First Nations Leadership Council

British Columbia Assembly of First Nations
1004 Landooz Rd.
Prince George, BC
V2K 5S3

Ph: 778-945-9910
Fx: 778-945-9916

First Nations Summit
1200-100 Park Royal South
West Vancouver, BC
V7T 1A2

Ph: 604-926-9903
Fx: 604-926-9923
Toll Free: 866-990-9939

Union of British Columbia Indian Chiefs
401 – 312 Main Street
Vancouver, BC
V6A 2T2

Ph: 604-684-0231
Fx: 604-684-5726

TO: **FIRST NATIONS IN BC**
FROM: **FIRST NATIONS LEADERSHIP COUNCIL (FNLC)**
DATE: **SEPTEMBER 14 2021**
RE: **IPCC REPORT: CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS**

PURPOSE

In line with the declaration of the global climate emergency issued by First Nations in Canada in 2019 (AFN Resolution 05/2019) and following the mandate given by Chiefs in BC to ensure that any climate change plan developed in BC and Canada must stop further expansion of greenhouse gas emissions (UBCIC Resolution 2019-2 and BCAFN Resolution 04-2019), the FNLC has summarized and analyzed the latest IPCC[1] report called *Climate Change 2021: the Physical Science Basis* (IPCC Report) to inform Chiefs, Councillors and technicians on the latest scientific findings about climate change.

This analysis and summary are meant to support our collective work going forward as we advocate for a meaningful response to the climate crisis in BC, Canada and internationally.

RECOMMENDATIONS

1. First Nations in BC and the FNLC continue to advocate for Canada and BC to take immediate and bold action to enhance the government response to the climate emergency presented within the IPCC Report. This could include:

   A. Recognizing and affirming First Nations' inherent and constitutionally protected Title, Rights and Treaty Rights, including self-governance, self-determination and jurisdiction on our respective territories. Recognition must include the minimum standards enshrined in the United Nations' *Declaration on the Rights of Indigenous Peoples*, such as the right to free, prior and informed consent, and that First Nations continue to uphold our traditional laws and legal orders which guide our response to climate change.

   B. Establishing a clear path towards the decarbonization of the economy to effectively reduce GHG emissions, particularly carbon dioxide and methane from all sectors.

   C. Enhancing measures in the energy sector with a clear goal of reducing the use and production of fossil fuels, while increasing the production and use of renewable energy.

   D. Prioritizing land and ocean conservation projects undertaken by First Nations to act as climate sinks and reduce accumulated GHG emissions.

   E. Strongly supporting First Nation communities in their adaptation responses against anticipated regional extreme climate events, which must include

[1] The Intergovernmental Panel on Climate Change (IPCC) is the UN body for assessing the science related to climate change. It was set up in 1988 by the World Meteorological Organization and United Nations Environment Programme to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

emergency response. Adaptation measures such as risk assessment, preparation and adaptation planning are essential. Immediate attention must be given to:

i. Addressing the ongoing housing crisis both on and off-reserve by eliminating homelessness and ensuring permanent, stable, and healthy homes that are designed for extreme weather events;

ii. Ensuring clean water and food security for First Nations communities and all life. Conduct in-depth assessments on current and projected changes to water cycles, water quality and water quantity in local and regional ecosystems due to cumulative impacts from climate change, land-use changes, water extraction and pollution. Identify actions to mitigate extreme flood and drought impacts, and to ensure safe and abundant drinking water, crops and traditional foods such as salmon and seafood.

iii. Ensuring First Nations in BC are fully prepared to efficiently respond to annual emergencies related to extreme climate events such as wildfires, floods, and droughts. This must include the establishment of Permanent Emergency Operations Centers in First Nations communities with adequate human resources, training, infrastructure (i.e. fire halls), equipment (i.e. radio communication equipment) and supplies.

iv. Supporting the reinstatement of traditional fire customs and practices in First Nations territories, and aggressive fuel management programs in First Nation communities.

v. Supporting coastal communities in their plans to prepare for rising sea levels and ocean degradation.

