Ferguson, Susan M MEM:EX

EAED

From:

Minister, MEM MEM:EX

Sent:

Friday, August 21, 2015 10:19 AM

To:

MEM Correspondence MEM:EX

Subject: Attachments: FW: Climate Action Consultation - The Energy Forum Energy Forum Climate Leadership Consultation Submission August 20th 2015.pdf

Info/File

From: Paul Kariya [mailto:Paul.Kariya@cleanenergybc.org]

Sent: Friday, August 21, 2015 10:13 AM **To:** OfficeofthePremier, Office PREM:EX

Cc: Minister, MEM MEM:EX; Nikolejsin, Dave MEM:EX; Minister, ENV ENV:EX; Shoemaker, Wes ENV:EX; Climate

Leadership Plan ENV:EX; 'jsturdy@pemberton.ca'

Subject: Climate Action Consultation - The Energy Forum

Premier,

On behalf of The Energy Forum and its members I am pleased to make this submission to you and your government on necessary climate action. Thank you for the progress BC has made to date and thank you for the foresight to empanel a new Climate Action Leadership Team and process.

For the betterment of all British Columbians today and tomorrow, you have our commitment to work hard and to be engaged for solutions.

Sincerely

Paul Kariya Executive Director Clean Energy BC

CC:

Minister of Energy and Mines, Hon. Bill Bennett Deputy Minister Dave Nikolejsin Minister of Environment, Hon Mary Polak Deputy Minister Wes Shoemaker Parliamentary Secretary, Jordan Sturdy Climate Action Secretariat Premier Christy Clark PO BOX 9041 STN PROV GOVT VICTORIA, BC V8W 9E1 Via: Email THE ENERGY FORUM

August 20th, 2015

Re: Climate Action Consultation

Dear Premier Clark,

The Energy Forum is a collaboration of British Columbian power producers, industry associations and non-government organizations that are working together to address the challenges and opportunities presented by the nexus of energy, climate and ecosystems. We were glad to see the creation of the Climate Leadership Team and applaud your initiative in developing a climate leadership plan.

This letter outlines British Columbia's success to date on meeting the dual goal of reducing carbon pollution while growing the economy, what a successful climate leadership plan would accomplish and our initial thoughts on the types of government actions that we support to achieve these outcomes.

Success to Date:

British Columbia has demonstrated to the world that it is possible to drive down carbon pollution while growing the economy. Policies like the carbon tax, clean electricity standard and renewable and low-carbon fuel requirements regulation have helped to drive this change. The clean electricity sector has contributed to this success.

Over the past five years \$6 billion dollars have flowed into the renewable electricity sector in British Columbia, adding 1.75 GW¹ of new clean electricity capacity and growing the number of people employed in the sector to over 14,000². Across British Columbia over 130 First Nations groups have positive relationships with clean energy projects.

What Success Looks Like

Unfortunately, British Columbia's carbon pollution is starting to increase in nearly every sector and is projected to continue increasing without new climate policy³, signalling that it's time to reinvigorate the climate action plan. A signal the Government of British Columbia is responding to with the creation of the Climate Leadership Team.

¹ Clean Energy Canada estimates to be released in the fall 2015, estimates available upon request.

http://www.pembina.org/bcjobsmap/

³ Environment Canada (2015) National Inventory Report 1990-2013 – Table A10-20.

In our opinion, a successful climate leadership plan would see British Columbia leverage its clean electricity resources as one way to help meet its climate targets, generate local, distributed and permanent jobs and maintain British Columbia's competitive edge in a cleaner economy. The Energy Forum fully supports other necessary actions such as energy efficiency, renewable fuels and better designed communities.

How to Achieve Success

Buildings, **transportation** and **industry** produce nearly 80 percent of British Columbia's carbon pollution. Over the next 35 years⁴ a combination of sector policies designed to encourage a switch to clean electricity, more energy efficient design and lower carbon pollution designs will be necessary to reduce this carbon pollution. The **carbon tax** would support these policies by ensuring that carbon pollution is incorporated into many decisions made in British Columbia. Finally, a **strategic fund** could be established to both make it easier for B.C. citizens and businesses to reduce carbon pollution while ensuring that B.C. domestic expertise translate into world class companies that compete in the growing \$780 billion global clean energy technology market⁵.

Table 1 summarizes these policies, the segment of the economy they apply to and provides a more detailed description of how the policies would work. Energy Forum members created these recommendations based on previous Energy Forum submissions and draft results of ongoing research. We expect to refine them over the coming months and would welcome the opportunity to discuss them with you.

Table 1: Summary of policies to achieve climate leadership plan success

Area	Policy Description
Buildings (12%	Zero-emission Equipment Standard: Move towards a standard where
of emissions)	new energy using equipment within new and existing buildings may not emit greenhouse gases.
	Net-zero Buildings Standard: Move towards a standard where new buildings are designed to produce as much energy as they consume over a given year.
	Government could help build the skills and capacity needed to achieve
ς.	these standards be accelerating their adoption in new and existing
	government buildings and applying what is learned more broadly.
Transportation	Renewable and Low-carbon fuel requirements regulation:
(39% of	Strengthen the policy to reduce greenhouse gas intensity by 30%
emissions)	between 2020 and 2030 and broaden coverage to include all vehicle
	fuel use with the exception of aviation fuel.
	Clean vehicle standard: Gradually introduce a clean vehicle standard that becomes more stringent over-time so that consumers have access
	to new vehicle technology. This would likely be best coordinated with

⁴ Based on preliminary results of Navius Research (2015) A Climate Leadership Plan for British Columbia and climate plans for other jurisdictions

⁵ Analytica Advisors (2015) Clean Technology Industry Report

	the eight states that have signed a Memorandum of Understanding to support clean vehicle adoption to mitigate barriers for small jurisdictions ⁶ .
Industry (37%	Natural Gas: Move towards zero-emissions for natural gas extraction,
of emissions)	processing and transmission which could be achieved by a combination of technology requirements, performance standards, and increasing and broadening the carbon tax.
	Industry: Similar approaches will be required for other industrial sectors.
All – Carbon Tax and Clean	Increase and expand the carbon tax by doing the following:
	Diamed ingreness implement a 10 year schedule for earlies to
Electricity	Planned increases: Implement a 10 year schedule for carbon tax
Standard	increases, increasing at \$5 - \$10 a year, indexed to inflation, with a
	review after 5 years.
	Broaden Coverage to 85% of emissions: Broaden coverage to include
	all sources that can be accurately measured.
	an sources that can be accurately measured.
	Increase the low-income tax credit: The low-income tax credit should
	be increased to keep pace with increasing costs.
	Support for emission intensive, trade exposed sectors: Support should not undermine the incentive to reduce emissions and should be justified based on the impact of carbon pricing. Two constructive ways to support emission intensive, trade exposed sectors are to reduce corporate income taxes and provide temporary financial support to help reduce emissions like the temporary cement industry incentives.
	Maintain the clean electricity standard and increase it to 100% clean electricity overtime.
F4	
Strategic Fund	Establish a fund to support B.C. citizens and businesses to reduce
	carbon pollution while nurturing emerging B.C. businesses to compete
	in the global clean technology market. This fund could support
	infrastructure investments like transmission lines and transit and help
	remote communities adopt clean electricity. The funds could come from
	a portion of the increased carbon tax revenue.
	* ************************************

Tackling carbon pollution will require a combination of actions including switching to clean electricity, more efficient use of energy, better designed communities and using renewable fuels. We look forward to working further with you on the climate leadership plan.

⁶ State Zero-Emission Vehicle Programs (2013) http://www.oregon.gov/deq/docs/MOUzev.pdf

Sincerely,

Merran Smith, Executive Director Clean Energy Canada Merran@cleanenergycanada.org 604-947-2200 Paul Kariya, Executive Director Clean Energy BC Paul.Kariya@cleanenergyBC.org 604-568-4778

On behalf of the following members of the Energy Forum:

Matt Horne - Associate Director, BC

Pembina Institute

Paul Manson - Director, President and CEO

Sea Breeze Power Corp

Kyle Abend - Climate Change and Clean Energy Policy Analyst

David Suzuki Foundation

Stephen Cheeseman - Chairman and CEO

Chinook Power Corp

Peter Leighton - President & COO

Finavera Wind Energy

Brenda Reid-Kuecks - Preseident

Ecotrust Canada

Marlo Raynolds - Executive Vice President

BluEarth Renewables Inc.

Alistair Howard - Development Manager

Boralex

Ian Bailie - Regional Director British Columbia

CanWEA

Deborah Lacroix - Project Manager

EcoFish Research

Colleen Giroux-Schmidt – Senior Director Innergex

Martin Ince - President MK Ince and Associates Ltd.

Graham Anderson – Financial Strategist Ecotrust

Craig Orr - Executive Director Watershed Watch

cc:

Minister Bennett - <u>MEM.Minister@gov.bc.ca</u>

Deputy Minister Dave Nikolejsin - <u>Dave.Nikolejsin@gov.bc.ca</u>

Minister Polak - <u>ENV.Minister@gov.bc.ca</u>

Deputy Minister Wes Shoemaker - <u>Wes.Shoemaker@gov.bc.ca</u>

Climate Action Secretariat - <u>climateleadershipplan@gov.bc.ca</u>



The Party and Designation of the Designation	RECEIVED DEPUTY MINISTER'S OFFICE MINISTRY OF ENERGY AND MINES CLIFF 92164 REFER NUMBER: 72164 TO:
F	DRAFT REPLY OCT 1 4 2015 NECESSARY ACTION NECESSARY ACTION NECESSARY ACTION

September 23, 2015

Mr Doug Caul
Deputy Minister, Ministry of Aboriginal Relations & Reconciliation
PO Box 9100, STN PROV GOVT
Victoria, BC V8W 9B1
doug.caul@gov.bc.ca

RE: Funding request to enable BC First Nations to participate in economic development in the Clean Energy Sector

Dear Doug,

I write to ask for your assistance to secure funding from the BC government for 2 initiatives:

- \$50,000 to enable First Nation representatives to attend a one day workshop in Vancouver for the launch of a new BC First Nations Clean Energy Toolkit just completed by Dr. Judith Savers.
- \$35,000 for a study to examine what is the long term benefit to the BC public sector as a result of jobs and investment benefits to BC First Nations from the future development of the clean energy sector in BC.

This is much to ask for during challenging budgetary times but I believe there is much promise and upside from clean energy developments in BC that it justifies public investment in these 2 projects.

From ministers and First Nation leaders I learned that an over whelming majority of First Nations who met with government on Sept 9 and 10, 2015 indicated their support for clean energy based economic development in their traditional territories.

The BC government through MARR and other ministries has invested in enabling First Nations to participate in the clean energy sector (i.e. through the Clean Energy Business Fund) and the results have been significant.

Attached are studies that the Clean Energy Association led in 2013 with part support from your ministry that demonstrate the value and benefit:

Clean Energy | Association of British Columbia

354 - 409 Granville Street | Vancouver, BC V6C 172, Canada | Office: 604.568.4778 | Fax: 604.568.4724 | www.closessergyoc.org



- 125 First Nations in BC have had some working involvement with the clean energy sector and are supportive of more development.
- A First Nation with a 10 MW hydro project in their traditional territory could expect to receive in the order of \$100,000 in revenue per year (for the 40 year life of the EPA).
- A First Nation with a 20% equity stake in a 25 MW hydro project could expect annual total revenue of \$1 million per year for the life of the EPA.
- From the 21 clean energy projects being built from the 2008 power call, estimated royalties to First Nations is \$350 million over the life of the EPAs.
- For 14 projects being built (of the 21 noted above), 2,605 direct construction jobs were generated 690 were held by Aboriginal people.

With the peak of building activity completed now from the last Clean Power Call in 2008 (awarded in 2010) we can better assess the beneficial results. Consider the following case example,

Kanaka Bar Indian Band

Located in the Fraser Canyon, Kanaka is a small band within the Nlaka'pamux Nation. Leveraging the fact that it holds the water license on Kwoiek Creek, Kanaka entered into a 50:50 joint venture with Innergex Renewables. The 50 MW project reached COD 2 years ago and the results have been noteworthy for the band. 40 new jobs – this is what revenue of approx. \$1 million per year (respecting confidentiality these are estimated numbers) provides the community. These are sustainable jobs based on revenue from a 40 year EPA contract with BC Hydro. No other resource sector, especially those tied to the ups and downs of the commodity markets can match this type of economic development benefit.

Consider another example:

Tahltan Central Government (3 Tahltan communities – Telegraph Creek, Iskut and Dease Lake) Located on the Stikine River up in NW BC, the Tahltan are blessed with several natural resource development opportunities. As a result of its IBA with Altagas the Tahltan have fully participated in some of BC's largest IPPs – Forrest Kerr, Volcano and McLymont Creek projects – 275 MWs. Construction and on-going jobs have been significant. At one time during the key building phase in 2013/14, the Tahltan Development Corp had 80 pieces of heavy equipment involved in the project.

These types of real results can be spoken of with many other recently completed clean energy projects – Kokish and 'Namgis; Cape Scott and Quatsino, Tlatlasikwala, and Kwakiutl; Quality Wind and Treaty 8 Nations, Long Lake and Nisga'a Lisims; Dasque Creek and Tsimshian; Dokie Wind and Treaty 8; Canoe Creek and Tla-o-qui-aht First Nations; Sakwi Creek and Sts'ailes;



Upper Lillooet and Lil'wat, Bear Mountain Wind and Treaty 8 Nations; Toba Montrose and Klahoose, Homalco, Sechelt and Sliammon and others.

Critical for First Nations and why they are so supportive of this sector is due to the alignment of core principles which the clean energy sector embraces:

- 1. Protect the environment
- 2. Build legacy infrastructure
- 3. Create sustainable economic development

Today there is some ambivalence about the market outlook for electricity demand in the near term – there needs to be positive load growth through increased industrial activity. But the government is planning for it through export LNG, upstream natural gas and new mine development. It behooves government to ensure its alignment with First Nations and their economic development opportunities are in sync. On the infrastructure side government has recently sought exemption from the BC Utilities Commission for 2 transmission line projects using in part the argument that load – rising demand cannot wait any delays. The parallel on the First Nation front is to ensure that the investment government has made through the BC Clean Energy Business Fund in capacity development, education and funding for opportunity planning and participation keep in lock step – to be ready when development opportunity happens.

Supporting the 1 day workshop through Clean Energy BC is good and positive value in advancing this readiness – the Clean Energy Toolkit is a welcome addition to assist First Nations. Clean Energy BC is keen and a tried and true partner to help deliver this along with the First Nations Working Group and First Nation MOU Group. Key resource people will be drawn from First Nations noted earlier in the note and developer/operators who have successfully delivered cost effective projects on time and on budget.

Of course the 1 day workshop participants will also be registered to participate in Generate 2015 – "Think Bigger". While a number of First Nations would attend on their own dime (and CEBC has published a special First Nation Conference rate) many have already indicated that they cannot attend without some support.

In Mid-October 2015, CEBC will sign an MOU with THE BC Government and BC Hydro that sets out the parameters to further advance and develop the private clean and renewable energy sector in BC. The recent energy plans in BC from the 2000s have all indicated that after Site C all new additions to the electricity supply will come from the IPP sector – the sector that also now includes First Nations.



The 2nd request above to work with CEBC and First Nations on a new study that looks into the possible net savings to government from the development and expansion of the clean energy sector only makes sense given the need by BC, working with the First Nations Leadership to map out an economic future for BC First Nations – one that strategically looks at beneficial growth opportunities. CEBC is paying for some current research which could feed into this additional study – so industry is prepared to co-fund this project with government.

The fastest growing energy sector subfield in the World is in the renewable energy. While the BC appointed Climate Action Leadership Panel has yet to table its recommendations – all participants on the panel foresee a future with an increase in home grown clean energy developments in BC. First Nations must benefit from this opportunity.

