



4 September, 2020

Environment and Climate Change Canada
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Re: Comments on the Discussion Paper *Carbon Pollution Pricing: Considerations for Protocol Development in the Federal Greenhouse Gas Offset System*

To whom it may concern:

Thank you for the opportunity to comment on this discussion paper. We do so based on our (Wildlife Conservation Society Canada) long-standing involvement in the boreal landscapes of northern B.C. Yukon and Ontario, including our scientific engagement in better understanding the significance of boreal forests and peatlands in storing and sequestering carbon.

We note that the discussion paper acknowledges the need to put a price on carbon, as well as the opportunity to encourage cost-effective domestic GHG emissions reduction projects that are not covered by carbon pollution pricing, but that could be incentivized by industries covered under the Output-Based Pricing System, as compliance offsets. The paper provides a shortlist of eight project types proposed for the initial phase of protocol development, including two that are related to forest management – afforestation/reforestation and improved forest management.

We wish to observe that this leaves a significant gap: Apart from some special cases, activities that avoid converting or degrading carbon-rich landscapes are not included. This represents an enormous missed opportunity, which requires immediate attention to facilitate Canada's ambitious nature and climate goals and international environmental commitments.

Canada holds 9% of the world's forests, which store over 200 billion tonnes of CO₂¹. In particular, intact boreal forests and peatlands in Canada² constitute a major carbon storehouse at the global scale. With its tremendous potential to protect and enhance its terrestrial carbon sink and reservoir, Canada is well-positioned to become a global leader in developing the negative emissions practices through Nature-Based Climate Solutions that are critical to achieving the ambitions of the Paris Agreement. Our path to net zero emissions by 2050 is reliant on the continued capacity of ocean and terrestrial sinks to absorb a combined 50% of annual emissions.

Offset projects that focus on afforestation/restoration or forest management will necessarily be limited in scale and run the risk of foregoing additional benefits for human adaptation and biodiversity conservation³ that result from measures that avoid conversion or degradation of natural ecosystems. Of

¹ The Nature Conservancy, *Lands of Opportunity: Unleashing the full potential of natural climate solutions* (2017).

² WCS Canada 2020. <https://storymaps.arcgis.com/stories/19d24f59487b46f6a011dba140eddbe7>

³ Seddon et al. 2018 <https://www.nature.com/articles/s41558-019-0405-0>

particular concern is the “irrecoverable carbon”⁴ represented by intact ecosystems of the world—carbon stocks that are lost through land conversion or degradation will not be recoverable on timescales required for avoiding dangerous climate impacts. For northern peatlands in general, the large stores of carbon represent the accumulation of hundreds to thousands of years of the slight disequilibrium of CO₂ that is provided on a yearly basis as a persistent carbon sink.

Keeping forests intact and avoiding degradation can provide significant climate benefits by avoiding emissions of stored carbon and maintaining major active carbon sinks. There is significant alignment between (nature-based) carbon storage opportunities and the federal mandate to protect at least 25% of lands and freshwaters in Canada, including Indigenous-led conservation. As recognized and advocated by the Intergovernmental Panel on Climate Change (IPCC)⁵, protecting Indigenous Peoples’ rights to their lands is a strong tool for preventing further climate change and helps to safeguard their ecological integrity. If directed appropriately, measures to protect and enhance carbon sinks can also provide valuable co-benefits, such as biodiversity conservation, local socio-economic and health benefits, etc.

It is, however, a weakness of current policy regimes that it is so hard to recognize and incentivize such action. We recognize that there are particular challenges that make the quantification and verification of “avoided degradation” or “avoided conversion” projects relatively difficult to accurately quantify and verify to the degree that is required to maintain the credibility and effectiveness of the OBPS. With this in mind, together with the International Emissions Trading Association (IETA), we have seeded a discussion forum and associated activities aimed at understanding new financial instruments and policy mechanisms to support and scale Natural Climate Solutions (NCS) in Canada. We are testing the assumption that there are nascent or emerging instruments (such as public-private funds or carbon tenure mechanisms) that, with appropriate policy or legislative support, could conserve carbon-rich landscapes in Canada and incentivize measures to avoid their conversion or degradation. Appended to this submission is a Concept Note that outlines the opportunity in somewhat greater detail, which we look forward to discussing with you.

Our recommendation: Irrespective of whether or how ECCC decides to prioritize the development of offset protocols for “avoided conversion” or “avoided degradation” projects, we recommend that the Government of Canada explore policy, legislative and/or financial measures that could complement the offset system and broaden the range of tools available to NCS that could be applied to incentivize long-term carbon management, including across intact boreal forests and peatlands of northern Canada and where Indigenous-led conservation opportunities are being actively pursued.