2. First Nations in BC and FNLC continue to advocate for immediate implementation of the *United Nations Declaration on the Rights of Indigenous Peoples* (UN Declaration) in the climate context at the provincial, federal and international levels through the *BC Declaration on the Rights of Indigenous Peoples Act,* the *United Nations Declaration on the Rights of Indigenous Peoples Act*, and at the United Nations level such as the IPCC. Implementation must include commitment to meaningfully engage First Nations on legislative, regulatory, and policy-related frameworks for climate response.

BACKGROUND

- On August 9, 2021, the IPCC released the report: Climate Change 2021: the Physical Science Basis (IPCC Report), which provides a "high-level summary of the understanding of the current state of the climate, including how it is changing and the role of human influence, the state of knowledge about possible climate futures, climate information relevant to regions and sectors, and limiting human-induced climate change." This IPCC report also introduced an Interactive Atlas to access detailed assessments of anticipated regional climatic changes. A brief description of the Summary for Policymakers of the IPCC Report is at Appendix "A".
- In 2015, Canada signed the Paris Agreement, a pledge and responsibility to reduce global warming below 2°C, or ideally below 1.5°C. In doing so, Canada committed to reduce GHG emissions by 30% below 2005 levels by 2030. In April 2021, Canada announced an

enhanced Nationally Determined Contribution (NDC)[2] which asserts a new commitment to reducing the country's emissions by 40% to 45% (based on 2005 emissions levels of 747 megatonnes) by 2030.

- Canada's approach to address climate change is guided by the: Pan-Canadian Framework on Clean Growth and Climate Change, A Healthy Environment and a Healthy Economy plan, and the recently passed Bill C-12, *Canadian Net-Zero Emissions Accountability Act*, *an* act representing transparency and accountability in Canada's efforts to achieve net-zero greenhouse has emissions by the year 2050. To reduce GHG emissions, Canada relies on the implementation of the carbon pricing system in every jurisdiction; a market-based offsets system (under development), and the use of technologies.
- BC's response to reduce carbon pollution relies on the *Climate Change Accountability Act,* the CleanBC plan and the recently established sectoral targets. BC's legislated GHG reduction targets are set at 40% emissions reduction based on 2007 levels by 2030, 60% emissions reduction by 2040, and 80% emissions reduction by 2050.
- As mandated by the Chiefs in BC, the FNLC is currently developing the BC First Nations Climate Change Strategy and Action Plan ("the Strategy"). The Strategy will include actions to reduce GHG emissions, strengthen Indigenous climate leadership in BC, reduce vulnerability to impacts, and build capacity, understanding and resilience in First Nation communities. The Strategy is intended to help guide climate responses in First Nation communities, while also communicating to governments and partners of priority areas.

CURRENT STATUS

The IPCC is now in its sixth assessment cycle, in which the IPCC is producing the Sixth Assessment Report (AR6 Report). The AR6 Report comprises three Working Group contributions: Working Group I (the physical science basis), Working Group II (impacts, adaptation and vulnerability) and Working Group III (mitigation), and a Synthesis Report[3]. The IPCC Report reviewed here is from Working Group I: Climate Change 2021: the Physical Science Basis. The other Working Group Reports and the Synthesis Report will be released over the next two years.

ANALYSIS

The IPCC Report has made headlines since its release, gaining worldwide attention as a "code red for humanity". As a result, there has been global influence, recognition and acknowledgement for the severity of the climate crisis. The IPCC Report urges global leaders and individuals to strengthen their climate change actions, policies, and decisions, while also setting a tone of urgency for the upcoming COP26 event[4]. For Canada, BC and First Nations, the IPCC Report brings forward important considerations for climate related decision-making,

[2] Under the Paris Agreement, countries are required to submit national greenhouse gas emission reduction targets, called Nationally Determined Contributions (NDCs), every five years. Each successive NDC is required to be more ambitious than the previous one. NDCs also outline intended efforts and plans in response to climate change

[3] The Synthesis Report integrates the three Working Group reports as well as the findings from the three cross-Working Group Special Reports prepared during this assessment cycle: Special Report on Global Warming of 1.5ºC (SR15, October 2018), Special Report on Climate Change and Land (SRCCL, August 2019) and Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC, September 2019).