I look forward to further discussing our proposals with you in the near future.

Sincerely,

Paul Kariya

Executive Director

Clean Energy Association of BC

Cc: Elaine McKnight, Deputy Minister Energy and Mines

elaine.mcknight@gov.bc.ca



Economic Impact of the Clean Energy Sector on First Nations in British Columbia

December 30th 2013 Vancouver BC



Table of Contents

- Introduction and Backgrounder
- "Economic Impact of the Clean Energy Sector on First Nations in BC", a presentation by CEBC Executive Director Paul Kariya at Generate 2013 "Where Partnerships Meet Innovation", Tuesday October 29th 2013, Vancouver BC.
- 3. Appendix 1: Counterpoint Consulting "Survey Results".
- 4. Appendix 2: Headwater Capital Consulting Economic Impacts of the Clean Energy Industry on BC's First Nations".
- 5. Appendix 3: BC Hydro's EPA Operational and Development EPA Listings at April 1st 2013.
- 6. Appendix 4: BC Hydro's EPA Operational and Development EPA Listings at October 1st 2013.
- 7. Appendix 5: Counterpoint Consulting's Edwin Blewett Resume.
- 8. Appendix 6: Headwater Capital Consulting's Pieter van Gils Resume.



Funding support gratefully acknowledged by:

Aboriginal Affairs and Northern Development Canada Ministry of Aboriginal Relations and Reconciliation Brookfield Renewable Energy Regional Power Veresen Inc.



Introduction and Backgrounder:

The development of the clean energy industry in British Columbia has resulted in a significant change to electricity generation throughout the province. BC Hydro, the provincially owned utility generates approximately 75% to 80% of the required electrons, the entrepreneurial sector the remaining 20% - 25%¹. This 20% - 25% portion is achieved by means of individual electricity purchase agreements (EPAs) between BC Hydro and the developer operator.

Our study EPA numbers are based on BC Hydro's operational and development listings as at April 1st 2013 (Appendix 3). At that time there were 79 EPAs in operation and another 51 at various stages of development for a total of 130. EPA's represent the lifeblood of clean energy projects and their number is always changing. Appendix 4 illustrates BC Hydro's operational (82) and development (45) listings as at October 1st 2013. The October 1st total of 127 represents a decrease of 3 from the April 1st 2013 total of 130. Three projects have crossed over from the development stage into the operational stage by meeting COD (Commercial Operation Date) commitments. The six count decrease from 51 to 45 in the development stage EPAs therefore reflects the 3 that moved into operation as well as another 3 that were terminated by BC Hydro and the EPA holder. EPA negotiations resulting in postponements or terminations can occur for a number of reasons. From First Nations economic development perspectives it is imperative that government's and BC Hydro's load forecasts, resource options and plans (ie Integrated Resource Plan – IRP) are well understood when a clean energy project is being considered.

Over the last 20+ years the role of First Nations in British Columbia's development of its resources (energy, mining, and forestry) has changed, largely as a result of a number of significant court cases. Rulings favoring consultation and accommodation of aboriginal rights and title have provided bedrock benchmarks between resource development industries and First Nations on whose traditional territories developments will take place. Development of clean energy projects fit into this model. In fact, First Nations and development entrepreneurs lead the way where shared project equity agreements become part of the business deal. Similarly we witness First Nations leadership in outright ownership of clean energy projects.

¹ BC Hydro 2013 Annual Report (page 6) and BC Hydro April 1st 2013 Independent Power Producers (IPPs) currently supplying power to BC Hydro.



Since the beginning of 2010 Clean Energy BC (CEBC - formerly Independent Power Producers of British Columbia – IPPBC) has focused greatly on building and enhancing relationships with fellow electron conscious stakeholders: governments, crown corporations, NGO's and First Nations. Several First Nations have joined CEBC over the last few years, a First Nations Committee has joined the other eight operating committees and last but least we have facilitated 288 BC First Nations registrants attending our annual autumn Generate Conferences since 2010.

As the electricity generation industry changes it is only natural that CEBC keeps track of ongoing changes in any number of disciplines. Is there more or less of a particular issue, what changes do we forecast, again more or less or the same? What subjects and issues do we need to benchmark and thereafter periodically review progress or otherwise? First Nations engagement in the sector is a very critical subject requiring tracking – not numbers for numbers sake. Rather, development of clean energy projects present First Nations a key driver opportunity towards achieving economic independence and prosperity.

Our study does not claim to have all the answers nor does it claim to predict the future. It is however a sincere attempt to initiate and benchmark values of First Nations operational engagement in clean energy projects in British Columbia going forward.

Study Process and Methodology

The initial process for undertaking a survey of First Nations benefits derived from clean energy projects was straight forward enough: engage an economist (Appendix 5 for Dr. Edwin Blewett's resume), develop a survey, send the survey to CEBC membership, get the completed surveys back, compile and report on the results. Once we entered the survey field we quickly realized just how individual and confidential agreements are between clean energy developers and proponents and First Nations – confidentiality and commercial competitive advantage make and break EPA successes and failures.

With the survey results it became clear that multi project developers preferred to provide an overview of all their operations in a consolidated manner rather than results for projects A, B and C and so on. Bottom line: we realized we would not have everything we wanted in a nicely tied up survey package perhaps now known as Plan A-1. This led to Plan A-2.



Plan A-2 resulted seeking an additional authority knowledgeable about our subject matter. There we turned to Pieter van Gils (Appendix 6 for Mr. van Gils' resume) for some assistance. Day to day, Pieter actively works with both First Nations and developers in piecing together Impact Benefits Agreements (IBAs) throughout BC. He therefore brings an 'active' perspective which when tied together with Counterpoint's work yields a compromise set of study results.

Part of Plan A-2 included circulating results and commentaries amongst CEBC staff, Edwin Blewett and Pieter van Gils: how can we best reach reliable and defensible conclusions?. It was agreed the best way to conclude the study would be to present our benchmarking results at Generate 2013. As noted above, we believe this work provides a baseline from which CEBC can provide future First Nations and clean energy benefit updates.

Paul Kariya

Executive Director

W:\Data\Committees\FNComm\Economic Benefits Study 2012 2013\Report Summary and Appendices 131230 LM FINAL.docx

Economic Impact of the Clean Energy Sector on First Nations in BC

Presented at CEBC's Annual Conference

Generate 2013 – "Where Partnerships Meet Innovation"

October 29th, 2013

Vancouver, BC



The Study

Counterpoint Consulting – Dr. Edwin Blewett

- 2013 Survey of CEBC Members
 - 37.5% Response rate CEBC Companies
 - 24 projects, 29 First Nations

Headwaters Capital Consulting-Pieter van Gils

Review 12+ First Nations Impact Benefit Agreements (IBAs) with clean energy companies

CEBC Internal Survey of 21 EPAs

14 constructing or built + 7 to be built

Issues: Confidentiality and Confidence

- Unique Benchmark Study Undertaken by CEBC
- Also Great Resource is new book from Chris Henderson: Aboriginal Power: Clean Energy And The Future of Canada's First People

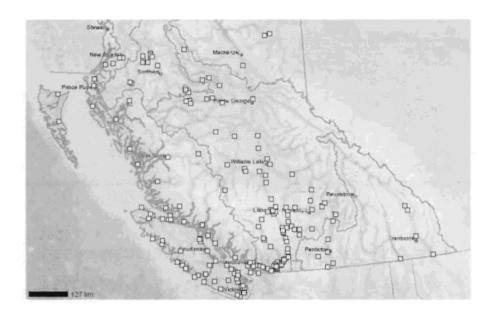


First Nations in BC

Context : Resource Development

- 2/3rds of BC not covered by Treaties
- Subject to Aboriginal Rights and Title
- Consultation & and Accommodation
 - Duty of the Crown
 - Role for private developers
 - Mitigating impacts
 - Protect the environment
 - Accommodation
 - Upfront payments, royalty options, equity options, supply contracts, training and employment agreements
 - Impact Benefit Agreement (IBA)

125 of 202 Indian Bands involved with clean energy





BC Clean Energy Projects Operating and Under Development 2013

5 Regions – 116 Clean Energy projects

10 Indian Bands

Wind

Northeast (638 MW)

Nat Gas

Biomass Northwest Coast (352 MW)

32 Indian Bands

Hydro

15

Interior (469.5 MW)

58 Indian Bands

Hydro

18

Biomass

Recovery

Vancouver Island (521 MW)

44 Indian Bands

Wind

Hydro

15

Nat Gas

Biogas

Solid Waste

Southwest (1,301.5 MW) 58 Indian Bands

Hydro

41

Biomass

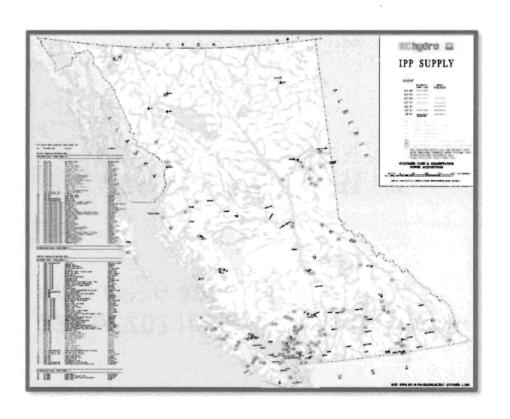
Biogas

Total 2,381 MW

202 Indian bands

Total of 130 EPAs - 5,663 MW

14 Self Generators (Source: BC Hydro's EPA Listings at April 1st 2013)





Royalties

- Fixed price (indexed) EPAs with BC Hydro for 20 to 40+ years
- Stable and dependable income opportunity for First Nation governments
- Not subject to market commodity (mining and forestry) or natural variation (fisheries)
- Study results:
 - Most First Nations have royalty agreements
 - Counterpoint survey results suggest \$185 million for 1,100 MWs
 - Headwaters assessment is this is low older projects had 20 year EPAs, newer ones are 30 40 years and one is 60 years. First Nations have gained negotiating experience.
 - More typical today (2013) is \$10,000/MW for 40 years
 - First Nation with a 10MW project could see \$100,000 annual revenues
 - CEBC Internal Survey of 21 projects 14 being built another 7 ready to construct estimated royalties to First Nations \$350 million over life of EPAs



Equity

- Wealth Creation First Nations like clean energy projects for the same reason that Pension Funds and Lifecos like them – low risk, predictable, stable.
- Study results:
 - Counterpoint survey found 7 instances among the 24 projects of First Nation equity participation.
 - Value over life of the agreements was reported as \$65 million. Headwaters believes the results are understated for the same reasons as with royalties.
 - Considerable negotiating advancements have been made by First Nations in last power call 2008
 - Many First Nations hold options, when executed provide minority ownership in limited partnerships.
 - First Nations can execute at construction or at COD.
 - Investments range from \$1.5 million to \$8 million. Annual cash distributions range from \$180,000 to \$980,000.
 - Over the life of EPAs, cash return on equity investments to First Nations from \$7 million to \$39 M
 - Most First Nations seek to finance their equity positions and utilize negotiated royalties. Non recourse financing is also an option, e.g. First Nation Regeneration Fund.
 - First Nation Finance Authority (FNFA) provides debenture financing from capital markets for government borrowing which is available to refinance at lower long terms rates.
- First Nations have become sophisticated to financial tools and markets to participate in ownership of clean energy projects.
- In some agreements equity is transferred at the end of EPAs.
- First Nations success also subject to 'tangible' value brought to the negotiations table (ie. Water licenses for run of river projects)



Jobs and Supply Contracts

- Jobs and service contracts serve immediate needs of First Nation members and therefore receive special attention in IBA negotiations..
- Study results:
 - Counterpoints survey reports supply contracts of \$8.3 million over 24 projects and payroll as \$5.5 million for construction.
 - Headwaters comment is that First Nation employment and procurement very greatly by project.
 They report that they are aware of one supply contract which is larger than the total procurement reported in the Counterpoint survey. In this case a joint venture splits profits between the First nation and its construction partner.
 - PWC 2009 study commissioned by CEBC suggests that during construction, each fuel type will generate the following jobs/MW:
 - Hydro 4.0 Wind -2.5 Biomass -4.2 Nat Gas -1.7
- CEBC survey for 14 projects 2,605 direct construction jobs

 690 Aboriginal people. Indirect jobs another 1,500 to
 1,800 Aboriginal people.
 - Jobs and Contracts: Archaeological studies, civil contracting, cleaning, environmental studies, equipment rental, first aid, fuel supply, logging, material lay down yard rental, office supplies, plant supplies, road construction, road maintenance, rock crusher, security services, snow removal, tree clearing, water transport



Revenue Sharing With BC Government

- The BC government derives revenues from clean energy projects water rents from hydro projects and participation rents from wind projects.
- Clean Energy Act, government shares these revenues 50-50 with First Nations 37.5% to the First Nations directly affected and 12.5% to fund the First Nations Clean Energy Business Fund. This applies to projects after July 2010.
- The Clean Energy Act is the first to enshrine revenue sharing with First Nations.
- Revenues payments have just started to be paid. Payments will vary, even for projects with the same generating capacity, as water use and the amount of windgenerated electricity vary.
 - 25MW hydro project, revenues paid to BC annually would be greater than \$300,000, of which over \$100,000 would flow to the First Nations directly impacted.
 - 25MW wind project, revenues paid to BC would be zero for the first 10 years of the EPA. After that, annual participation rents (a royalty scaled to the capacity of the project) would be around \$225,000, of which \$85,000 would flow to the First Nations directly impacted.
- For 1,000 MWs of capacity commissioned after July 2010, annual revenue generation to First Nations from hydro and wind projects would range from \$3.5 million to \$4.0 million.



Summary Results:

Economic Impact of The Clean Energy Sector on BC First Nations

 Typical 25 MW hydro project - 2008 Power call - First Nation with 20% equity position (paid with its own cash):

Royalties

\$250,000 per annum

20% Equity (payout)

\$600,000 per annum

Revenue Sharing

\$100,000 per annum

Direct jobs during construction:

25 (of a total of 100 jobs)

Indirect jobs:

50 - 60

Supply Chain:

Portion of total contracts (typically 75 – 90 suppliers)

- Older operating projects may not have agreements with First Nations
 - Typically they also have very few operating jobs
- 14 projects currently being built and another 7 getting ready to construct:
 - Total capex \$4 billion for 21 projects from 2006 and 2008 power calls.
 - All have agreements or IBAs with First Nations
 - Estimated royalties to First Nations \$350 million over life of EPAs
 - Estimate 850 direct First Nation jobs during construction
 - Another estimated 2,000 indirect jobs
 - Opportunity for joint-ventures and participation with supply contracts (55 175 per project)



Future Potential

- 25% of forecast load LNG and Upstream Gas
- 3,000 MW clean energy
- \$2.5 billion income to First Nations
- 9,500 First Nation construction jobs
- Transformative Economic Development
- Foundational base for BC First Nations



Introduction

Following are statistics, tables and charts drawn from and based on responses to a survey of members of Clean Energy BC.

They represent preliminary results from the survey to identify economic impacts of clean energy in BC for First Nations.

NB: these are survey sample results only. A later report will draw inferences about the population of clean energy projects in BC based on these sample results. Due to privacy confidentiality concerns with small sample size numbers – in some cases results in this early draft have been suppressed. e.g. there are only 3 operating wind farms and one wood waste biomass plant operating in BC today.

Survey Responses

This section describes the companies and projects included in the survey (ie, those who responded). these are referred to as the "sample companies" and the "sample projects" throughout this report.

Responses

Responses to the CEBC survey are enumerated in the Table 1.