Yours sincerely,



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⁴ Goldstein et al. 2020 <https://www.nature.com/articles/s41558-020-0738-8>

⁵ IPCC 2019. <https://www.ipcc.ch/srccl/>

Carbon Markets and Finance to Protect Canada's Land Carbon Sink

Concept Paper & Options for Discussion

IETA and WCS Canada (July 2020)

Canada holds 9% of the world's forests, which store over 200 billion tonnes of CO₂¹. Canada's boreal forest is part of the largest terrestrial carbon storehouse in the world. Intact boreal forests and peatlands in Canada² constitute a major carbon storehouse at the global scale. With its tremendous potential to protect and enhance its terrestrial carbon sink and reservoir, **Canada is well-positioned to become a global leader in developing the negative emissions practices through Natural Climate Solutions³ (NCS) that are critical to achieving the ambitions of the Paris Agreement.** Canada has the land mass and proven expertise in NCS for these opportunities to be seen and leveraged as an economic competitive advantage. There is also significant political and private business interest in Canada in developing and supporting NCS.

This briefing is intended to inform a discussion aimed at identifying new and innovative financial instruments and policy mechanisms to help address climate change by protecting Canada's land carbon sink. It is based on the observation that existing measures are already being used to encourage the creation of new sinks (e.g. afforestation and reforestation), but may not be well suited to preserving existing sinks, in part because avoided emissions can be more challenging to quantify than direct sequestration. Nevertheless, Canada's existing land base plays a globally-significant role in sequestering and storing large volumes of carbon – especially across intact forests and wetlands – and preserving those reservoirs represents a significant opportunity.

We all agree that diverse financial instruments and policy mechanisms are needed in order to effectively incentivize Canadian NCS activity. However, these options can vary in terms of their strengths and limitations; characteristics that need to be clearly understood while moving forward. Clear and innovative thinking is required to mobilize finance at scale and applied to NCS project types for which they are best suited, with **particular attention paid to opportunities and challenges of incentivising the avoidance of emissions across Canada's existing reservoirs of land-based carbon.**

The scope of instruments and policy measures to be considered could include: those that already exist and are receiving growing attention in Canada (e.g. offsets, direct public financing); those that hold potential but are more nascent and receiving less attention (e.g. public-private funds, carbon tenure mechanisms); and innovative new financial products and structures that may be just over the horizon. **Throughout these discussions, consideration should also be given to complementary and enabling legislative and regulatory options,** which help to create and sustain markets and growth opportunities for NCS. If directed appropriately, measures to protect and enhance carbon sinks can also provide valuable co-benefits (e.g., biodiversity conservation, local socio-economic and health benefits etc.).

An outline of the current policy and carbon landscape is provided below. This includes a brief, non-exhaustive summary of existing barriers and challenges (both real and perceived), along with a selection of potential policy and financing options to seed future discussions.

¹ The Nature Conservancy, Lands of Opportunity: Unleashing the full potential of natural climate solutions (2017).

² WCS Canada 2020. <https://storymaps.arcgis.com/stories/19d24f59487b46f6a011dba140eddb7>

³ Sometimes used interchangeably with "Nature-based Climate Solutions".

The Critical Role of Nature Climate Solutions

- Natural Climate Solutions (NCS) include the protection of carbon-rich ecosystems, improved land management practices and restoration of degraded areas to both avoid GHG emissions and increase carbon storage and sequestration.
- Forest-based NCS can be broadly characterized as measures that increase carbon sequestration (e.g., afforestation, reforestation and forest restoration) and measures that avoid likely emissions as a result of deforestation or forest degradation. The latter types of projects tend to be more difficult to quantify precisely, in part because they rely on counterfactual baselines. Nevertheless, measures that avoid emissions must play an important role in Canada's climate mitigation strategy.
- NCS are an integral part of regional, national and international climate change solutions, estimated to provide 37%⁴ of the CO₂ reductions required by 2030 to limit global warming below the 2°C threshold set by the Paris Climate Agreement.
- Without NCS, the transition to net zero emissions by 2050 will be even more difficult, requiring faster and deeper energy, transport and industrial emissions reductions.
- Forests have long been a critical component of global climate policy due their role as both a source and a sink for CO₂.
- Protecting the land carbon sink can achieve a range of co-benefits to biodiversity (species and ecosystems), to communities and people.
- Recently published research⁵ found that international cooperation, enabled through Article 6 carbon market mechanisms, has the potential to reduce the total cost of implementing Nationally Determined Contributions (NDCs) significantly; when land-based mitigation was included in modelling, the annual cost savings grew from US\$250 billion to US\$320 billion by 2030 – and additional mitigation grew from 5Gt CO₂ to 9GtCO₂.