[4] The 26th Conference of the Parties (COP26) will take place in Glasgow, UK (October 31 -November 12 2021). The COP26 event will gather world leaders, including those from Canada, to discuss how countries will plan to address the changing climate moving forward.

planning, and processes across all levels. It also carries weight in assessing candidates for the upcoming federal elections, to be held on September 20, 2021.

The IPCC Report presents three main considerations for First Nations:

I. There is an urgent need to reduce GHG emissions, address cumulative GHG emissions, and reach global net-zero.

1. The IPCC Report leaves no room for doubt that human influence is the primary driver behind climate change. The report reaffirms that that there is near-linear relationship between cumulative anthropogenic CO2 emissions and the global warming they cause: "***Each 1000 GtCO2 of cumulative CO2 emissions is assessed to likely cause a 0.27°C to 0.63°C increase in global surface temperature.***" There are two anthropogenic sources of CO2 emissions: 1) emissions from the combustion of fossil fuels (coal, oil and gas) covering all sectors of the economy, and 2) emissions resulting from land use change and land management. Both source of emissions must be targeted in order to reduce global emissions.

2. The report found that global surface temperature was 1.09°C higher in 2011-2020 than 1850-1900, and that even under the best emissions scenario, **we are likely to pass 1.5°C of global warming in the early 2030** and **reach up to 3 to 6°C by the end of the century under intermediate, high and very high emissions scenarios.** The increment in the global warming would bring unprecedented changes in the climate system and catastrophic climate and weather events around the globe: **"*with every increment of global warming, changes get larger in regional mean temperature, precipitation and soil moisture***." Canada is one of the largest contributors per capita to global GHG emissions. It is our ethical responsibility to reduce emissions and actively work towards global net-zero.

3. The IPCC report is clear that the future of global warming will depend on the actions we take both now and, in the future, to reduce not only future emission levels, but also cumulative emissions that already exist in the atmosphere. **To stabilize human-caused global temperature increase at any level, the IPCC Report asserts that reaching net-zero emissions anthropogenically is required**. This would imply limiting CO_2 emissions within a carbon budget. Starting January 1, 2020, IPCC estimates a carbon budget of about 300 gigatonnes of carbon dioxide ($GtCO_2$) for a 83% chance of limiting warming to 1.5°C. In 2018, the top 10 emitting countries together emitted about 26.4 billion tonnes of CO_2 (Gt CO_2 eq). With the emissions of these countries alone, we could reach 300 Gt in about 11 years.

4. **To reach net-zero emissions, anthropogenic CO_2 removals (CDR) is required**. CDR has the potential to remove CO_2 from the atmosphere and durably store it in reservoirs by enhancing biological sinks of CO_2 and chemical engineering. **The IPCC Report highlights that CDR aims to compensate for residual emissions to reach net-zero GHG emissions.** If deployed at a planetary scale, CDR could help lower surface temperature.

   Current CDR efforts should compensate for already existing emissions in the atmosphere, rather than compensating for new emissions. Currently, on a worldwide scale, CDR are used primarily by governments and industry to balance current emissions, allowing in many cases for polluters to produce more emissions under the idea that they are offsetting them using CDR. The IPCC Report highlights that CDR methods can have potentially negative and positive effects for biodiversity, water, and food production. Therefore, method-specific studies are important when developing a CDR initiative.

5. The IPCC message is clear: **climate change is irreversible**, **there is no time for flexibility, and today's choices will have long-lasting consequences. Urgent and bold actions are *immediately* required at all levels of government and society**. Currently, Canada's and BC's responses, with targets and commitments led by the PCF and CleanBC are not enough to address the urgency in reducing GHG emissions presented by the IPCC Report. In 2019, Canada's total GHG emissions were 730 megatonnes (Mt), **only around a 2% reduction from 2005 levels**. BC's 2018 net GHG emissions were 66.9 Mt. **This is a 6% increase from 2007 levels**.

   Canada's new commitment is to reduce the country's emissions by 40% to 45% (based on 2005 emissions) by 2030 and achieve net-zero greenhouse emissions by the year 2050. To meet the targets and commitments, Canada has developed the Plan: A Healthy Environment and a Healthy Economy, and projected that **efforts under this Plan and the PCF would strive for emissions reductions ranging from 32% to 40% below 2005 levels in 2030, this remains 20% below the IPCC recommendation of keeping global warming below 1.5ºC**.