Table 1: Responses to CEBC Survey

Item	Sample Values	Population Values	Response Rates
# sample companies (CEBC members responding to survey)	12	32	37.5%
# sample projects	24	65	36.9%
# First Nations involved with sample companies	41		
# First Nations involved with sample projects	29		
# First Nations with equity positions in sample projects	7		
# First Nations with royalty agreements in sample projects	28		

Source: CEBC Survey; CEBC; Counterpoint calculations

The CEBC survey achieved response rates of 37.5 per cent of CEBC members and 36.9 per cent of clean energy projects.

Forty-one BC First Nations are involved in clean energy projects with the one dozen CEBC members companies who responded to the survey.

Twenty-nine BC First Nations are involved in the two dozen clean energy projects included in the survey, of which 7 have equity participation agreements and 28 have royalty agreements.

Projects

Project Details

The CEBC projects included in the survey break down by technology, capacity and First Nation involvement as shown in Table 2.



Clean Energy BC Survey Results

Table 2: CEBC Survey projects by technology, capacity and First Nations involvement

24	1,169.9	29
	24	

Project Stage of Development

The data in Table 2 are further disaggregated by project stage of development in Table 3.

Table 3: CEBC Survey projects by Stage of Development

	CE Projects	Capacity of Projects	# First Nations
Under Construction	6	350.0	4
Construction to COD	6	402.6	14
COD Operations	12	417.3	11
Totals	24	1,169.9	29

Source: CEBC Survey [COD=Commercial Operations Date]

Economic Impacts

In this section, economic impacts created by the projects included in the CEBC Survey are tabulated.

Equity

Equity participation agreements are summarized in Table 4.

Table 4: Equity Participation Agreements among Sample Projects

Item	Value	Min	Max	Comments
# First Nations with Equity Participation Agreements	7			
Range of Equity Participation Percentages		4%	85%	
Equity payments in 2012	\$24,000			NB: PRIVACY
Equity value over life of agreement	\$65 million			NB: PRIVACY
First Nations maximum initial equity buy in		4%	25%	NB: PRIVACY
First Nations maximum equity buy in		10%	25%	NB: PRIVACY

Source: CEBC Survey

Almost one in four First Nations (24.1 per cent) involved in sample projects have equity participation agreements.

Royalties

Royalty agreements among sample projects are summarized in Table 5



Table 5: Royalty Agreements among Sample Projects

Item	Value	Min	Max	Comments
# First Nations with royalty agreements	28			
Range of Royalty Agreement Percentages		20	60	11 projects
Royalty rates		<1%	5%	11 projects
Value of royalty agreements over life of agreement	\$185.0 million			
Value of royalty agreements in 2012	\$3.1 million			

Source: CEBC Survey

Well over 90 per cent of First Nations involved in sample projects have royalty agreements.

Supply Contracts

Supply contracts with First Nations are summarized in Table 6.

Table 6: Supply Contracts with First Nations

Supply Contracts	Amount
Pre-Construction	\$39,000
Construction	\$7,759,196
Operations	\$534,197
Totals	\$8,332,393

Source: CEBC Survey

The twenty-four projects included in the CEBC Survey have undertaken supply contracts with BC First Nations worth a total of \$8.3 million.

Value of Supply Contracts by Project Stage of Development

Pre-Construction

Construction

Operations

Figure 1.





Figure 1: Value of Supply Contracts by Stage of Development

Supply contracts among the sample projects encompass the following goods and services:

- Archaeological studies
- Bridge repair
- Civil contracting
- Cleaning
- Environmental studies
- First aid
- Fuel supply
- Lodging
- Material laydown yard rental
- Office supplies
- Office/vehicle cleaning
- Plant supplies
- Road construction
- Road maintenance
- Rock crusher operation
- Snow removal
- Tree clearing
- Water transportation



Clean Energy BC Survey Results

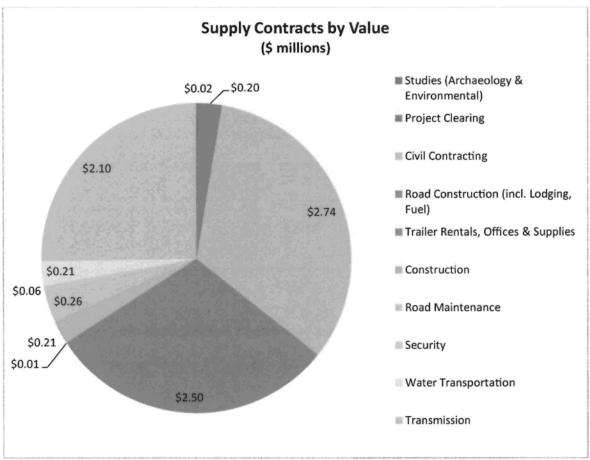


Figure 2: Supply Contracts by Value of Goods & Services Supplied

Supply contracts total \$8.3 million in value. The largest supply contracts are for civil contracting and construction of roads and transmission lines.

Employment

The employment impacts of CEBC sample projects are summarized in Table 7.

Table 7: Employment Summary

Employment	Jobs	FTEs	Weeks	Hours	Payroll
Construction	139	85	3,747	153,224	5,518,214
Operations	11	11	464	18,560	505,000
Totals	150	96	4,211	171,784	6,023,214

Source: CEBC Survey

Employment among sample projects encompasses a wide range of jobs including:

- Carpenters
- · Construction labourers



Clean Energy BC Survey Results

- Cook
- Driller
- Earthworks
- Environmental monitors
- Heavy equipment operators
- Housekeeper
- Mechanic/mechanic's helper
- Plant operator
- · Plant/station attendants
- Rebar
- Rock crusher operators
- Rock truck drivers
- Site office coordinator/admin
- Site security
- Truck drivers
- Welders
- Yard hand

As seen in Figure 3, about three-quarters of the Jobs created for First Nations by clean energy projects are in Construction.

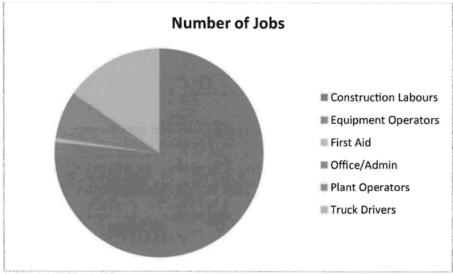


Figure 3: Number of Jobs

Training

Training provided by CEBC sample projects is summarized in Table 8



Table 8: Training Summary

Training	Trainees	Months	Cost
Welding & Carpentry	2	3	\$14,500
Environmental	2	17	\$30,000
Linesmen	6	24	\$75,000
Totals	10	44	\$119,500

Source: CEBC Survey

The data in Table 8 are illustrated in the following charts.



Figure 4: Number of Trainees

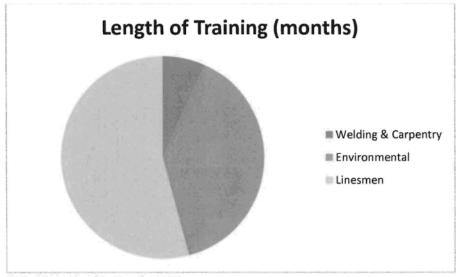


Figure 5: Months of Training Provided





Figure 6: Cost of Training Provided

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Economic Impacts of the Clean Energy Industry on BC's First Nations

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15 October 2013

Economic Impacts of the Clean Energy industry on BC's First Nations

Clean Energy BC (CEBC) asked Headwater Capital to write a commentary on the economic impact of the clean energy industry on First Nations. The commentary complements a survey of the industry conducted for CEBC by Counterpoint Consulting.

Headwater Capital has been involved in the clean energy industry since 2005. We have assisted more than a dozen First Nations with the negotiation of Impact and Benefit Agreements (IBAs) with clean energy companies. We have brokered financing for a number of our clients, so they could invest in the ownership of clean energy projects. Projects we have worked on range from two to 99 megawatts. Most of the projects were developed in answer to the clean energy calls of 2005 and 2008; some were initiated under BC Hydro's rural electrification program, and some pursued under BC Hydro's standing offer program.

First Nation involvement in the clean energy industry can be the result of consultation by the industry, or of direct initiative.

Consultation and Accommodation

Most First Nations are involved in the clean energy industry because of the Crown's duty to consult with aboriginal groups when making decisions that may adversely impact lands and resources subject to aboriginal claims, and because of the corollary duty to accommodate aboriginal groups for those adverse impacts. These duties of the Crown are assumed by the developers of clean energy projects.

As in any industry, there are good projects and there are bad projects. First Nations will judge each one on its merits. Clean energy projects can indeed have significant impact. Water diversion affects life in creeks, streams and rivers; road access and construction change a landscape. First Nations look at cumulative impact also: a project in its own right might not have a large footprint, but its incremental effect on a landscape that has already undergone significant change as a result of other activities might be too great.

If and when a proponent shows that a project's impacts can be mitigated to the point where a First Nation agrees they are acceptable provided there is proper compensation, the discussion moves to accommodation. Accommodation comes in various forms. It usually includes some or all of the following: up-front payments, royalties, equity, supply contracts and employment opportunities. A First Nation and a proponent will negotiate the combination of forms that is best suited to each party's preference and tolerance for risk. The agreed upon accommodation is codified in an IBA.

A First Nation's preferences may change over time. For example, one of our First Nation clients has multiple projects in its territory. It negotiated agreements for the first projects with an

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emphasis on royalties and then shifted to an emphasis on equity participation. That shift makes sense from a portfolio perspective.

Both a First Nation and a proponent will look at the totality of the package to gauge whether it is acceptable. One should apply caution when looking at an individual component of accommodation - say royalties - and conclude that a particular project was paying more or less than might have been expected.

Having said that, in the interest of gauging the economic contribution that clean energy projects are making to First Nations, some generalizations are helpful.

1. Royalties

BC Hydro's Electricity Purchase Agreements (EPA) contract to buy all the energy generated by a project at a fixed (indexed) price for periods that range from 20 to 40 years. Royalties therefore represent income that can be depended on by a First Nation for that period of time. Furthermore, royalty streams from the clean energy industry are stable: clean energy production is very reliable year-to-year.

For any form of government, stable revenues are essential for the running of its daily affairs and its ability to plan for the long term. Such stable revenues are hard to come by for most First Nations. Provincial and federal programs that provide access to funds, be they for social programs or economic development, do not have a time horizon that extends more than a few years. First Nations who, through Impact and Benefit Agreements, are involved in forestry or mining, find income from these activities depends on commodity prices, which fluctuate greatly. Clean energy derived income streams, by contrast, are predictable.

The CEBC survey indicates most First Nations that are involved in the clean energy industry have royalty agreements. This parallels our experience. The reported nominal value of the royalty agreements in the survey - \$185 million for more than 1100 MWs — we believe understates the royalty streams that have been negotiated between developers and First Nations. The primary reason for that understatement is the difference between agreements for projects that were awarded EPAs in 2006 and agreements for projects with EPAs awarded in 2010. The value of royalty streams for the latter is higher because the contracts are for 30 or 40 years, rather than 20, and because First Nations educated themselves about the industry in the intervening years and drove harder bargains.

In our experience, a typical agreement negotiated for a project with a 2010 EPA would generate a royalty stream of \$10,000 per megawatt per year for 40 years (all dollar amounts are stated in constant 2013 dollars). A First Nation that has a 10 MW project in its territory would see \$100,000 in annual revenues. Or, another way of looking at this: for 1,000 MWs in capacity commissioned from the 2010 EPAs, there is an annual income stream of \$10 million for First Nations; over 40 years, that comes to \$400 million.

2. Equity

Ownership is an important component of the accommodation package. Most First Nations strive to own the means of production that is premised on resources in their territories, both as a matter of principle and as a practical means of wealth creation.

A renewable energy utility is a particularly attractive vehicle of wealth creation. While considerable tolerance for risk is required to develop such a project, First Nations, in negotiations with proponents, can negotiate options for equity participation that can be executed at, or after, construction. At that point, there is still an equity risk — comprised of construction risk and either hydrology or wind risk — but that risk can be mitigated to the point where investment is an attractive proposition. Once the plant is operational, a First Nation, or any other owner for that matter, need not be concerned with personnel issues, competition, currency fluctuations, etc.

The CEBC survey finds seven instances of First Nation equity participation among 24 projects, or nearly one in four. The 2012 equity pay out was \$24,000. The equity value over the life of the agreement is reported as \$65 million. We believe that these numbers understate the extent of First Nation ownership participation and concomitant benefits. This despite the fact that the incidence of ownership reported in the survey includes First Nation ownership resulting from direct initiative, which we consider elsewhere in this paper.

We think this understatement occurred for the same reason that the value of royalty streams appears underrepresented. First Nations educated themselves about the industry between BC Hydro's calls for clean energy period. The majority of our clients in the last five years have sought options to participate in the equity of clean energy projects.

Our clients hold options that, when executed, provide minority ownership of units in limited partnerships. Most First Nations exercise their options at construction; some have options that make provision for execution at COD. Investments for our First Nation clients range from \$1.5 million to \$8 million. Annual cash distributions – most of these are projected, as recently negotiated projects have not yet reached COD – range from \$180,000 per year to \$980,000. Over the lifetime of the EPAs, cash returned on equity investments made by our First Nation clients will range from \$7 million to \$39 million.

Most First Nations do not – cannot – make these investments with cash on hand. They seek to have their equity financed. Such financing would be problematic for equity positions in most industries, but not so in a utility. Equity in a project that has an EPA and a water license can be

financed, particularly if the First Nation has negotiated royalties also. These royalties diminish the risk for the financier.

Straight bank financing is not an attractive proposition: it requires guarantees. Few First Nations are prepared to risk their social programs for a purely financial investment. However, non-recourse financing is available. A number of First Nations have financed their investment through the First Nation Regeneration Fund, which was created specifically for the purpose of providing non-recourse equity financing in energy projects. Headwater Capital has also sourced non-recourse capital from mezzanine financing firms.

Financing equity brings down considerably the net cash that is available annually to First Nations. First Nations regard that as the price of entry into ownership of a desirable asset. Once the project is built and has been operating for a few years, First Nations can refinance at a lower rate. The First Nation Finance Authority (FNFA) has specifically determined that ownership in power projects is eligible for debenture financing by capital markets that serve government borrowing requirements. Re-financed at the FNFA's long-term, low-cost rate, an investment of \$1.5 million yields annual net income of \$50,000 in the 20 years it takes to repay the borrowed money, after which it yields \$180,000 annually. The total amount of undiscounted cash received from a \$1.5 million investment over the life of an EPA with a 40 year term approximates \$3.7 million. For an \$8 million investment that becomes \$19.7 million.

In sum, there are a wide variety of structures that have afforded First Nations ownership of clean energy projects. There is furthermore a sophisticated capital market accessible to First Nations. In the process of structuring the deals that lead to ownership in these projects, First Nations have developed considerable financial sophistication themselves. The projected annual dividend streams for our clients are substantial.

Finally, all of our clients have negotiated a considerable transfer of equity after the terms of the projects' first EPAs. Valuing this equity transfer is problematic. No one knows what energy prices will be 20 or 40 years from now. If, as seems likely, the world's energy needs keep growing and energy prices rise alongside, then clean energy revenues will provide our clients with a good portion of their annual budgets.

3. Supply contracts and employment

IBA clauses related to contracts and employment affect First Nations' memberships directly. These clauses therefore receive especially close attention from First Nation leaders.

The CEBC survey reports the value of supply contracts as \$8.3 million over 24 projects. The survey tallies the value of First Nations payroll as \$5.5 million for construction and \$0.5 million

for project operations. We do not have sufficient uniformity of data to shed a different light on the findings of the survey. First Nation employment and procurement vary greatly by project. For one of the projects where we assisted in negotiations, the value of one supply contract was greater than the total procurement reported in the survey. This contract was awarded to a joint venture, which split profits between the First Nation and its construction partner. This will be the case for most of the larger construction contracts.

