

MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

BRIEFING NOTE FOR INFORMATION

PREPARED FOR: Deputy Minister, Fazil Mihlar, Ministry of Energy, Mines and Low Carbon Innovation

ISSUE: The latest report by the United Nations Intergovernmental Panel on Climate Change

BACKGROUND:

On August 9, 2021, the United Nations Intergovernmental Panel on Climate Change published *Climate Change 2021: The Physical Science Basis* (Report), authored by 234 scientists and endorsed by 195 governments. The Report presents the most up-to-date physical understanding of the climate system and climate change, focusing on the cause and effect of human caused greenhouse gas (GHG) emissions.

A set of five new illustrative emissions scenarios is considered consistently across this report to explore the climate response to a broader range of GHG, land use and air pollutant futures than assessed in the last report:

1. a world of sustainability-focused growth and equality;
2. a “middle of the road” world where trends broadly follow their historical patterns;
3. a fragmented world of “resurgent nationalism”;
4. a world of ever-increasing inequality; and
5. a world of rapid and unconstrained growth in economic output and energy use.

This set of scenarios drives climate model projections of changes in the climate system and serves as the basis for report’s analysis and key conclusions.

The Report concludes that it is “*unequivocal*” that human influence has warmed the atmosphere, ocean and land. The scale of recent changes across the climate system, and the present state of many aspects of the climate system, are unprecedented over many centuries to many thousands of years. Human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and their attribution to human influence, has strengthened since the last report.

The Report states that any changes due to past and future greenhouse gas emissions are irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level. Human induced climate change has increased global temperatures by more than 1°C to date. With further global warming, every region is projected to increasingly experience concurrent and multiple changes in climatic impact-drivers. Changes in several climatic impact-drivers would be more widespread at 2°C compared to 1.5°C global warming and even more widespread and/or pronounced for higher warming levels.

The Report anticipates that we will cross a crucial temperature threshold, the 1.5°C target from the Paris Agreement, as early as 2030 - up to a decade sooner than previously thought. The production, distribution and combustion of fossil fuels is regarded as the main influence on the climate warming, releasing not only carbon dioxide (CO₂) but also methane, which is regarded as the second largest contributor to warming after CO₂.

The Report reaffirms with “high confidence” that global temperatures rise in a near-linear relationship to cumulative CO₂ emissions. From a physical science perspective, limiting human-induced global warming to a specific level requires limiting cumulative CO₂ emissions, reaching at least net zero CO₂ emissions, along with strong reductions in other greenhouse gas emissions.

The Report indicates that strong, rapid, and sustained reductions in methane emissions would also limit the warming effect and improve air quality. Achieving global net zero CO₂ emissions is a requirement for stabilizing CO₂-induced global surface temperature increase, with anthropogenic CO₂ emissions balanced by anthropogenic removals of CO₂.

The Report concludes with “high confidence” that the plans countries have thus far put forward to achieve the Paris Agreement target are “insufficient”.

DISCUSSION:

A key conclusion of the Report is that the fossil fuel industry (coal, oil, and gas) is a key contributor to climate warming. In British Columbia (B.C.), the oil and gas sector accounts for nearly one-fifth (or 13 million tonnes) of provincial emissions. The sector is also the largest source of methane emissions in B.C. There is no doubt that significant reductions of both CO₂ and methane are needed to meet the province’s emissions reduction targets and to achieve net zero by 2050. The findings of the Report will put increasing pressure on the provincial government to ensure meaningful reductions from the oil and gas sector. Policies and programs aimed at doing so must be credible, realistic, and appropriately resourced as well as balance environmental and economic interests.

B.C. has introduced ambitious provincial emissions reduction targets (40, 60 and 80 percent, from 2007 levels, for 2030, 2040 and 2050 respectively) as well as a sectoral target of 33-38 percent (from 2007 levels) for 2030. The Government of B.C. has also committed to reducing methane emissions from the oil and gas sector, by 45% below 2014 levels, by 2025.

Given that both CO₂ and methane emissions levels are virtually the same as their baseline levels and production is expected to increase over the coming decades to meet global demand, achieving our provincial, sectoral and GHG-specific targets will be very challenging:

There are several actions that the Province is currently taking to achieve sectoral GHG targets, including:

- The midpoint review of the methane regulations, to be completed by 2022, which will evaluate how effective our current regulatory framework is at reducing methane emissions and meeting provincial targets. It will also allow us to incorporate new knowledge and best practices as well as any technical or operational developments capable of improving our existing approach.
- The CleanBC Roadmap to 2030 (Roadmap) is proposing a near elimination target for industrial methane emissions by 2035, including within the oil and gas sector. ^{s.13}

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- From a CO₂ standpoint, the Roadmap also contemplates advancing a variety of emissions reductions strategies, including electrification and carbon capture and storage.

NEXT STEPS:

Further reductions of methane emissions from the oil and gas sector, together with other measures on CO₂ reductions, will support the achievement of B.C.'s climate targets, while also providing a transparent and credible claim that our commodities are some of the lowest emissions produced globally.

Next steps include completing the midpoint regulatory review and working with the Climate Action Secretariat to ensure that CleanBC policies aimed at emissions reductions from the oil and gas sector are adequately resourced and balance environmental interests with economic interests, including competitiveness.

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