   In addition to BC climate targets, the province also released new GHG emissions reduction targets for sectors[5] and is currently developing the CleanBC Roadmap 2030 as a pathway to meet the targets. Projections made by BC estimated that BC is still further from the 2030 target. According to the 2020 Climate Change Accountability Report, models **estimated that existing CleanBC actions would get the province between 56% to 72% towards the 2030 target.** Although the BC Roadmap 2030 will supposedly close the gap, the CleanBC plan continues supporting the fossil fuels industry, which is the primary source of GHG emissions and subsequently global warming. UN Secretary Antonio Gutierres said the IPCC's findings "must sound a death knell for coal and fossil fuels, before they destroy the planet." Given what we know, CleanBC needs to be revamped.

   Canada and BC must enhance their climate response to shift our economy and society to a clean future. This includes an incorporation of a strict GHG emissions reduction lens in decision-making and planning across all sectors and all levels of government. The energy and transportation sector, which are the most polluting sectors, need a clear path towards reduction and decarbonization. **Canada and BC must move beyond its mainly technological approach to achieve GHG emissions reduction, as well as halt incentives and resources provided to the oil and gas industry to increase fossil fuel production**.[6] Land and ocean conservation projects undertaken by First Nations must be prioritized to act as climate sinks; and clean energy initiatives, where First Nations must play an important role, should help boost the transition to a more sustainable economy.

---

[5] BC's sectoral emission reduction targets were established for four sectors: Oil & Gas, 33 – 38%, Other Industry, 38 – 43%, Buildings and Communities: 59 – 64%, and Transportation, 27 – 32%.

[6] A report by Environmental Defence Canada, Paying Polluters: Federal Financial Support to Oil and Gas in 2020, identified federal government subsidies for the oil and gas industry totalling a minimum of about $18 billion in 2020. In Canada's *A Healthy Environment and A Healthy Economy* plan, the federal government summed up the consequential costs of climate inaction—where due to the number of catastrophic weather events between 2010 and 2019, the country endured losses totalling over $18 billion. In BC, based on a report by Stand Earth Canada, the NDP government spent $1.3 billion subsidizing fossil fuel industries and $1.1 billion on climate change programs in 2020-2021. According to an academic report conducted at SFU, the Trans Mountain Pipeline will cost Canada $11.9 billion due to doubling construction costs and new climate policies reducing the demand for oil products. The Site C Dam will also cost BC $16 billion.

The world witnessed how emissions largely decreased during the beginning of the COVID-19 pandemic. Although emissions have begun to rise again, the temporary reductions we witnessed demonstrated that change is possible.

II. Adapting to current and future climate change is absolutely critical, however, uncertainty will make it challenging.

1. The IPCC Report brought us knowledge on how the climate system will continue to respond to human-induced global warming, and presented a range of possible and high-impact outcomes to be considered in adaptation planning. These impacts would increase in frequency and intensity with 1.5°C and would be more widespread at 2°C global warming and above should inform climate services (assessments of climate-related risks and adaptation planning). These impacts are including, but not limited to:

    - **Extreme heat thresholds and severe agricultural and ecological droughts**. BC suffered through these events in Summer 2021 during an unprecedented heatwave, which fueled catastrophic wildfires, destroyed agricultural crops, caused prolonged droughts, and led to more than 560 deaths. Heat and drought events such as this will continue to increase in size and impact as temperatures continue to rise, which will lead to more deaths, health problems, food and water insecurity, and the loss of traditional resources for many First Nations.

      First Nations communities will continue to suffer from rapid wildfires that decimate properties, homes, and lives within seconds, and more intense hydrological and meteoritical droughts will be more intense and frequent.

      Extreme heat events highlight the urgency to address the housing crisis experienced by First Nations on and off-reserve. Many First Nations across Canada continue to experience homelessness, as well as poor living conditions in crowded housing. First Nations must have access to permanent, stable, and healthy homes that will enable them to be in a state of preparedness and well-being against the anticipated extreme events.