4. Revenue sharing

The BC government derives revenues from renewable energy projects in the form of water rents for hydro projects and participation rents for wind projects. Under the Clean Energy Act, the government shares these revenues 50-50 with First Nations – 37.5% to the First Nations directly affected and 12.5% to fund the First Nations Clean Energy Business Fund. This applies to projects that obtained their water licenses after July 2010.

The government ought to be commended for enshrining revenue sharing with First Nations in law. The clean energy law is the first and so far the only one on the books where this is the case.

Revenues have only just started to flow, as projects affected by this new regulation are being commissioned. They are small now, but can become substantial. Payments from clean energy projects will vary, even for projects with the same generating capacity, as water use and the amount of wind-generated electricity vary for each of those.

For a 25MW hydro project, water rents paid to BC annually would be greater than \$300,000, of which over \$100,000 would flow to the First Nations directly impacted.

For a 25MW wind project, annual participation rents (a royalty scaled to the capacity of the project) paid to BC would be zero for the first 10 years of the EPA. After that, rents would be around \$225,000, of which \$85,000 would flow to the First Nations directly impacted.

For 1,000MWs of capacity commissioned after July 2010, annual revenue generation to First Nations from hydro and wind projects would range from \$3.5 million to \$4 million.

5. Economic Impacts of a typical project

What is the economic impact of a 25MW run-of-river project on a First Nation?

➢ If the First Nation has negotiated with the developer an agreement that is in line with most of the agreements we have seen concluded for 2010 EPAs, then the First Nation could expect to see \$250,000 in royalties.

- ➢ If the First Nation exercised an option to become a 20% owner of the project, its projected annual dividend payments would come to \$600,000 if it made the investment with its own cash. If it financed its participation, the First Nation would not see much cash from its investment in the first five years, but after refinancing, its annual cash would come to \$200,000. After the First Nation has paid off its loan, its net cash increases to \$600,000.
- The First Nation's share of revenues generated by BC's water rents would come to \$100,000.

The net cash annually paid to a First Nation for a 25 MW project in which it bought a 20% participation would therefore range from \$550,000 to \$950,000, depending on the financing of its equity stake.

Direct Initiative

A number of First Nations have taken direct initiative and applied for water licenses. They subsequently either built their own projects or brought in industry partners. We have worked with five of these First Nations. We cannot provide numbers to reflect their economic impact since the projects are too diverse to generalize. What we can say is that the impacts, economic and beyond, are significant.

The Taku River Tlingit First Nation owns 100% of a \$16 million, 2MW run-of-river project that provides all energy to Atlin, replacing diesel. It was commissioned in 2009.

The Hupacesaht First Nation owns 72.5% of a \$14 million, 5.6MW run-of-river project on China Creek, which was commissioned in 2005. The Ucluelet First Nation owns 10% of this project.

The Kanaka Bar Indian Band owns 50% of a 50MW project on Kwoiek Creek, which will be commissioned in the first quarter of 2014.

The Cheslatta Carrier Nation is developing a 45MW storage project on the Nechako River, which it plans to commission in 2017.

The Tseshat First Nation is developing a 4MW run-of-river project on Franklin River.

Beyond our client base, there are other First Nations who hold water licenses and have developed, or are developing, power plants:

The Tla-o-qui-aht First Nation owns the majority of Canoe Creek (6MW), a run-of- river project commissioned in 2010. It also owns the majority of Haa-ak-suk Creek (6MW), which is under

construction. It holds 100% of Winchie Creek (4 MW), for which it has submitted the development plan.

The Huu-ay-aht First Nation is developing a 5MW project on Sarita Creek.

Independent Power Producers (IPPs) currently supplying power to BC Hydro

As of April 01, 2013, BC Hydro has 79 Electricity Purchase Agreements (EPAs) with IPPs whose projects are currently delivering power to BC Hydro. These projects represent 15,074 gigawatt hours of annual supply and 3,495 megawatts of capacity. For information on IPPs who have an EPA with BC Hydro but are not yet in operation, please refer to the IPP Supply List – In Development document posted to our website.

Project Name	IPP/Seller	Location	Туре	Call Process	Capacity (MW)	Energy (GWh/yr)
Coats IPP	Crofter's Gleann Enterprises	Gabriola Island	Non-Storage Hydro	1985 Negotiated EPA	< 0.5	1
Ocean Falls	Boralex Ocean Falls LP	Bella Bella	Non-Storage Hydro	1985 Non-Integrated Areas RFP	15	12
Mamquam Hydro	Atlantic Power Preferred Equity Ltd.	Squamish	Non-Storage Hydro	1988 Greater Than 5 MW	58	250
NWE Williams Lake WW	Atlantic Power Preferred Equity Ltd.	Williams Lake	Biomass	1988 Greater Than 5 MW	68	545
McMahon Generating	McMahon Cogeneration Plant JV	Taylor	Gas-Fired Thermal	1988 Greater Than 5 MW	105	840
McDonald Ranch	McDonald Ranch & Lumber Ltd.	Grasmere	Non-Storage Hydro	1989 Less Than 5 MW	< 0.5	< 0.5
Morehead Creek	Morehead Valley Hydro Inc.	Williams Lake	Non-Storage Hydro	1989 Less Than 5 MW	< 0.5	< 0.5
Seaton Creek Hydro (Homestead)	Homestead Hydro Systems	New Denver	Non-Storage Hydro	1989 Less Than 5 MW	< 0.5	1
East Twin Creek Hydro	Valemount Hydro LP	McBride	Non-Storage Hydro	1989 Less Than 5 MW	2	6
Doran Taylor	Doran Taylor Hydro (JV partnership)	Port Alberni	Non-Storage Hydro	1989 Less Than 5 MW	6	23
Robson Valley (Ptarmigan Creek - RBV)	Robson Valley Power Corporation	McBride	Non-Storage Hydro	1989 Less Than 5 MW	4	26
Boston Bar Hydro (Scuzzy Creek)	Boston Bar LP	Boston Bar	Non-Storage Hydro	1989 Less Than 5 MW	6	38
Akolkolex	Canadian Hydro Developers, Inc.	Revelstoke	Non-Storage Hydro	1989 Less Than 5 MW	10	50
Walden North	Walden Power Partnership	Lillooet	Non-Storage Hydro	1989 Less Than 5 MW	18	54
Brown Lake Hydro	Brown Miller Power LP		Storage Hydro	1989 Less Than 5 MW	7	57
Soo River	Soo River Hydro		Non-Storage Hydro	1989 Less Than 5 MW	13	65
Salmon Inlet (Sechelt Creek SCG)	MPT Hydro LP		Non-Storage Hydro	1989 Less Than 5 MW	17	68
Moresby Lake (QCPC)	Atlantic Power Preferred Equity Ltd.		Storage Hydro	1989 Non-Integrated Areas RFP	6	20
Hluey Lake (SNP)	MPT Hydro LP	Dease Lake	Non-Storage Hydro	1993 Non-Integrated Areas RFP	3	5
Island Generation	V.I. Power LP		Gas-Fired Thermal	1994 RFP	275	2,300
Arrow Lakes Hydro	Arrow Lakes Power Corporation	Slocan	Storage Hydro	1998 Negotiated EPA	185	767
Hartland Landfill Gas Utilization	Maxim Power Corp.	Saanich	Biogas	2000 RFP	2	15
Hystad Creek Hydro	Valemount Hydro LP	Valemount	Non-Storage Hydro	2000 RFP	6	20
Miller Creek Power	Brown Miller Power LP	Pemberton	Non-Storage Hydro	2000 RFP	30	118
Upper Mamquam Hydro	Canadian Hydro Developers, Inc.	Squamish	Non-Storage Hydro	2001 Greater Than 40 GWh	25	108
Rutherford Creek Hydro	Rutherford Creek Power LP	Pemberton	Non-Storage Hydro	2001 Greater Than 40 GWh	50	172
Pingston Creek	Canadian Hydro Developers Inc and GLP Pi	Reveletoke	Non-Storage Hydro	2001 Greater Than 40 GWh	45	193
Eagle Lake C2 Micro Hydro	Pacific Cascade Hydro Inc.		Non-Storage Hydro	2001 Less Than 40 GWh	< 0.5	133
Hauer Creek (aka Tete)	Hauer Creek Power Inc.	Valemount	Non-Storage Hydro	2001 Less Than 40 GWh	2	13
Marion 3 Creek	Marion Creek Hydro Inc.		Non-Storage Hydro	2001 Less Than 40 GWh	5	18
Mears Creek	Synex Energy Resources Ltd		Non-Storage Hydro	2001 Less Than 40 GWh	4	20
South Sutton Creek	South Sutton Creek Hydro Inc.		Non-Storage Hydro	2001 Less Than 40 GWh	5	26
	Rockford Energy Corp.		Non-Storage Hydro	2001 Less Than 40 GWh	8	34
Brandywine Creek Small Hydro	McNair Creek Hydro LP	Whistler	Non-Storage Hydro	2001 Less Than 40 GWh	10	38
McNair Creek Hydro		Sechelt			10	
Furry Creek	Furry Creek Power Ltd	Lions Bay	Non-Storage Hydro	2001 Less Than 40 GWh	6	40
Vancouver Landfill Gas Utilization - Ph 1	Maxim Power (BC) Inc.	Delta	Biogas	2001 Less Than 40 GWh		40
SEEGEN (Burnaby Incinerator)	Covanta Burnaby Renewable Energy, ULC	Burnaby	Municipal Solid Waste	2002 Customer-Based Generation	22	131
Vancouver Landfill Gas Utilization - Ph 2	Maxim Power (BC) Inc.	Delta	Biogas	2003 Green Power Generation	2	15
China Creek Small Hydroelectric	Upnit Power LP	Port Alberni	Non-Storage Hydro	2003 Green Power Generation	6	25
South Cranberry Creek	Advanced Energy Systems 1 LP	Revelstoke	Non-Storage Hydro	2003 Green Power Generation	9	26
Zeballos Lake	Zeballos Lake Hydro LP	Zeballos	Storage Hydro	2003 Green Power Generation	22	93
Brilliant Expansion 1	Brilliant Expansion Power Corporation	Castlegar	Storage Hydro	2003 Green Power Generation	120	203
Ashlu Creek Water Power	Ashlu Creek Investments LP	Squamish	Non-Storage Hydro	2003 Green Power Generation	50	269
Eldorado Reservoir	District of Lake Country	Kelowna	Storage Hydro	2006 Open Call	1	4
Barr Creek	Barr Creek LP	Tahsis	Non-Storage Hydro	2006 Open Call	4	16
Raging River 2	Raging River Power & Mining Inc.	Port Alice	Storage Hydro	2006 Open Call	8	30
150 Mile House ERG	EnPower Green Energy Generation LP	150 Mile House	Energy Recovery Generation	2006 Open Call	6	34

Project Name	IPP/Seller	Location	Туре	Call Process	Capacity (MW)	Energy (GWh/yr)
Savona ERG	EnPower Green Energy Generation LP	Savona	Energy Recovery Generation	2006 Open Call	6	41
Lower Clowhom	Clowhom Power L.P.	Sechelt	Non-Storage Hydro	2006 Open Call	11	48
Upper Clowhom	Clowhom Power L.P.	Sechelt	Non-Storage Hydro	2006 Open Call	11	48
Tyson Creek Hydro	Tyson Creek Hydro Power Corp.	Sechelt	Storage Hydro	2006 Open Call	9	54
Bone Creek Hydro	Valisa Energy Inc.	Kamloops	Non-Storage Hydro	2006 Open Call	20	81
Bear Mountain Wind Park	Bear Mountain Wind LP	Dawson Creek	Wind	2006 Open Call	102	197
Brilliant Expansion 2	Brilliant Expansion Power Corporation	Castlegar	Storage Hydro	2006 Open Call	< 0.5	226
Upper Stave Energy	Innergex Renewable Energy Inc. (QC)	Mission	Non-Storage Hydro	2006 Open Call	60	264
Kwalsa Energy	Innergex Renewable Energy Inc. (QC)	Mission	Non-Storage Hydro	2006 Open Call	90	384
East Toba and Montrose	Toba Montrose General Partnership	Powell River	Non-Storage Hydro	2006 Open Call	196	715
Alcan Long Term Electricity Purchase	Rio Tinto Alcan Inc.	Kitimat	Storage Hydro	2007 Negotiated EPA	896	3,307
PGP Bio Energy Project	Canfor Pulp Ltd. Partnership	Prince George	Biomass	2008 Bioenergy Call	60	123
Celgar Green Energy	Zellstoff Celgar LP	Castlegar	Biomass	2008 Bioenergy Call	78	242
Cedar Road LFG	Cedar Road LFG Inc.	Nanaimo	Biogas	2008 Standing Offer Program	1	11
Cypress Creek	Synex Energy Resources Ltd	Gold River	Non-Storage Hydro	2008 Standing Offer Program	3	12
Canoe Creek Hydro	Canoe Creek Hydro Company	Ucluelet	Non-Storage Hydro	2008 Standing Offer Program	6	16
Fitzsimmons Creek	Fitzsimmons Creek Hydro LP	Whistler	Non-Storage Hydro	2008 Standing Offer Program	8	36
Lower Bear Hydro	Bear Hydro LP	Sechelt	Non-Storage Hydro	2008 Standing Offer Program	10	46
Upper Bear Hydro	Bear Hydro LP	Sechelt	Non-Storage Hydro	2008 Standing Offer Program	10	73
Armstrong Wood Waste Co-Gen (RVG)	Tolko Industries Ltd.	Armstrong	Biomass	2009 Negotiated EPA	20	163
Skookumchuk Power	Tembec, a general partnership	Skookumchuck	Biomass	2009 Negotiated EPA	51	267
Dokie Wind	Dokie General Partnership	Chetwynd	Wind	2009 Negotiated EPA	144	341
Pine Creek (Atlin)	XEITL LP	Atlin	Non-Storage Hydro	2009 Non-Integrated Areas RFP	2	5
Crowsnest Pass	AltaGas Ltd.	Sparwood	Energy Recovery Generation	2010 Clean Power Call	11	65
Quality Wind	Capital Power L.P.	Tumbler Ridge	Wind	2010 Clean Power Call	142	459
Powell River Generation	Catalyst Paper, general partnership	Powell River	Biomass	2010 Integrated Power Offer	38	151
Cariboo Pulp and Paper	Cariboo Pulp and Paper Company	Quesnel	Biomass	2010 Integrated Power Offer	61	172
Kamloops Green Energy	Domtar Inc.	Kamloops	Biomass	2010 Integrated Power Offer	76	288
Howe Sound Green Energy	Howe Sound Pulp and Paper Corporation	Port Mellon	Biomass	2010 Integrated Power Offer	112	400
Greater Nanaimo PCC Cogeneration	Regional District of Nanaimo	Nanaimo	Biogas	2010 Standing Offer Program	< 0.5	2
LP Golden Biomass	Louisiana-Pacific Canada Ltd.	Golden	Biomass	2010 Standing Offer Program	8	4
South Cranberry Creek 2	Advanced Energy Systems 1 LP	Revelstoke	Non-Storage Hydro	2010 Standing Offer Program	< 0.5	6
79 EPAs				7	3,495	15,074

Independent Power Producers (IPPs) with projects currently in development

As of April 01, 2013, BC Hydro has 51 Electricity Purchase Agreements (EPAs) with IPPs whose projects are currently in development. These projects represent 8,087 gigawatt hours of annual supply and 2,168 megawatts of capacity. For information on IPPs who have an EPA with BC Hydro and are in operation, please refer to the IPP Supply List – In Operation document posted to our website.

