	Contract Value/ Encumbrance
British Columbia Centre for Innovation and Clean Energy	Sole Source	FY22 - BC-CICE	\$ 35,000,000
360 Energy Liability Management Ltd.	Other Purchase Process	FY22 – SOP Certainty Agreement	7,986,010
Gitanyow Huwilp Society	Shared Cost Arrangement (Competition not appropriate)	FY22 - SOP Certainty Agreement	5,712,527
Harper Grey LLP, In Trust	Shared Cost Arrangement (Competition not appropriate)	FY22 - Petroleum And Natural Gas Legacy Sites Reclamation Program	5,712,527
Synergyaspen Environmental Inc.	Grants and Entitlements	FY22 - Pre-Front End Engineering And Design Study For The Merritt, Bc, Electrofuels Project	5,205,800
BC Oil and Gas Research And Innovation Society	Shared Cost Arrangement (Competition not appropriate)	FY22 - SOP Certainty Agreement	5,000,000
Ridgeline Canada Inc.	Grants and Entitlements	FY22 - Environmental Stewardship Initiative (Esi) Carrier-Sekani First Nations Csfm Omineca Demonstration Project Agreement	4,375,000
Matrix Solutions Inc.	Grants and Entitlements	FY22 - North Coast (Nc) Cumulative Effects (Ce) Workplan Deliverables & Contract Management	4,129,890
Halfway River Ventures Limited Partnership	Grants and Entitlements	FY22 - Tsay Keh Dene And Province Of Bc Environmental Stewardship Initiative Agreement Funding	3,234,278
Precision Limited Partnership	Grants and Entitlements	FY22 - Lil'Wat Nation - SOP Certainty Agreement	2,980,336
<i>Sum of all other direct award transfers</i>			32,148,936
Total			\$ 111,485,304

Page 535 of 537

Withheld pursuant to/removed as

Advice/Recommendations

Page 536 of 537

Withheld pursuant to/removed as
Cabinet Confidences ; Advice/Recommendations

Page 537 of 537

Withheld pursuant to/removed as
Cabinet Confidences ; Advice/Recommendations