    - **Human-caused climate change has driven changes in the global water cycle.** With increased effects of global warming, the global water cycle will intensify. There will be heavy rainfall and more droughts. The average of rainfall on land is expected to increase but that rainfall is expected to become more variable within a season and from year to year, with implications for flooding or droughts. Water scarcity is expected in the summer seasons due to early ice and snow melt.

      The impacts from global warming along with effects from land-use changes, water extraction and pollution in water bodies will continue to influence water quality and quantity for humans and their relatives. Lack of safe water will affect fish populations such as salmon, on which many First Nations in BC are heavily reliant. First Nations require support in developing and strengthening community-based flood, drought, and food security strategies, including an in-depth assessment of current and projected changes to the water balance and water cycle in local ecosystems and its impacts on drinking water, wildlife, traditional foods and crops.

    - **Rising sea-levels, ocean warming, and ocean acidification**. Warmer and a more acidic oceans will continue to disrupt marine ecosystems and species including salmon, leading to food insecurity and a loss of traditional foods for First Nations and wildlife. Coastal First Nations will also experience flooding due to the combination of more frequent extreme sea level events (due to sea level rise and storm surge) and extreme rainfall/river flow events: *“Due to relative sea level rise, extreme sea level*

events that occurred once per century in the recent past are projected to occur at least annually at more than half of all tide gauge locations by 2100."

2. **Compound climate events with higher global warming will be a real challenge to address**. The IPCC Report found that we are on a path to 3 to 6°C by the end of the century under intermediate, high and very high emissions scenarios. However, the degree to which our global surface temperatures will continue to increase and the associated impacts remain highly uncertain. What we are certain of is that "with every additional increment of global warming, changes in extremes continue to become larger". To be able to adapt in an uncertain future, adaptation measures have to be pursued along with measures to reduce emissions. Less GHG emissions mean less impacts from global warming.

III. Climate change response in Canada and BC must affirm First Nations' inherent Title, Rights and Treaty Rights

1. Canada and BC are failing to implement the UN Declaration despite the recent enactment of provincial and federal legislation such as BC's *Declaration on the Rights of Indigenous Peoples Act* and Canada's *Declaration on the Rights of Indigenous Peoples Act.* Written legislation recognizing the UN Declaration is not adequate by itself. Climate policies and decision-making must reflect the full recognition and implementation of the UN Declaration.

2. **Decarbonization must go hand-in-hand with decolonization**, **while respecting and affirming First Nations inherent Title, Rights and Treaty Rights**. Climate change has been and will continue to bring disproportionate effects on Indigenous Peoples, which combined with existing stressors from colonization make First Nations and their ways of life more susceptible to potentially catastrophic impacts. **To protect First Nations and their ways of life, adaptation measures must come with decolonization measures**.

3. FNLC technical staff continue advocating for direct and meaningful engagement of First Nations right holders and the affirmation of their inherent and constitutional rights in the climate response through the BC – FNLC Technical Working Group on Climate Change (TWG) work. The TWG table was created in November 2019 with its primary role of exchanging information and providing recommendations on Provincial climate change actions. Despite the value of the TWG to review and provide recommendations to the province, there are major limitations, including that the TWG is only a technical body without formal links to decision-making, and the outcomes from the TWG are only recommendations with no formal commitment to respond or implement them. For example, an overhaul of CleanBC would be a high-level decision from the Province, above the authority or mandate of the TWG.

4. The ***BC First Nations Climate Change Strategy and Action Plan*** **is a crucial and fundamental tool that will assist First Nations, governments, partners, and individuals in advancing and accelerating climate action work**. The Strategy will provide First Nations with a foundation to guide the development of their own self-determined climate strategies, actions, and processes. It will also remind governments and relevant partners that successful climate action is possible only when co-created with First Nations in ways that respect and recognize their inherent Title, Rights and jurisdiction while also protecting and incorporating Indigenous knowledge and ways of knowing.