Project Name	Owner	Location	Type	Call Process	Capacity (MW)	Energy (GWh/yr)
Mkw'alts Creek	Mkw'alts Energy Limited Partnership	Mount Currie	Non-Storage Hydro	2003 Green Power Generation	45	154
Clint Creek Hydro	Wa'as Power Limited Partnership	Woss	Non-Storage Hydro	2006 Open Call	6	27
Corrigan Creek	Tiickin Power Limited Partnership	Port Alberni	Non-Storage Hydro	2006 Open Call	7	19
Cranberry Creek Power	Advanced Energy Systems Ltd.	Revelstoke	Non-Storage Hydro	2006 Open Call	3	11
Fries Creek	Fries Creek Hydro Limited Partnership	Squamish	Non-Storage Hydro	2006 Open Call	9	41
Gold River Power	Green Island Energy Ltd.	Gold River	Municipal Solid Waste	2006 Open Call	90	745
Kookipi Creek Hydroelectric	Highwater Power Limited Partnership	Boston Bar	Non-Storage Hydro	2006 Open Call	10	39
Kwoiek Creek Hydroelectric	Kwoiek Creek Resources Limited Partnership	Lytton	Non-Storage Hydro	2006 Open Call	50	147
Log Creek Hydroelectric	Highwater Power Limited Partnership	Boston Bar	Non-Storage Hydro	2006 Open Call	10	38
Maroon Creek Hydro	Maroon Creek Hydro	Terrace	Non-Storage Hydro	2006 Open Call	5	25
Sakwi Creek Run of River	Sakwi Creek Power Corp.	Agassiz	Non-Storage Hydro	2006 Open Call	6	21
Victoria Lake Hydroelectric	Synex Energy Resources Ltd.	Port Alice	Non-Storage Hydro	2006 Open Call	10	39
PGWE2008	PG Interior Waste to Energy Ltd.	Prince George	Biomass	2008 Bioenergy Call	8	70
Chetwynd Biomass	West Fraser Mills Ltd.	Chetwynd	Biomass	2008 Bioenergy Phase 2 Call	12	96
Fort St. James Green Energy	Fort St. James Green Energy Limited Partnership	Fort St. James	Biomass	2008 Bioenergy Phase 2 Call	40	289
Fraser Lake Biomass	West Fraser Mills Ltd.	Fraser Lake	Biomass	2008 Bioenergy Phase 2 Call	12	96
Merritt Green Energy	Merritt Green Energy Limited Partnership	Merritt	Biomass	2008 Bioenergy Phase 2 Call	40	289
Beaver River (Ventego, Cupola)	Ventego Hydro Limited Partnership	Golden	Non-Storage Hydro	2010 Clean Power Call	44	140
Big Silver - Shovel Creek	Innergex Renewable Energy Inc. (QC)	Harrison Hot Springs	Non-Storage Hydro	2010 Clean Power Call	41	159
Boulder Creek	Boulder Creek Power Limited Partnership	Pemberton	Non-Storage Hydro	2010 Clean Power Call	23	86
Box Canyon	Box Canyon Hydro Corporation, Sound Energy Inc.	Port Mellon	Non-Storage Hydro	2010 Clean Power Call	15	54
Bremner - Trio	Greengen Holdings Ltd.		Non-Storage Hydro	2010 Clean Power Call	45	204
Bullmoose Wind	Bullmoose Wind Energy Limited Partnership	Tumbler Ridge	Wind	2010 Clean Power Call	60	158
Cape Scott (formerly Knob Hill Wind)	Cape Scott Wind Farm Inc.	Port Hardy	Wind	2010 Clean Power Call	99	288
Castle Creek (formerly Benjamin Creek)	Castle Mountain Hydro Ltd.	McBride	Non-Storage Hydro	2010 Clean Power Call	6	35
Culliton Creek	Culliton Creek Power Limited Partnership	Squamish	Non-Storage Hydro	2010 Clean Power Call	15	74
Dasque - Middle	Swift Power LP	Terrace	Non-Storage Hydro	2010 Clean Power Call	20	81
Jamie Creek	Jamie Creek LP	Gold Bridge	Non-Storage Hydro	2010 Clean Power Call	21	74
Kokish River	Kwagis Power Limited Partnership	Port McNeil	Non-Storage Hydro	2010 Clean Power Call	45	186
				2010 Clean Power Call	31	139
Long Lake Hydro	Long Lake Joint Venture	Stewart	Storage Hydro Wind	2010 Clean Power Call	117	362
Meikle Wind	Meikle Wind Energy Limited Partnership	Tumbler Ridge			16	60
North Creek Hydroelectric	North Creek Hydro Power L.P.	Pemberton	Non-Storage Hydro	2010 Clean Power Call		65
Northwest Stave River	Northwest Stave River Hydro Limited Partnership	Mission	Non-Storage Hydro	2010 Clean Power Call	18	225
Ramonas - CC Creek - Chickwat	NI Hydro Holding Corp.	Sechelt	Storage Hydro	2010 Clean Power Call	45	
Skookum Power (aka Mamquam Skookum)	Sea to Sky Power Corporation	Squamish	Non-Storage Hydro	2010 Clean Power Call	25	95
Tretheway Creek	Innergex Renewable Energy Inc. (QC)	Mission	Non-Storage Hydro	2010 Clean Power Call	21	81
Tumbler Ridge Wind	Tumbler Ridge Wind Energy Limited Partnership	Tumbler Ridge	Wind	2010 Clean Power Call	47	153
Upper Lillooet River	Upper Lillooet River Power Limited Partnership	Pemberton	Non-Storage Hydro	2010 Clean Power Call	74	270
Upper Toba Valley	Upper Toba General Partnership	Powell River	Non-Storage Hydro	2010 Clean Power Call	124	315
Wildmare Wind	Wildmare Wind Energy Limited Partnership	Chetwynd	Wind	2010 Clean Power Call	77	224
Fraser Richmond Soil and Fibre	Fraser Richmond Soil & Fibre Ltd.	Richmond	Biogas	2010 Community Based Biomass	1	8
Harmac Biomass	Nanaimo Forest Products Ltd.	Nanaimo	Biomass	2010 Integrated Power Offer	55	190
Northwood Green Power	Canfor Pulp Limited Partnership	Prince George	Biomass	2010 Integrated Power Offer	63	104
Forrest Kerr Hydroelectric	Coast Mountain Hydro Limited Partnership	Stewart	Non-Storage Hydro	2010 Negotiated EPA	195	942
McLymont Creek	Coast Mountain Hydro Limited Partnership	Stewart	Non-Storage Hydro	2010 Negotiated EPA	66	244
Volcano Creek	Coast Mountain Hydro Limited Partnership	Stewart	Non-Storage Hydro	2010 Negotiated EPA	18	52
Waneta Expansion	Waneta Expansion Limited Partnership	Trail	Non-Storage Hydro	2010 Negotiated EPA	335	630
Haa-ak-suuk Creek Hydro	Haa-ak-suuk Creek Hydro Limited Partnership	Ucluelet	Non-Storage Hydro	2010 Standing Offer Program	6	21
Squamish Power Project	Western Forest Products Inc.	Squamish	Biomass	2010 Standing Offer Program	1	11
Conifex Green Energy	Conifex Power Inc.	Mackenzie	Biomass	2011 Negotiated EPA	36	209
Gabion River EPA (Hartley Bay)	Gitga'at Economic Development Corporation	Hartley Bay	Storage Hydro	2012 Non-Integrated Areas	1	2
51 EPAs					2,168	8.087

Independent Power Producers (IPPs) currently supplying power to BC Hydro

As of October 01, 2013, BC Hydro has 82 Electricity Purchase Agreements (EPAs) with IPPs whose projects are currently delivering power to BC Hydro. These projects represent 15,317 gigawatt hours of annual supply and 3,553 megawatts of capacity. For information on IPPs who have an EPA with BC Hydro but are not yet in operation, please refer to the IPP Supply List – In Development document posted to our website.

Project Name	IPP/Seller	Location	Туре	Call Process	Capacity (MW)	Energy (GWh/yr)
Coats IPP	Crofter's Gleann Enterprises	Gabriola Island	Non-Storage Hydro	1985 Negotiated EPA	< 0.5	1
Ocean Falls	Boralex Ocean Falls LP	Bella Bella	Non-Storage Hydro	1985 Non-Integrated Areas RFP	15	12
Mamquam Hydro	Atlantic Power Preferred Equity Ltd.	Squamish	Non-Storage Hydro	1988 Greater Than 5 MW	58	250
McMahon Generating	McMahon Cogeneration Plant JV	Taylor	Gas-Fired Thermal	1988 Greater Than 5 MW	105	840
NWE Williams Lake WW	Atlantic Power Preferred Equity Ltd.	Williams Lake	Biomass	1988 Greater Than 5 MW	68	545
Akolkolex	Canadian Hydro Developers, Inc.	Revelstoke	Non-Storage Hydro	1989 Less Than 5 MW	10	50
Boston Bar Hydro (Scuzzy Creek)	Boston Bar LP	Boston Bar	Non-Storage Hydro	1989 Less Than 5 MW	6	38
Brown Lake Hydro	Brown Miller Power LP	Prince Rupert	Storage Hydro	1989 Less Than 5 MW	7	57
Doran Taylor	Doran Taylor Hydro (JV partnership)	Port Alberni	Non-Storage Hydro	1989 Less Than 5 MW	6	23
McDonald Ranch	McDonald Ranch & Lumber Ltd.	Grasmere	Non-Storage Hydro	1989 Less Than 5 MW	< 0.5	< 0.5
	Morehead Valley Hydro Inc.	Williams Lake	Non-Storage Hydro	1989 Less Than 5 MW	< 0.5	< 0.5
Robson Valley (Ptarmigan Creek - RBV)	Robson Valley Power Corporation	McBride	Non-Storage Hydro	1989 Less Than 5 MW	4	26
Salmon Inlet (Sechelt Creek SCG)	MPT Hydro LP	Sechelt	Non-Storage Hydro	1989 Less Than 5 MW	17	68
Seaton Creek Hydro (Homestead)	Homestead Hydro Systems	New Denver	Non-Storage Hydro	1989 Less Than 5 MW	< 0.5	1
Soo River	Soo River Hydro	Whistler	Non-Storage Hydro	1989 Less Than 5 MW	13	65
Walden North	Walden Power Partnership	Lillooet	Non-Storage Hydro	1989 Less Than 5 MW	18	54
Moresby Lake (QCPC)	Atlantic Power Preferred Equity Ltd.	Sandspit	Storage Hydro	1989 Non-Integrated Areas RFP	6	20
Hluey Lake (SNP)	MPT Hydro LP		Non-Storage Hydro	1993 Non-Integrated Areas RFP	3	5
	V.I. Power LP		Gas-Fired Thermal	1994 RFP	275	2,300
Arrow Lakes Hydro	Arrow Lakes Power Corporation	Slocan	Storage Hydro	1998 Negotiated EPA	185	767
Hartland Landfill Gas Utilization	Capital Regional District	Saanich	Biogas	2000 RFP	2	15
Hystad Creek Hydro	Valemount Hydro LP	Valemount	Non-Storage Hydro	2000 RFP	6	20
Miller Creek Power	Brown Miller Power LP		Non-Storage Hydro	2000 RFP	30	118
Pingston Creek	Canadian Hydro Developers Inc and GLP Pingston Creek Power LP		Non-Storage Hydro	2001 Greater Than 40 GWh	45	193
Rutherford Creek Hydro	Rutherford Creek Power LP		Non-Storage Hydro	2001 Greater Than 40 GWh	50	172
Upper Mamquam Hydro	Canadian Hydro Developers, Inc.		Non-Storage Hydro	2001 Greater Than 40 GWh	25	108
Brandywine Creek Small Hydro	Rockford Energy Corp.		Non-Storage Hydro	2001 Less Than 40 GWh	8	34
Eagle Lake C2 Micro Hydro			Non-Storage Hydro	2001 Less Than 40 GWh	< 0.5	1
Furry Creek	Furry Creek Power Ltd		Non-Storage Hydro	2001 Less Than 40 GWh	10	40
	Hauer Creek Power Inc.	Valemount	Non-Storage Hydro	2001 Less Than 40 GWh	2	13
Marion 3 Creek	Marion Creek Hydro Inc.	Port Alberni	Non-Storage Hydro	2001 Less Than 40 GWh	5	18
	McNair Creek Hydro LP	Sechelt	Non-Storage Hydro	2001 Less Than 40 GWh	10	38
			Non-Storage Hydro	2001 Less Than 40 GWh	4	20
	South Sutton Creek Hydro Inc.	Port Alberni	Non-Storage Hydro	2001 Less Than 40 GWh	5	26
Vancouver Landfill Gas Utilization - Ph 1	Maxim Power (BC) Inc.		Biogas	2001 Less Than 40 GWh	6	40
SEEGEN (Burnaby Incinerator)	Covanta Burnaby Renewable Energy, ULC		Municipal Solid Waste	2002 Customer-Based Generation	22	131
	Ashlu Creek Investments LP		Non-Storage Hydro	2003 Green Power Generation	50	269
			Storage Hydro	2003 Green Power Generation	120	203
	Upnit Power LP		Non-Storage Hydro	2003 Green Power Generation	6	25
	Advanced Energy Systems 1 LP	Revelstoke	Non-Storage Hydro	2003 Green Power Generation	9	26
	Maxim Power (BC) Inc.	Delta	Biogas	2003 Green Power Generation	2	15
	Zeballos Lake Hydro LP	Zeballos	Storage Hydro	2003 Green Power Generation	22	93
	XEITL LP		Non-Storage Hydro	2006 Non-Integrated Areas RFP	2	5
	EnPower Green Energy Generation LP		Energy Recovery Generation	2006 Open Call	6	34
Barr Creek	Barr Creek LP	Tahsis	Non-Storage Hydro	2006 Open Call	4	16
	Bear Mountain Wind LP	Dawson Creek	Wind	2006 Open Call	102	197
Bone Creek Hydro	Valisa Energy Inc.	Kamloops	Non-Storage Hydro	2006 Open Call	20	81
		Castlegar	Storage Hydro	2006 Open Call	< 0.5	226
East Toba and Montrose	Toba Montrose General Partnership	Powell River	Non-Storage Hydro	2006 Open Call	196	715
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Project Name	IPP/Seller	Location	Type	Call Process	Capacity (MW)	Energy (GWh/yr)
Kwalsa Energy	Innergex Renewable Energy Inc. (QC)	Mission	Non-Storage Hydro	2006 Open Call	90	384
Lower Clowhom	Clowhom Power L.P.	Sechelt	Non-Storage Hydro	2006 Open Call	11	48
Raging River 2	Raging River Power & Mining Inc.	Port Alice	Storage Hydro	2006 Open Call	8	30
Savona ERG	EnPower Green Energy Generation LP	Savona	Energy Recovery Generation	2006 Open Call	6	41
Tyson Creek Hydro	Tyson Creek Hydro Power Corp.	Sechelt	Storage Hydro	2006 Open Call	9	54
Upper Clowhom	Clowhom Power L.P.	Sechelt	Non-Storage Hydro	2006 Open Call	11	48
Upper Stave Energy	Innergex Renewable Energy Inc. (QC)	Mission	Non-Storage Hydro	2006 Open Call	60	264
Alcan Long Term Electricity Purchase	Rio Tinto Alcan Inc.	Kitimat	Storage Hydro	2007 Negotiated EPA	896	3,307
Celgar Green Energy	Zellstoff Celgar LP	Castlegar	Biomass	2008 Bioenergy Call	78	242
PGP Bio Energy Project	Canfor Pulp Ltd, Partnership	Prince George	Biomass	2008 Bioenergy Call	60	123
Canoe Creek Hydro	Canoe Creek Hydro Company	Ucluelet	Non-Storage Hydro	2008 Standing Offer Program	6	16
Cedar Road LFG	Cedar Road LFG Inc.	Nanaimo	Biogas	2008 Standing Offer Program	1	11
Cypress Creek	Synex Energy Resources Ltd	Gold River	Non-Storage Hydro	2008 Standing Offer Program	3	12
Fitzsimmons Creek	Fitzsimmons Creek Hydro LP	Whistler	Non-Storage Hydro	2008 Standing Offer Program	8	36
Lower Bear Hydro	Bear Hydro LP	Sechelt	Non-Storage Hydro	2008 Standing Offer Program	10	46
Upper Bear Hydro	Bear Hydro LP	Sechelt	Non-Storage Hydro	2008 Standing Offer Program	10	73
Armstrong Wood Waste Co-Gen (RVG)	Tolko Industries Ltd.	Armstrong	Biomass	2009 Negotiated EPA	20	163
Dokie Wind	Dokie General Partnership	Chetwynd	Wind	2009 Negotiated EPA	144	375
Skookumchuck Power Project	Skookumchuck Pulp Inc.	Skookumchuck	Biomass	2009 Negotiated EPA	51	267
Crowsnest Pass	Mistral Power Inc.	Sparwood	Energy Recovery Generation	2010 Clean Power Call	11	65
Quality Wind	Capital Power L.P.	Tumbler Ridge	Wind	2010 Clean Power Call	142	459
Fraser Richmond Soil and Fibre	Fraser Richmond Soil & Fibre Ltd.	Richmond	Biogas	2010 Community-Based Biomass	1	8
Cariboo Pulp and Paper	Cariboo Pulp and Paper Company	Quesnel	Biomass	2010 Integrated Power Offer	61	172
Harmac Biomass	Nanaimo Forest Products Ltd.	Nanaimo	Biomass	2010 Integrated Power Offer	55	190
Howe Sound Green Energy	Howe Sound Pulp and Paper Corporation	Port Mellon	Biomass	2010 Integrated Power Offer	112	400
Kamloops Green Energy	Domtar Inc.	Kamloops	Biomass	2010 Integrated Power Offer	76	288
Powell River Generation	Catalyst Paper, general partnership	Powell River	Biomass	2010 Integrated Power Offer	38	151
Greater Nanaimo PCC Cogeneration	Regional District of Nanaimo	Nanaimo	Biogas	2010 Standing Offer Program	< 0.5	2
LP Golden Biomass	Louisiana-Pacific Canada Ltd.	Golden	Biomass	2010 Standing Offer Program	8	4
South Cranberry Creek 2	Advanced Energy Systems 1 LP	Revelstoke	Non-Storage Hydro	2010 Standing Offer Program	< 0.5	6
Squamish Power Project	Western Forest Products Inc.	Squamish	Storage Hydro	2010 Standing Offer Program	1	11
East Twin Creek Hydro	Valemount Hydro LP	McBride	Non-Storage Hydro	2011 Negotiated EPA	2	6
82 EPAs		Tark Har			3,553	15,317