Value of Lands as Carbon Sinks

- Carbon reduction strategies focused on emissions sources (e.g., transportation, electricity, industry, buildings, etc.) generally take the condition of the land (and ocean) sink for granted. Our path to net zero emissions by 2050 assumes that both the ocean and terrestrial sinks will continue to absorb a combined 50% of annual emissions (the forgotten assumption).
- The global land sink that sequesters 25% of emissions⁶ is not factored into solutions (strategies for emissions reductions), because it is treated as a 'background process'. We simply cannot work on any climate solutions without dedicated protection for the forest sinks, particularly those that are in intact condition, which comprise most of the planet's terrestrial sink⁷.
- Agriculture, forestry and other types of land use account for 23% of human greenhouse gas emissions globally⁸.

⁴ Griscom et al. 2017 <https://www.pnas.org/content/114/44/11645>

⁵ Edmonds et al. 2019. https://www.ieta.org/resources/International_WG/Article6/CLPC_A6%20report_no%20crops.pdf

⁶ CO₂ equivalent to almost a third of CO₂ emissions from fossil fuels and industry; IPCC 2019. <https://www.ipcc.ch/srccl/>

⁷ Le Quere et al. 2018. <https://essd.copernicus.org/articles/10/405/2018/>

⁸ IPCC 2019. <https://www.ipcc.ch/srccl/>

- Prevailing NCS policies tend to place most focus on afforestation and restoration, which are limited in scale and run the risk of compromising long-term carbon storage and foregoing additional benefits for human adaptation and biodiversity conservation⁹.
- Of particular concern, is the “irrecoverable carbon”¹⁰ represented by intact ecosystems of the world—that carbon stocks lost through land conversion will not be recoverable on timescales required for avoiding dangerous climate impacts. For peatlands in general, the large stores of carbon represent the accumulation of hundreds to thousands of years of the slight disequilibrium of CO₂ that is provided on a yearly basis as a persistent carbon sink.
 - Keeping forests intact and avoiding degradation can provide significant climate benefits by avoiding emissions of stored carbon and maintaining major active carbon sinks. It is a weakness of current policy regimes that it is so hard to recognize and incentivize such action.
- Intact forests of the planet have exceptional value beyond climate benefits – to biodiversity, human wellbeing and human health – compared to degraded and managed systems¹¹.

The Opportunity – Canada as a Globally-Significant Carbon Storehouse

- Canada can and should become a global leader in developing the negative emissions practices through NCS that are so critical to achieving the ambitions of the Paris Agreement.
- Canada has the land mass and proven expertise in NCS for these opportunities to be seen and leveraged as an economic competitive advantage.
- There is also significant political and private business interest in Canada in developing and supporting NCS.
- Canadian forests store over 200 billion tonnes of CO₂¹² and Canada’s boreal forest is part of the largest terrestrial carbon storehouse in the world. Leveraging NCS in Canada will have global implications.
- Intact boreal forests and peatlands in Canada¹³ constitute a major carbon storehouse at the global scale. Canada holds 9% of the world’s forests, 32% of global peatland cover, including the second largest peatland in the world.
- The most significant carbon sinks in Canada that haven’t been compromised by industrial development are in northern boreal ecosystems, much of which is included in Canada’s “unmanaged forest lands”¹⁴.
- Canada could exacerbate climate change through weak carbon management: If natural areas are disturbed carbon is released, thereby accelerating climate change. Disturbance can be caused by industrial development such as forestry, mining, hydroelectric development and road building, as well as from fire and pests, which are increasing (particularly in western Canada).
- In the absence of increased human disturbance, the sink function of northern forests and peatlands will be maintained under most scenarios of climate change; evidence suggests that peat (and hence carbon) is still accumulating, particularly in eastern Canada¹⁵.

⁹ Seddon et al. 2018 <https://www.nature.com/articles/s41558-019-0405-0>

¹⁰ Goldstein et al. 2020 <https://www.nature.com/articles/s41558-020-0738-8>

¹¹ Watson et al. 2018. <https://www.nature.com/articles/s41559-018-0490-x>

¹² The Nature Conservancy, Lands of Opportunity: Unleashing the full potential of natural climate solutions (2017).