NEXT STEPS

- FNLC will continue developing the BC First Nations Climate Strategy and Action Plan (Strategy), which includes continued engagement with First Nations in its development. The FNLC will seek approval of the Strategy at the FNLC organizations' assembly meetings in early 2022.
- Upon approval and endorsement of the Strategy, the FNLC will develop and implement a communications plan to promote the Strategy, emphasizing the priorities identified, and advocating for investments to ensure its successful implementation. The FNLC will also organize, subject to COVID and funding constraints, an All-Chiefs meeting to discuss the urgency of the climate crisis and the implementation of the Strategy, in particular community-led climate initiatives.

Appendix "A"

The Summary for Policymakers of the IPCC Report provides detailed information about:

i. The Current State of the Climate

The IPCC Report affirms "it is **unequivocal** that human influence has warmed the atmosphere, ocean and land" at a rate that is "**unprecedented** in at least the last 2000 years". The "observed increases in well-mixed greenhouse gas (GHG) concentrations since 1750 are unequivocally caused by human activities". Human influence has already brought about a global surface temperature rise of 1.09 [0.95 to 1.20] °C higher in 2011-2020 than 1850-1900 which has resulted in observed large-scale climatic changes across the globe including warmer global temperatures, ozone depletion, altered precipitation patterns, ocean warming, sea-level rising, and glacier retreats. The increased size and frequency of climate extremes and compound extreme events[7] are already prominent in every region across the globe, driven by the emissions produced by human activities.

ii. Possible Climate Futures

The IPCC Report determines that "global surface temperature will continue to increase until at least the mid-century under all emissions scenarios considered", providing a best estimate that the near-term future (2021-2040) will still reach a global temperature increase of 1.5 °C. As a result, **"global warming of 1.5 °C and 2 °C will be exceeded during the 21st century unless deep reductions in CO2 and other [GHG] emissions occur in the coming decades**".

We can anticipate larger climatic extremes and changes with every incremental increase in global warming, including more heatwaves, precipitation, floods and droughts, and disruptions in the global water cycle. In the Arctic, it is projected to likely (66 to 100% probability) be "practically sea ice free in September at least once before 2050". Most notably, the IPCC Report notes that **"many changes due to past and future [GHG] emissions are irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level"** and that

[7] Compound extreme events are the combination of various hazards that pose societal and or environmental risks (e.g., heatwaves and wildfires, storm surge and flooding).

carbon sinks will become less effective as "the proportion of emissions taken up by land and ocean decrease with increasing cumulative CO2 emissions".

iii. Climate Information for Risk Assessment and Regional Adaptation

The IPCC Report states that all regions across the globe "are projected to experience further increases in hot climatic impact-driver (CIDs)[8] and decreases in cold CIDs", and that these changes will be more intense and widespread at 2°C than 1.5°C. Some of the **changes expected across many regions are more heavy precipitation and associated flooding, extreme agricultural and ecological droughts, intensification of tropical cyclones, continuing sea-level rise, and frequent hot extremes.** While numerically, the difference between the 1.5°C and 2°C is small, the difference in the anticipated intensity and frequency of climate extremes within the two thresholds is large. The IPCC has created an Interactive Atlas to access detailed assessments of anticipated regional climatic changes. The Atlas can be utilized to inform risk assessments, decision-making and adaptation plans. It is important for all regions to anticipate low-likelihood, high-impact outcomes identified in the report (e.g., ice sheet collapse) in climate response and planning.

iv. Limiting Future Climate Change

The IPCC Report emphasizes the importance of **limiting human-induced global warming to specific levels to stabilize global surface temperature, which requires limiting cumulative GHG emissions and reaching at least net-zero CO2 emissions** "with anthropogenic CO2 emissions balanced by anthropogenic removals of CO2". There is an urgency for both *emissions reductions* and *anthropogenic CO2 removal*, which will not only contribute to global net negative emissions but can also gradually reverse climate changes like surface ocean acidification, or initiate the decades to millennia-long reversal process of other climate changes such as global mean sea level rise. Along with the need to achieve global net zero CO2 emissions to limit future climate change, humans must also make rapid and sustained reductions in other GHG emissions including CH4, ozone, and aerosol to improve global air quality and limit the warming effect.

[8] Climatic impact-drivers (CIDs) are physical climate system conditions (e.g., means, events, extremes) that affect an element of society or ecosystems.