Independent Power Producers (IPPs) with projects currently in development

As of October 01, 2013, BC Hydro has 45 Electricity Purchase Agreements (EPAs) with IPPs whose projects are currently in development. These projects represent 6,891 gigawatt hours of annual supply and 1,984 megawatts of capacity. For information on IPPs who have an EPA with BC Hydro and are in operation, please refer to the IPP Supply List – In Operation document posted to our website.

Project Name	Owner	Location	Туре	Call Process	Capacity (MW)	Energy (GWh/yr)
Mkw'alts Creek	Mkwalts Energy Limited Partnership	Mount Currie	Non-Storage Hydro	2003 Green Power Generation	45	154
Clint Creek Hydro	Wa'as Power Limited Partnership	Woss	Non-Storage Hydro	2006 Open Call	6	27
Corrigan Creek	Tiickin Power Limited Partnership	Port Alberni	Non-Storage Hydro		7	19
Cranberry Creek Power	Advanced Energy Systems Ltd.	Revelstoke	Non-Storage Hydro		3	9
Fries Creek	Fries Creek Hydro Limited Partnership	Squamish	Non-Storage Hydro		9	41
Kookipi Creek Hydroelectric	Highwater Power Limited Partnership	Boston Bar	Non-Storage Hydro		10	39
Kwoiek Creek Hydroelectric	Kwoiek Creek Resources Limited Partnership	Lytton	Non-Storage Hydro		50	147
Log Creek Hydroelectric	Highwater Power Limited Partnership	Boston Bar	Non-Storage Hydro	2006 Open Call	10	38
Sakwi Creek Run of River	Sakwi Creek Power Corp.	Agassiz	Non-Storage Hydro		6	21
Victoria Lake Hydroelectric	Synex Energy Resources Ltd	Port Alice	Non-Storage Hydro		10	39
Chetwynd Biomass	West Fraser Mills Ltd.	Chetwynd	Biomass	2010 Bio Energy Ph 2	12	96
Fort St. James Green Energy	Fort St. James Green Energy Limited Partnership	Fort St. James	Biomass	2010 Bio Energy Ph 2	40	289
Fraser Lake Biomass	West Fraser Mills Ltd.	Fraser Lake	Biomass	2010 Bio Energy Ph 2	12	96
Merritt Green Energy	Merritt Green Energy Limited Partnership	Merritt	Biomass	2010 Bio Energy Ph 2	40	289
Big Silver - Shovel Creek	Innergex Renewable Energy Inc. (QC)	Harrison Hot Springs	Non-Storage Hydro	2010 Clean Power Call	41	159
Boulder Creek	Boulder Creek Power Limited Partnership	Pemberton		2010 Clean Power Call	23	86
Box Canyon	Box Canyon Hydro Corporation, Sound Energy Inc.	Port Mellon	Non-Storage Hydro	2010 Clean Power Call	15	54
Bremner - Trio	Greengen Holdings Ltd.	Harrison Hot Springs	Non-Storage Hydro	2010 Clean Power Call	45	204
Bullmoose Wind	Bullmoose Wind Energy Limited Partnership	Tumbler Ridge	Wind	2010 Clean Power Call	60	158
Cape Scott (formerly Knob Hill Wind)	Cape Scott Wind Farm Inc.	Port Hardy	Wind	2010 Clean Power Call	99	288
Castle Creek (formerly Benjamin Creek)	Castle Mountain Hydro Ltd.	McBride	Non-Storage Hydro	2010 Clean Power Call	6	35
Culliton Creek	Culliton Creek Power Limited Partnership	Squamish	Non-Storage Hydro	2010 Clean Power Call	15	74
Dasgue - Middle	Swift Power LP	Terrace	Non-Storage Hydro	2010 Clean Power Call	20	81
Jamie Creek	Jamie Creek LP	Gold Bridge	Non-Storage Hydro	2010 Clean Power Call	21	74
Kokish River	Kwagis Power Limited Partnership	Port McNeil	Non-Storage Hydro	2010 Clean Power Call	45	186
Long Lake Hydro	Long Lake Joint Venture	Stewart	Storage Hydro	2010 Clean Power Call	31	139
Meikle Wind	Meikle Wind Energy Limited Partnership	Tumbler Ridge	Wind	2010 Clean Power Call	117	362
North Creek Hydroelectric	North Creek Hydro Power L.P.	Pemberton	Non-Storage Hydro	2010 Clean Power Call	16	60
Northwest Stave River	Northwest Stave River Hydro Limited Partnership	Mission	Non-Storage Hydro	2010 Clean Power Call	18	65
Ramonas - CC Creek - Chickwat	NI Hydro Holding Corp.	Sechelt	Storage Hydro	2010 Clean Power Call	33	148
Skookum Power (aka Mamquam Skookum)	Skookum Creek Power Partnership	Squamish	Non-Storage Hydro	2010 Clean Power Call	25	95
Tretheway Creek	Innergex Renewable Energy Inc. (QC)	Mission		2010 Clean Power Call	21	81
Tumbler Ridge Wind	Tumbler Ridge Wind Energy Limited Partnership	Tumbler Ridge	Wind	2010 Clean Power Call	47	153
Upper Lillooet River	Upper Lillooet River Power Limited Partnership	Pemberton	Non-Storage Hydro	2010 Clean Power Call	74	270
Upper Toba Valley	Upper Toba General Partnership	Powell River		2010 Clean Power Call	124	315
Wildmare Wind	Wildmare Wind Energy Limited Partnership	Chetwynd	Wind	2010 Clean Power Call	77	224
Intercon Green Power	Canfor Pulp Limited Partnership	Prince George	Biomass	2010 Integrated Power Offer	32	73
Northwood Green Power	Canfor Pulp Limited Partnership	Prince George	Biomass	2010 Integrated Power Offer	63	104
Forrest Kerr Hydroelectric	Coast Mountain Hydro Limited Partnership	Stewart		2010 Negotiated EPA	195	942
McLymont Creek	Coast Mountain Hydro Limited Partnership	Stewart		2010 Negotiated EPA	66	244
Volcano Creek	Coast Mountain Hydro Limited Partnership	Stewart		2010 Negotiated EPA	18	52
Waneta Expansion	Waneta Expansion Limited Partnership	Trail		2010 Negotiated EPA	335	630
Haa-ak-suuk Creek Hydro	Haa-ak-suuk Creek Hydro Limited Partnership	Ucluelet	Non-Storage Hydro	2010 Standing Offer Program	6	21
Conifex Green Energy	Conifex Power Inc.	Mackenzie	Biomass	2011 Negotiated EPA	36	209
Gabion River EPA (Hartley Bay)	Gitga'at Economic Limited Partnership	Hartley Bay	Storage Hydro	2012 Non-Integrated Areas RFP	1	2
45 EPAs	A CONTRACTOR OF THE PARTY OF TH	Step March 1924			1,984	6,891



Edwin Blewett, PhD

Edwin Blewett, President, PhD in economics from the University of British Columbia (1982) where he specialized in econometrics, public finance and microeconomics.

After four years as a senior economist with the federal government, Edwin started his consulting practice in 1987. Over the past twenty-six years, Edwin has successfully completed over 230 consulting assignments in diverse sectors including transportation, forestry, health care, fisheries and mining, for clients from the private sector, government, not-for-profits and First Nations.



Edwin has a diverse skill set ranging from economic analysis and econometric forecasting to market research and evaluation. He is a skilled facilitator and team leader, having led strategic planning teams and facilitated negotiations between parties. He has been qualified as an expert witness in the Supreme Court of British Columbia and worked as a core member of litigation teams.

Selected Recent Projects

Economic Impacts of BC Fisheries for Pacific Salmon. Pacific Salmon Foundation. 2013

Economic Benefits & Impacts of Fisheries and Oceans Canada's Salmonid Enhancement Program (SEP) in British Columbia. Fisheries and Oceans Canada. 2012.

Resource Revenue Policy for Nunavut. Regional Inuvit Associations of Nunavut. 2010.

Benefit-Cost Analysis of Open Net-Pen and Closed Containment Methods of Salmon Aquaculture in British Columbia. Marine Harvest Canada and Coastal Alliance for Aquaculture Reform. 2011.

Business & Training Plans. Various British Columbia First Nations. 2009-2010.

Expert Opinion Report for the Federal Court of Canada—Valuation of Salmon Harvested for Food, Social and Ceremonial Purposes, Hagwilget, British Columbia. Justice Canada & Fisheries and Oceans Canada. 2009.

ROI Analysis—Deployment of Microsoft Portfolio & Project Server. Western Principles. 2009.

Economic Dimensions of Skeena Watershed Salmonid Fisheries. Pacific Salmon Foundation and the Gordon and Betty Moore Foundation. 2007-08.

Economic Impacts of the Sport of Golf in British Columbia. British Columbia Golf Association. 2005



Professional Experience

Economic Analysis

Benefit-Cost Analysis of Open Net-Pen and Closed Containment Methods of Salmon Aquaculture in British Columbia. Marine Harvest Canada and Coastal Alliance for Aquaculture Reform..

ROI Analysis—Deployment of Microsoft Portfolio & Project Server. Western Principles.

Economic Dimensions of Skeena Watershed Salmonid Fisheries. Pacific Salmon Foundation and the Gordon and Betty Moore Foundation.

Yukon Treaty Contributions Assessment: Cost Assessment; Recommended Contribution Limits and Resources Tracking & Monitoring Tool. Fisheries & Oceans Canada, Pacific Region, Yukon Office.

Gap Analysis: Aboriginal Aquatic Resource and Oceans Management (AAROM) Program and the Umbrella Final Agreement. Fisheries & Oceans Canada, Pacific Region, Yukon Office.

Allocation Transfer Program Evaluation & Strategic Analysis. Fisheries & Oceans Canada.

Economic and Industry/Market Assessment of Processing at Sea. Province of British Columbia. Ministry of Agriculture, Food & Fisheries.

Economic Dimensions of the Pacific Fishery and Inter-Sectoral Allocation. First Nations Panel on Fisheries.

Analysis of Aboriginal Fisheries. Joint Task Group on Post Treaty Fisheries.

Revelstoke Canyon Dam Unit 5 Resource Valuation Assessment. BC Hydro.

Fisheries Impacts of Cyprus Anvil Mine Development. Curragh Resources Ltd.

Negotiations/Litigation Expert Witness

Expert opinion for the Federal Court of Canada. Value of damages and losses to the Nak'azdli and Tl'azt'en' First Nations from the Stuart Lake Barricades Agreement. Peter Grant & Associates.

Expert opinion for the Federal Court of Canada. Valuation of salmon harvested for food, social and ceremonial purposes, Hagwilget, British Columbia. Justice Canada & Fisheries and Oceans Canada.



Fisheries management consultant and deponent: Lax Kw'alaams Indian Band vs Canada (Attorney General),2008 BCSC 447. Justice Canada and Fisheries & Oceans Canada.

Fisheries management consultant and deponent: Ahousaht Indian Band and Nation vs Canada (Attorney General), 2009 BCSC 1494. Justice Canada and Fisheries & Oceans Canada.

Expert opinion for the Supreme Court of British Columbia: Calculation of damages from lost stumpage revenues. Xeni Gwet'in First Nation.

Economic Assessment of Personal Injury Damages.

- Shook, Bishop, Wickham & Field.
- Borden-Ladner-Gervais.
- King Sutton Lawyers.
- Insurance Corporation of BC.
- · Gibson, Kelly & Ives; Ladner Downs.
- Boughton & Company.

Economic Analysis and Negotiations Support: Pacific Salmon Treaty. Fisheries & Oceans Canada.

Nisga'a Task Group. Economic Analysis and Third Party Liaison/Consultations. Fisheries & Oceans Canada.

Glacier Bay Oil Spill. Wilmer, Cutler, Pickering.

Industrial Inquiry Commission: Representative for Fish Processors. Fisheries Council of BC.

Exxon Valdez Oil Spill. J. L. Anderson Associates Inc. Exxon.

Section 301 Trade Dispute Analysis. Fisheries & Oceans Canada.

Facilitation and Workshops

21st Century Salmon Management. Workshops with the Commercial Salmon Advisory Board to develop a renewed Pacific wild salmon fishery.

Research Plan for Pharmacy Occupational Sector Study. Canadian Pharmacists Association.

Strategic Plan. Southern Boundary Restoration and Enhancement Fund, Pacific Salmon Commission.

Invited Participant to Technical Workshop on Modelling Demand For Health Care. Human Resources Development Canada.

Commercial Salmon Advisory Board: Treaty Transfer and Allocation.



Invited Presentation on Labour Market Modelling to Canadian Paediatric Society Labour Market Committee. Canadian Paediatric Society and Human Resources Development Canada.

Facilitated Halibut Allocation Negotiations between Recreational Anglers and Commercial Harvesters. Fisheries & Oceans Canada.

Invited Presentation on Oral Health Care Labour Market Model. Human Resources Development Canada.

Chaired and facilitated three Selective Fisheries Workshops (300 participants).

- Selective Fisheries for the Future Workshop. Fisheries & Oceans Canada.
- Selective Fisheries Planning Workshop. Fisheries & Oceans Canada.
- Selective Fisheries Technical Workshop. Fisheries & Oceans Canada.