¹³ WCS Canada 2020. <https://storymaps.arcgis.com/stories/19d24f59487b46f6a011dba140eddbe7>

¹⁴ <https://www.nrcan.gc.ca/climate-change/impacts-adaptations/climate-change-impacts-forests/carbon-accounting/inventory-and-land-use-change/13111>

¹⁵ Qiu et al. <https://onlinelibrary.wiley.com/doi/abs/10.1111/geb.13081>

The Opportunity – Leveraging Canada’s Current NCS Commitments & Experience

- In 2019, the Government of Canada announced a \$3-billion commitment to NCS¹⁶.
- At the same time, Canada committed to protection of 30% of lands and oceans by 2030, reaffirming this in a statement by Prime Minister Justin Trudeau on World Environment Day (June 5, 2020)¹⁷ “to help us meet our international commitments for biodiversity, sustainable development, and climate change”, including “investing in the protection of our natural surroundings and the fight against climate change”.
- Canadian provinces (British Columbia and Alberta) have been NCS leaders on the provincial level, with BC launching a protocol for forest carbon offsets in 2011, and Alberta using offsets from agriculture since its program’s inception in 2007.
- BC has also established the Forest Carbon Initiative (FCI) to support NCS activities related to forest management. The FCI is supported by funding from the federal government's Low Carbon Economy Leadership Fund (LCELf). Combined, the province and federal government have committed \$290 million to FCI from 2017/18 to 2021/22. Together with this political and business drive – Canada also has the biological potential (see above).

The Barriers – Challenges to Financing the Protection of Carbon-Rich Landscapes

Insufficient Finance:

- Inadequate and unevenly distributed finance is one of the most significant limiting factors in securing a better future for carbon land sinks at scale.
- There is a burgeoning global carbon market demand for NCS, but financing has been mostly focused on forest and agriculture offsets. Forest management, for example, has a reputation for being one of the most cost-effective mechanisms for pursuing carbon mitigation.
- Additionally, there will be significant domestic market demand for NCS credits for both voluntary commitments and compliance obligations. The sooner these credits are recognised by the federal government, the sooner these projects types will be able to move ahead.

Scale and Accounting:

- These are generally smaller-scale projects that are undertaken in degraded and managed lands – foregoing a proactive protection element and long-term carbon management at larger scales. This represents a missed opportunity because most carbon stocks lie in “unmanaged lands”.
- Regarding meeting the additionality principle for carbon offset projects, activities don't 'count' unless it can be proven that the carbon storage generated would not have occurred by other means. Additionality frameworks favour degraded landscapes that could be restored or land management practices that could be improved, because it is very easy to show the criteria are met. It is difficult to demonstrate positive carbon value in some ecosystems, and difficult to accurately quantify avoided emissions since they rely on counterfactual baselines to determine what would have happened in the absence of the incentivized measure.

¹⁶ <https://www2.liberal.ca/wp-content/uploads/sites/292/2019/09/Planting-two-billion-trees-and-using-the-power-of-nature-to-fight-climate-change.pdf>

¹⁷ <https://pm.gc.ca/en/news/statements/2020/06/05/statement-prime-minister-world-environment-day>

Land Tenure & Ownership:

- Most large-scale carbon stocks are on public (Crown) land. Crown recognition of Indigenous Peoples' jurisdiction over their territories is limited and "carbon rights" have not yet been defined.
 - Who has the right to manage, and potentially benefit from, the carbon stored in lands?
 - Who is accountable for losses of carbon, including reversals of carbon stored as a result of project activity? How might such losses be dis-incentivized in an effective but acceptable way?
- Indigenous Peoples' rights to the carbon stored on their lands and its related potential revenues are for the most part not yet recognized by the Canadian government.

Scan of Carbon Market and Finance Solutions

The below table provides a capsule summary of some potential tools to incentivize NCS, noting that this is a non-exhaustive list. Our discussion will be focused on evaluating whether and how these tools might be used to effectively and efficiently incentivize measures that protect the existing land-based carbon stock (avoided emissions), including whether there are tools not on this list that should be considered.