Invited Presentation on Oral Health Care Labour Market Model, Health Canada.

Chaired DFO's Treaty Task Group examining delivery of fisheries under treaties with First Nations. Fisheries & Oceans Canada.

Chaired three workshops on salmon allocation held in major fishing communities in British Columbia. Fisheries & Oceans Canada.

Participated as representative of First Nations on an inquiry panel on inter-sectoral salmon allocation. Fisheries & Oceans Canada. BC Aboriginal Fisheries Commission.

Economic Impact Analysis

Economic Impacts of BC Fisheries for Pacific Salmon. Pacific Salmon Foundation. 2013.

Economic Impacts of Clean Energy projects for British Columbia First Nations. Clean Energy BC. 2013.

Economic Benefits & Impacts of Fisheries and Oceans Canada's Salmonid Enhancement Program (SEP) in British Columbia. Fisheries and Oceans Canada. 2012.

Economic Dimensions of Skeena Salmonid Fisheries. Pacific Salmon Foundation and the Gordon and Betty Moore Foundation.

The Economic Impacts of the Sport of Golf in British Columbia. British Columbia Golf Association.

Socio-Economic Framework for Ecosystem-Based Management. Coast Forest Conservation Initiative.



Socio-Economic Baseline Analysis for the Recovery Action Plan for Threatened Woodland Caribou in the Hart and Cariboo Mountains Recovery Area. BC Ministry of Water, Land & Air Protection.

Phasing In Turnstiles on SkyTrain's Expo and Millennium Lines. Rapid Transit Project 2000 Ltd.

Western Terminus Options for SkyTrain's Millennium Line. Rapid Transit Project 2000 Ltd.

Economic Impacts of Bombardier's Centre for Advanced Transit Solutions. Rapid Transit Project 2000 Ltd..

Security and Fare Compliance Options for SkyTrain. Rapid Transit Project 2000 Ltd.

Coho Management Strategies. Fisheries & Oceans Canada.

Economic Impacts of the Offshore Fishery. Hake Fishermen's Association.

Options for Increasing Carrying Capacity of Commuter Rail Line. West Coast Express.

Socio-Economic Benefits of Enhanced Forest Management. Forest Alliance.

Reviews of Economic Analyses in Land Resource Management Plans.

- Cassiar-Iskut-Stikine LRMP. Skeena Cellulose; Homestake Canada Inc; BC & Yukon Chamber of Mines.
- Prince George LRMP. Lakeland Mills, Canadian Forest Products, Carrier Lumber, Northwood Pulp & Paper, Weldwood Canada, Apollo Forest Products, Dunkley Lumber, The Pas Lumber Company, Rustad Bros & Co, Takla Track & Timber.
- Bulkley LRMP. Pacific Inland Resources Ltd.

Reviews of Economic Analyses in Timber Supply Reviews.

- Sunshine Coast TSA. Coast Forest & Lumber Association.
- Kingcome TSA. Coast Forest & Lumber Association.
- Lillooet TSA. Caribou Lumber Manufacturers Association.
- Williams Lake, Quesnel and 100 Mile House TSAs. Caribou Lumber Manufacturers Association.
- Strathcona TSA. Council of Forest Industries.
- Bulkley TSA. Pacific Inland Resources Ltd.
- Fort Nelson and Revelstoke TSAs. Council of Forest Industries.

Economic Evaluation of Enhanced Forest Management. Lignum Ltd.

Review of Economic Analysis for the Lower Mainland Protected Areas Strategy. Interfor.



Review of Forest Practices Code Benefits Report. Council of Forest Industries.

Proposed SkyTrain Vehicle Acquisition. BC Transit.

Business Coaching

Business coaching and modelling. Harbour Self-Storage.

Statistical Forecasting

Pilot test of Counterpoint Consulting Inc timber price forecasts to improve operations and revenues. Washington State Department of Natural Resources.

Timber Price Forecasting Models, Washington Department of Natural Resources.

Timber Price Forecasting Models, Weyerhaeuser Canada.

Market Price System for Stumpage: Econometric Methods and Competitive Analysis. Interior Lumber Manufacturers' Association.

Decision Analysis

Restoration and Enhancement Fund Budget Priorities Framework. Yukon River Panel.

Budget Priorities Framework for Managing Salmon Stocks in the Canadian Basin of the Yukon River. Fisheries & Oceans Canada.

Decision Analysis of Mine Infrastructure Siting. Taseko Mines Ltd.

Decision Analysis of Fire and Security Options. Alcan.

Decision Analysis Model for Prioritizing Proposals to the Pacific Salmon Treaty Research and Development Fund. Fisheries & Oceans Canada.

Iona Island Land Use Alternatives Decision Analysis. BC Ministry of Lands.

Business/Market Analysis

Seafood Sector Business & Training Plan. Lax Kw'alaams Indian Band.

Seafood Sector Business & Training Plan. A-Tlegay Fisheries Society.

Seafood Sector Business and Training Plan. Council of the Haida Nation.



Seafood Sector Strategic Plan. Council of the Haida Nation.

ROI Analysis—Deployment of Microsoft Portfolio & Project Server. Western Principles. 2009.

Seafood Strategic Plan. Winalagalis First Nations.

Commercial Fishing Licence Business Plan. Maa-nulth Treaty First Nations.

Business Barriers and Constraints Study: North Island Straits Shellfish Aquaculture. Ministry of Sustainable Resource Management & Ministry of Agriculture, Food and Fisheries.

Economic and Industry/Market Assessment of Processing at Sea. Province of British Columbia. Ministry of Agriculture, Food & Fisheries.

Market Research Study: Herring Spawn-on-Kelp. Fisheries & Oceans Canada.

Global Aquatic Biotechnology Study. Prepared in support of the Canadian Biotechnology Patenting Initiative. Industry Canada.

Aboriginal Forestry Strategy: Guidelines and Recommendations for Forest Companies wishing to initiate Business Ventures with First Nations. Council of Forest Industries.

Business Development Planning. Native Fishing Association.

Economic Development Strategy: Queen Charlotte Islands. Department of Regional Economic Expansion; Ministry of Industry & Small Business Development.

Business Plan: Fish Processing Plant. Qualicum Band of Indians.

Performance Measurement/Program Evaluation

Status of Fisheries and Oceans Canada's Management and Research Science. Cohen Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River.

Evaluation Framework, Gwaii Trust Society.

Evaluation Framework. Pacific Salmon Foundation.

Allocation Transfer Program Evaluation & Strategic Analysis. Fisheries & Oceans Canada.

Socio-Economic Framework for Ecosystem-Based Management. Coast Forest Conservation Initiative.

Terms of Reference for Summative Evaluations of DFO's Selective Fisheries and Resource Rebuilding Programs. Fisheries & Oceans Canada.



Status Report on Co-Managed Fisheries in British Columbia: paper presented at the Second Seafood Summit. BC Seafood Alliance & Ministry of Agriculture, Food and Fisheries.

Evaluation of the Pacific Fisheries Adjustment and Restructuring—Fleet Reduction Program. Fisheries & Oceans Canada.

Evaluation of DFO's Response to the Recommendations of the BC Aboriginal Fisheries Commission's 1996 Review of the Aboriginal Fisheries Strategy. Fisheries & Oceans Canada.

Selective Fishing Technical Evaluation. Fisheries & Oceans Canada.

Evaluation of DFO's Response to the Recommendations of the Fraser River Sockeye Public Review Board. Fisheries & Oceans Canada.

Review of DFO's Aboriginal Fisheries Strategy. BC Aboriginal Fisheries Commission.

Newfoundland Bait Service Evaluation. GTA Consultants Ltd. Fisheries & Oceans Canada.

Performance Measurement Model: Design and Development. Fisheries & Oceans Canada.

Evaluation of Individual Quota Pilot Programs in the Pacific Halibut and Sablefish Fisheries. Fisheries & Oceans Canada.

High Level Performance Indicators for Reporting to Parliament. Fisheries and Oceans Canada.

Evaluation of DFO's Pacific Region Resource Allocation. Fisheries & Oceans Canada.

Evaluation of the Chinook Tagging Program. Presented to the Deputy Minister of Fisheries and Oceans Canada.

Evaluation Framework for DFO's National Habitat Policy. Fisheries & Oceans Canada.

Fisheries and Habitat Effectiveness Models. Fisheries and Oceans Canada.

Strategic Planning

Seafood Sector Strategic Plan. Council of the Haida Nation.

Seafood Strategic Plan. Winalagalis First Nations.

21st Century Salmon Management. Commercial Salmon Advisory Board and Fisheries & Oceans Canada.

Strategic Plan for the Southern Boundary Restoration and Enhancement Fund, Pacific Salmon Commission.



Allocation Transfer Program Evaluation & Strategic Analysis. Fisheries & Oceans Canada.

Alternative Approaches to Retiring Commercial Fishing Licences under the Marshall Decision of the Supreme Court of Canada. Fisheries & Oceans Canada.

Framework for Prioritizing New and Emerging Fisheries for Further Research and Development. Fisheries & Oceans Canada.

Treaty Fisheries of the Future. Fisheries & Oceans Canada.

Strategic Planning for a Gold-Copper Mine Development. Taseko Mines Ltd.

First Nations' Fishing Plan. Haggan Associates Ltd. BC Aboriginal Fisheries Commission.

Modelling / Software Development

Oral Health Care Labour Market Model.

- Phase 2: Provincial Models. Human Resources Development Canada.
- Phase 1: Model Design, Development and Implementation. Canadian Dental Association; Human Resources Development Canada.

Employment/Job Creation Model. Lignum Ltd.

Atlantic Salmon Production Models. GTA Consultants Ltd. Nova Scotia Ministry of Fisheries.

Compensation Valuation Model. Commercial Fishing Industry Council.

Base Level Program: Time Reporting Software. Fisheries & Oceans Canada.

Expert System for Checking Building Plans for Compliance with the Spatial Separation Requirements of the Building Code. Canada Mortgage and Housing Corporation and the City of Vancouver.

Business Development Model. Native Fishing Association.

Methodology Development

Principles and Methodologies for Valuing Cultural Amenities. Heenan Blaikie LLP.

Resource Valuation Methodology. BC Hydro.

Sandspit Small Craft Harbour Methodology. BC Ministry of Lands.



Base Level Program. Fisheries and Oceans Canada.

Measuring the Deterrent Effect of Fisheries Law Enforcement. Fisheries and Oceans Canada.

Policy Development

Policy Discussion Paper: Processing at Sea. Province of British Columbia. Ministry of Environment.

Selective Fishing Policy. Fisheries & Oceans Canada.

Discussion Document: Long Range Selective Fishing Policy. Fisheries & Oceans Canada.

Aboriginal Participation in the Fishery: Policy Paper. BC Aboriginal Fisheries Commission.

Fish Buyers and Vendors Licensing Policy. Ministry of Agriculture, Food and Fisheries.

Policy Context: Salmon Stock Management Plan. Fisheries & Oceans Canada.

Peer Review

Groundfish Production Statistics—Review of Econometric Analysis. Fisheries and Oceans Canada.

Socio-Economic Impact Assessment for Bocaccio—Review (2nd draft). Fisheries and Oceans Canada

Socio-Economic Impact Assessment for Canary Rockfish — Review. Fisheries and Oceans Canada.

Socio-Economic Impact Assessment for Bocaccio - Review. Fisheries and Oceans Canada.

Financial Performance of the Pacific Commercial Fishing Fleet— Review of Methodology. Nelson Bros Fisheries Ltd; Fisheries and Oceans Canada.

Critique of Multiple Accounts Evaluation of Rapid Transit Options for Greater Vancouver. Rapid Transit Project Office.

Review of Benefit-Cost Analysis of Wildlife Fencing on the Inland Island Highway, Vancouver Island, BC. British Columbia Ministry of Transportation and Highways.

Review Economic Evaluation of Protected Area Strategy for the Lower Mainland of British Columbia. The Coast Forest & Lumber Association.



Review of Timber Supply Analysis and Socio-Economic Analysis for the Kingcome Timber Supply Area. The Coast Forest and Lumber Association.

Review of Timber Supply Analysis and Socio-Economic Analysis for the Lillooet Timber Supply Area. The Caribou Lumber Manufacturers' Association.

Review of "Bulkley Land and Resource Management Plan: Socio-Economic Assessment of Community Resources Board Scenarios". Pacific Inland Resources (a division of West Fraser Mills Ltd).

Review of "Timber Supply Analysis and Socio-Economic Analysis for the Strathcona Timber Supply Area". The Council of Forest Industries of British Columbia.

Review of "Timber Supply Analysis and Socio-Economic Analysis for the Bulkley Timber Supply Area". Pacific Inland Resources (a division of West Fraser Mills Ltd) and Repap Smithers Inc.

Review of "Economic Benefit-Cost Assessment of the Proposed Forest Practices Code for British Columbia". The Council of Forest Industries of British Columbia.

Critique of Timber Supply Reviews for the Revelstoke and Fort Nelson Timber Supply Areas in British Columbia. The Council of Forest Industries of British Columbia.

Special Studies

Executive Summary for Fisheries and Oceans Canada's Submission to the Cohen Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River. Fisheries and Oceans Canada.

Research Plan for Pharmacy Occupational Sector Study. Canadian Pharmacists Association.

Final Report on Species at Risk Program. Fisheries & Oceans Canada.

Summary Report on Selective Fisheries Program. Fisheries & Oceans Canada.

Discussion Document on Developing New & Emerging Fisheries in Pacific Region. Fisheries & Oceans Canada.

Selective Fisheries: Policies and Practice. Fisheries & Oceans Canada.

Selective Fisheries: Review and Evaluation. Fisheries & Oceans Canada.

Sustainability of Pacific Salmon—Survey of Issues. Office of the Auditor General of Canada.

Groundfish and Hake Allocation. Deep Sea Trawlers Association.

Access to Credit Proposal. Native Fishing Association.



Floor Space Ratio Study. City of Vancouver.

Haida Gwaii Fisheries Data. Haggan Associates Ltd.

Transit Priorities in the Lower Mainland. BC Transit.

Aboriginal Forestry Strategy. Council of Forest Industries.

Discretionary Decision Making in Development Permitting in Vancouver and San Francisco. Canada Mortgage and Housing Corporation.

Pacific Region Re-Organization. Fisheries & Oceans Canada.

Potential for Expert Systems in Plan Checking. Canada Mortgage and Housing Corporation.

Regional Ports Master Plan—Fishing Industry Needs. Transmode Consultants Ltd. Transport Canada.

Fisheries Management Resource Requirements—Omnibus Submission to Cabinet. Fisheries & Oceans Canada.

BC Salmon Corporation Feasibility Study. Ministry of Agriculture, Food and Fisheries.

Federal Government Security Status

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Experience

1987 - Present

President, Counterpoint Consulting Inc, Vancouver, BC.

1982 - 1987

Chief, Fisheries Resource Analysis & Economic Advisor to the Salmonid Enhancement Program, Fisheries & Oceans Canada, Vancouver, BC.

1981 - 1982

Economist, DPA Consulting Ltd, Vancouver, BC.



1978 - 1981

PhD (Economics), University of British Columbia, Vancouver, BC.

1977 - 1978

Lecturer, Department of Economics, Wilfrid Laurier University, Kitchener, Ontario.

1976 - 1977

MA (Economics), Queens University, Kingston, Ontario

1975 - 1976

Research Economist, British Columbia Royal Commission on Forest Resources, Vancouver, BC.

1970 - 1974

BA (Honours Economics), University of British Columbia, Vancouver, BC.

Publications

Canada's Staged Approach to New and Developing Fisheries: Concept and Practice. Fisheries Assessment and Management in Data-Limited Situations. Alaska Sea Grant College Program, AK-SG-05-02, 2005, pages 553-569 (with Ian Perry, Rita Purdon and Graham Gillespie).

Using Expert Systems to Check Compliance with Municipal Building Codes. Journal of the American Planning Association, Vol. 58, No. 1, Winter 1992, pages 72-80 (with Eric Heikkila).

An Economist's View of Fish Habitat Evaluation. Invited address to the Ninth Annual Meeting of the North Pacific International Chapter of the American Fisheries Society, Harrison Hot Springs, BC, March 9-11, 1987.

Canada's Experience in Measuring the Deterrent Effect of Fisheries Law Enforcement. Fisheries Law Enforcement: Programs, Problems and Evaluation, Proceedings of a Workshop on Fisheries Law Enforcement, The University of Rhode Island, October 21-23, 1985, NOAA/Sea Grant, The University of Rhode Island Marine Technical Report No 93, pages 176-212. [With William Furlong and Peter Toews].

SHEM: Salmonid Habitat Evaluation Model. Pacific Northwest Stream Habitat Management Workshop, October 10-12, 1984, Humboldt State University, Arcata, California. Sponsored by



American Fisheries Society, California Cooperative Fishery Research Unit, California Sea Grant, Humboldt State University. pages 301-318.

Pieter van Gils

PROFILE

- 5 years negotiating IBAs for First Nations in the energy industry
- 8 years working with First Nation communities in BC, advancing their economic development
- 10 years working at a BC-based, \$16 billion financial institution with 2,500 staff
- Background in finance and economics

Work

Principal, Headwater Capital Consulting (www.headwatercapital.ca) 2009- present

Headwater Capital Consulting provides aboriginal organizations with informed advice so they can make strategic decisions.

- Assist aboriginal communities with negotiating impact and benefit agreements and joint venture agreements, primarily in the energy sector.
- Assist aboriginal ventures with sourcing capital, financial analysis, industry partner selection and business planning, primarily in the energy sector.

Ecotrust Canada (www.ecotrust.ca) 2000-2008

Ecotrust Canada is a community development organization with 30 staff that provide planning and resource management services to rural and native communities in coastal British Columbia.

- Established the First Nation Regeneration Fund (<u>www.regenerationfund.ca</u>), which is jointly owned by two aboriginal capital corporations. The Fund finances First Nation equity participation in independent power projects.
- Managing Director of Ecotrust Canada Capital (2005-2008), a wholly-owned subsidiary. Raised capital, oversaw investment portfolio, managed staff, initiated partnerships. Forty percent of investments were in aboriginal entities. None of these entities defaulted.
- Director Economic Development (2000-2004). Designed economic development strategies and provided business planning to aboriginal communities. Managed staff and contractors.

Sessional Instructor, Simon Fraser University (www.sfu.ca/csdc) 1999-2003

Taught courses for undergraduates and professionals in community economic development.

Pieter van Gils

Vancity Credit Union (www.vancity.com) 1990 - 1999

Vancity is a cooperative with \$16 billion in assets and a 15% market share of retail financial services in

Greater Vancouver

Investment Manager at VanCity Capital Corporation (1996-1999). Designed this subsidiary and

wrote its business plan. Provided subordinated debt to businesses, co-operatives and non-profit

organizations.

Manager, Community Economic Development (1990-1995). Developed two micro-lending programs

targeted at Canada's poorest neighbourhood. Raised over \$5 million in community investment

deposits, which were invested in affordable housing and environmental projects. Led community

consultation processes, trained staff, managed granting program, created partnerships with non-

profits, designed ethics awards program.

KPMG (www.kpmg.co.uk) 1984 - 1985

KPMG is a global network of professional firms providing audit, tax, and advisory services

· Worked in London, UK, as financial consultant

EDUCATION

M. Sc. (Economics), University of Hull (UK), 1985

Kandidaats (Economics), Erasmus Universiteit Rotterdam (NL), 1983

OTHER QUALIFICATIONS

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Traveled extensively through Europe, Asia and Africa between 1985 and 1990

Periodically engaged by the Canadian government and by international donor agencies to provide

consulting services overseas, primarily in the area of micro-finance. Country assignments include

Ukraine, Belize and Pakistan.

PERSONAL

s.22

From: Kristen Mcintyre [mailto:Kristen.Mcintyre@cleanenergybc.org]

Sent: Thursday, October 8, 2015 5:34 PM

To: Sparks, Sarah ABR:EX; Cochrane, Marlene MEM:EX **Subject:** Letter & Attachment from Clean Energy BC

Hi Sarah & Marlene,

In addition to the letter from Paul that was sent yesterday, attached is the Economic Impact study referenced in the letter.

A hard copy has been mailed as well.

Thank you!

Kristen McIntyre Administrative Coordinator



354-409 Granville Street | Vancouver, BC V6C 1T2, Canada Office: 604.568.4778 | Toll Free: 1.855.568.4778 | Fax: 604.568.4724 kristen.mcintyre@cleanenergybc.org

www.cleanenergybc.org



Wilson, John MTIC:EX

From: Lisa Bateman < lisa.bateman@cleanenergybc.org>

Sent: Monday, August 24, 2015 11:15 AM

To: Petrie, Cynthia MEM:EX; Costa, Sarina MEM:EX

Cc: Frankie Nash

Subject: Invitation for Minister Bennett to Speak at Generate 2015

Attachments: Minister Bennett Invitation 2015.docx

Hi Cynthia and Sarina:

Frankie Nash has passed along your contact information to me. I am attaching our official invitation letter for Minister Bennett to speak at our annual conference Generate 2015 on November 2 at the Hyatt Regency in Vancouver. He has opened our conference for the past few years and we are hoping that he will be able to do so again this year.

Paul Kariya and Frankie will follow up with Minister Bennett in the next week or so to discuss his attendance at our event. If you have any questions, please do not hesitate to contact me.

Many thanks

Lisa

Lisa Bateman
Office & Event Manager



354-409 Granville Street | Vancouver, BC V6C 1T2, Canada

Office: 604.568.4778 | Toll Free: 1.855.568.4778 | Cell: 604.723.5457 | Fax: 604.568.4724

lisa.bateman@cleanenergybc.org

www.cleanenergybc.org



August 24th 2015

Honorable Bill Bennett Minister of Energy and Mines and Minister Responsible for Core Review PO BOX 9069 STN PROV GOVT VICTORIA, BC V8W 9E2

Dear Minister Bennett:

Re: An Invitation from the Clean Energy Association of British Columbia

On behalf of CEBC we invite you to be a keynote speaker at our annual industry conference "Generate 2015: Think Bigger". This year's conference runs from November 1st to 3rd at the Vancouver Hyatt Regency.

This year, we will be celebrating both 25 years of clean energy development in BC as well as challenging ourselves to "Think Bigger". As we are heading into a new era of Climate Leadership, conversations around the transition to renewable energy are growing. Increasingly, world leaders are confirming the need to embrace this change and the goal of Generate 2015 is to explore how the BC Clean Energy sector can "Think Bigger" about how we can contribute to BC maximizing this opportunity and help BC lead the world in the transition to a carbon-free energy system

In the coming weeks we will be able to provide you and your staff with firm details on your speaking opportunity. We are hoping that you will be able to speak during our opening session on November 2 commencing at approximately 8:30 am. We hope you are able to accept this invitation and look forward to working with you and your staff to make this a terrific platform for you and the government.

Sincerely,

Paul Kariya Executive Director Colleen Giroux-Schmidt
CEBC Vice-Chair of the Board
Chair, Conference Committee

Clean Energy | Association of British Columbia

354 - 409 Granville Street | Vancouver, BC V6C 1T2, Canada | Office: 604.568.4778 | Fax: 604.568.4724 | www.cleanenergybc.org



September 2, 2015

The Honourable Bill Bennett Minister of Energy and Mines PO Box 9069 STN PROV GOVT Victoria, B.C. V8W 9E2

Dear Minister Bennett,

On behalf of the Mining Association of British Columbia, representing the collective needs and interests of operating metal, coal, industrial mineral and smelting companies in the province, I'd like to extend an invitation to address our Board of Directors on October 1, 2015.

MABC Directors appreciate your leadership and attention to matters important to our sector and we would welcome your thoughts on matters such as, the current state of the industry and B.C. Government regulatory and policy priorities, including Code Review process, B.C. – Alaska Transboundary activities, Climate Leadership Plan and any other matters you wish to bring to our attention.

Meeting details as follows:

Terminal City Club 837 W. Hastings Street Vancouver, B.C. 12:00 Noon – 13:00 hrs. Light lunch will be provided.

We look forward to hearing from you and, if you require additional information, please let me know.

Thank you,

Karina Briño President & CEO

BC's Voice of Mining since 1901

900 – 808 West Hastings St., Vancouver, BC V6C 2X4 Tel: (604) 681-4321 / Fax: (604) 681-5305 / Web: www.mining.bc.ca

Wilson, John MTIC:EX

From: Minister, MEM MEM:EX

Sent: Friday, September 4, 2015 2:58 PM

To: Costa, Sarina MEM:EX

Subject: FW: September 29th 2015 Meeting Request

I'll print and Cliff this one

From: Morrison, Geoff [mailto:geoff.morrison@capp.ca]

Sent: Friday, September 4, 2015 2:50 PM

To: Petrie, Cynthia MEM:EX Cc: Minister, MEM MEM:EX

Subject: September 29th 2015 Meeting Request

Dear Ms. Petrie:

The Canadian Association of Petroleum Producers (CAPP) is in the process of finalizing and submitting its comments to the Climate Action Secretariat with respect to the Climate Leadership Plan Discussion Paper. CAPP recognizes that the Government of British Columbia is working hard to update its greenhouse gas regulatory and policy framework to better reflect the changing industrial landscape of British Columbia.

I am writing to request a meeting with Minister Bennett to review and discuss CAPP's submission. Attending from CAPP would be Tim McMillian, president and CEO, Brad Herald, Vice President of Western Operations and myself, Geoff Morrison Manager of British Columbia Operations. We are exploring the dates of September 29 or 30 in Vancouver (or Victoria) and would like to know if a meeting with Minister Bennett would be possible on either of those dates.

I will forward CAPP's submission once it is finalized. Broadly speaking, CAPP supports a climate policy framework in British Columbia that creates a vibrant and competitive oil and gas sector while efficiently and effectively managing greenhouse gas emissions. In the course of the meeting CAPP would also like to expand upon several specific initiatives outlined in our submission. Specifically we would like to underscore the importance of competitiveness in these challenging economic conditions in the upstream sector, and cover topics which may include, carbon price and interjurisdictional alignment, emissions reductions and long-term performance (including the role of technology and offsets) and specific emissions reduction opportunities such as electrification, and clean infrastructure incentives.

Thank you for your consideration. Please contact me if you have any questions or need further information, my phone number in Victoria is (778) 410-5040.

Regards,

Geoff Morrison

Geoff Morrison | Manager of British Columbia Operations



Canada's Oil and Natural Gas Producers

Victoria: 778.410.5040 | Cell: 250.634.4010 | Calgary: 403.776.1409 | Website: www.capp.ca



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Wilson, John MTIC:EX

From: Minister, MEM MEM:EX

Sent: Monday, October 5, 2015 3:58 PM

To: Costa, Sarina MEM:EX

Subject: FW: Invitation: Chairman's Reception

Attachments: image009.emz; Chairmans Welcome Reception Invitation.pdf

I'll print and Cliff this one

From: Kristen Mcintyre [mailto:Kristen.Mcintyre@cleanenergybc.org]

Sent: Monday, October 5, 2015 3:55 PM Subject: Invitation: Chairman's Reception



Colleen Giroux-Schmidt, Chairman

Invites you to the

Chairman's Welcome Reception Celebrating Clean Energy BC's 25th Anniversary

This reception is a prelude to our 13th Annual Conference



Bringing together government, industry and association leaders to network and celebrate 25 years of clean energy development in BC.

Date: Sunday, November 1, 2015

Location: 34th Floor at the Hyatt Regency Hotel

655 Burrard Street, Vancouver, BC

Time: 5:00-7:30pm

Dress Code: Business Casual

Please RSVP to: Kristen McIntyre at kristen.mcintyre@cleanenergybc.org

Kristen McIntyre



354-409 Granville Street | Vancouver, BC V6C 1T2, Canada Office: 604.568.4778 | Toll Free: 1.855.568.4778 | Fax: 604.568.4724 kristen.mcintyre@cleanenergybc.org

www.cleanenergybc.org





Colleen Giroux-Schmidt, Chairman Invites you to the

Chairman's Welcome Reception Celebrating Clean Energy BC's 25th Anniversary

This reception is a prelude to our 13th Annual Conference



Bringing together government, industry and association leaders to network and celebrate 25 years of clean energy development in BC.

Date: Sunday, November 1, 2015 Location: 34th Floor at the Hyatt Regency Hotel 655 Burrard Street, Vancouver, BC

Time: 5:00-7:30pm
Dress Code: Business Casual

Please RSVP to: Kristen McIntyre at kristen.mcintyre@cleanenergybc.org

Wilson, John MTIC:EX

From: Petrie, Cynthia MEM:EX

Sent: Monday, November 16, 2015 12:49 PM

To: 'Karina Brino'

Cc: Bryan Cox; Costa, Sarina MEM:EX **Subject:** RE: MABC Board Meeting Dec. 3

Thank you Karina,

I have cc'd Sarina in our office for scheduling purposes.

Cynthia Petrie

Chief of Staff to the Hon. Bill Bennett

Minister of Energy and Mines

Office: 250-356-9944 | Cell: 250-882-4289 | E-mail: cynthia.petrie@gov.bc.ca

----Original Message-----

From: Karina Brino [mailto:KBrino@mining.bc.ca]
Sent: Monday, November 16, 2015 12:10 PM

To: Petrie, Cynthia MEM:EX

Cc: Bryan Cox

Subject: MABC Board Meeting Dec. 3

Hi Cynthia,

As discussed, this is to follow up on our invitation for Minister Bennett to meet with our Board of Directors:

Date: Thursday, December 3, 2015

Location: Terminal City Club

Time: 11:30 - 12:30

We'd have 30 mins for a general discussion, (which we can frame around the state of the industry) and at 12:00, there will be a presentation of the BC Reclamation Awards, of which Ministry staff are part of the organization and adjudication.

We will be finished at 12:30 and if the Minister is free, we'd be pleased to take him to lunch.

In addition, in the evening we, MABC and the Mining Suppliers Association of BC, are hosting our Annual Christmas Reception and we'd be delighted if you can join us.

Thanks and I look forward to hearing from you.

Karina

Karina Briño President & CEO Mining Association of BC 778 828-5064 Sent from my iPhone



September 2, 2015

Ms. Elaine McKnight
Deputy Minister
Ministry of Energy and Mines
PO Box 9319
STN PROV GOVT
Victoria, B.C.
V8W 9N3

Dear Ms. McKnight,

On behalf of the Mining Association of British Columbia, representing the collective needs and interests of operating metal, coal, industrial mineral and smelting companies in British Columbia, I'd like to extend an invitation to address our Board of Directors on October 1, 2015.

MABC Directors are very interested in speaking with you about the current state of the industry and opportunities going forward, as well as learning about your priorities and vision in your new role as Deputy Minister. MABC values the contructive relationship we have with your Ministry and we look forward to working with you.

Meeting details as follows: Terminal City Club 837 W. Hastings Street Vancouver, B.C.

Agenda:

11:30 – 12:00 – Conversation with Ms. Elaine McKnight
12:00 – 13:00 – Conversation with Minister B. Bennett and Minister J. Rustad

We look forward to hearing from you and, if you require additional information, please let me know.

Thank you

Karina Briño

President & CEO

BC's Voice of Mining since 1901

900 – 808 West Hastings St., Vancouver, BC V6C 2X4 Tel: (604) 681-4321 / Fax: (604) 681-5305 / Web: www.mining.bc.ca