Potential Policy Tools	Description
Federal Offset Market	• NCS offers a low-cost opportunity to contribute to the supply of compliance offset units under the federal system. • The federal offsets system will be prioritizing eligible project types – and therefore protocol adaptation and development – across forestry and agriculture sectors. • Market experience and existing protocols will be leveraged to inform design and implementation of federal offset program. • Opportunities to unlock NCS at scale are being navigated through 2020 by ECCC.
Voluntary Offset Market	• Voluntary carbon market in Canada and internationally is seeing significant growth, with higher demand for offset credits from land-use activities with co-benefits. • Voluntary market opportunities must occur outside of regulated sectors – but must be complementary to compliance programs.
Provincial Offset Market	• The provinces of BC and Alberta hold significant carbon market and offset protocol experience, including across NCS. • New and updated compliance forest protocols are expected to be released for consultation by BC and Alberta in 2020, and these approaches are expected to inform certain Federal offset system and protocol efforts.
Direct Public Financing	• There are already examples of direct public funding underway in Canada: ○ Funding for “Pathway to Canada Target 1 Challenge” ○ Funding for the “Nature Heritage Conservation Program” ○ Funding through the Low-Carbon Economy Fund to improve forest carbon sequestration • Additional funding to sequester carbon in Canada’s land sinks will be required • A reverse auction funding model is an example of a potential funding model that could be used ○ In a reverse auction, the Canadian government would be the sole purchaser, and project proponents would compete to receive funding for the carbon sequestration project

Public-Private NCS Fund (New)	• Canada could create a public-private fund to purchase and sell NCS credits in larger volumes • The fund could be financed with a mixture of public and private capital, with companies invited to contribute • Donors would be allocated credits in proportion to their contribution to the fund
“Green” Financial Instruments (e.g. Green Bonds, Insurance etc.)	• Growing interest and deployment of innovative “green” financial instruments targeting sustainable land-use and forests. Aim is to achieve the return/risk profile needed to attract private investors ○ Examples of capital instruments: equity, loans, and bonds. ○ Examples of risk mitigation instruments (reduce risk exposure): insurance, credit guarantees and off-take agreements. • Emerging taxonomy and catalogue of standards and pilot/product structures from which to pull, particularly in the area of “green bonds”.
Carbon Tenure Mechanism (New)	• Similar to existing mineral tenure mechanisms in place on Canada’s crown lands – there may be an opportunity to adopt this mechanism into a “carbon tenure mechanism” • Carbon projects have the lengthy and capital-intensive nature of mineral tenure • Potential project developers will only be willing to invest their time, effort and money on Crown land, if confidence exists that their rights to develop are secure.

Co-Benefits – Additional Observations

Economic Diversification and Job Creation:

- Revenues from forest carbon projects can support economic development, with reinvestment back into sustainable forest management practices that enhance resiliency and asset value.
- Projects can create additional value from forest resources not only for landowners, but also forest product companies and Indigenous communities on Crown tenures.

Indigenous Carbon Stewardship:

- Indigenous-led conservation and Indigenous-led (nature-based) carbon storage opportunities are aligned in principle. Paradoxically, however, the greater the degree of ‘natural alignment’ the more difficult it would be to validly assert that a conservation project is truly ‘additional’¹⁸.
- As recognized and advocated by the Intergovernmental Panel on Climate Change (IPCC)¹⁹, protecting Indigenous Peoples’ rights to their lands is a strong tool for preventing further climate change and helps to decrease deforestation and increase biological diversity.
- At present, we see few successful examples of Indigenous participation in carbon markets in Canada – but there is a significant opportunity to create more successes.

Biodiversity and Ecosystem Services:

- As highlighted by the International Panel on Biodiversity and Ecosystem Services (IPBES) in its landmark 2019 report²⁰, even while our understanding of biodiversity and ecosystems, including

¹⁸ Conservation through Reconciliation Partnership. 2020.

https://metcalfoundation.com/site/uploads/2020/02/CRP_Indig_NatureBasedSolutions_2020Report_final.pdf

¹⁹ IPCC 2019. <https://www.ipcc.ch/srccl/>

²⁰ IPBES 2019. <https://ipbes.net/global-assessment>

their value to human economies and well being, is increasing, rates of biodiversity loss continue to accelerate, posing a major risk to our economies and our way of life²¹. The sustainable use of nature will be vital for adapting to and mitigating climate change.

- Particularly in boreal forests, significant carbon sinks are coincident with climate refugia for biodiversity, enhancing the possibility of addressing biodiversity and climate change simultaneously in some geographies²².

²¹ The Dasgupta Review, Interim Report <https://www.gov.uk/government/publications/interim-report-the-dasgupta-review-independent-review-on-the-economics-of-biodiversity>

²² Stralberg et al. 2020. <https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2188>