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Office of the Auditor General of Canada
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Petition to the Auditor General of Canada, Pursuant to Section 22 of the *Auditor General Act*, Relating to Forest Carbon Quantification and Accounting

Introduction and background

The following is a petition to the Auditor General of Canada under Section 22 of the *Auditor General Act*, setting out a series of requests/questions relating to issues raised in the technical report [Canada's Approach to Forest Carbon Accounting and Quantification: Key Concerns](#). Our organizations, along with Natural Resources Defense Council (NRDC), published this report on October 28, 2021.¹ It demonstrates that Canada's current accounting/quantification system for forest carbon both (i) massively underreports the true net emissions of industrial logging, and (ii) considerably overstates the contribution of forest carbon towards meeting Canada's 2030 greenhouse gas (GHG) target.

Our questions/requests relate in particular to the following five concerns:

- A. Conflict between Natural Resources Canada's responsibility for (i) determining the carbon impact of the forest industry for Canada's GHG inventory, and the department's traditional role of (ii) supporting and promoting the competitiveness of the forest industry (our report Sec. 2.1).
- B. Massive overestimation of carbon removals² in the national GHG inventory due to (i) a flawed procedure that excludes emissions from the biggest wildfires from the inventory, and (ii) an over-expansive interpretation of "managed forest" (our report Sec. 4.1).
- C. Use of the "reference level" approach which overstates the contribution of forest carbon towards meeting Canada's 2030 GHG target. Under this approach, the comparison point for the 2030 target is not the forest emissions/removals level in 2005 but rather a projection of what forest emissions/removals would be in 2030 if logging continued until then at a historical rate. This awards Canada a considerable volume of "free" emission reductions (our report Sec. 4.2).
- D. Omission of forest carbon from mandatory carbon pricing, creating an inappropriate incentive for logging and wood-burning (our report Sec. 4.3).
- E. Neglect, in Canada's GHG inventory, of emissions from narrow/small areas of forest cover loss such as barren logging scars (our report Sec. 3.1).

¹ <https://naturecanada.ca/wp-content/uploads/2021/10/Canadas-Approach-to-Forest-Carbon-Quantification-and-Accounting.pdf>

² In this document we use the word "removals" to refer to removal of carbon from the atmosphere by growing trees, i.e., negative emissions.

Full details of each of the above five concerns are provided in our technical report cited above. Please note that we also published at the same time the report [Missing the Forest: How Carbon Loopholes for Logging Hinder Canada's Climate Leadership](#), which provides additional analysis and recommendations.³

Concerns A, B and E above relate to the forest portion of Canada's GHG inventory. This work is currently conducted by Natural Resources Canada (NRCan) under an MoU with Environment and Climate Change Canada (ECCC), which has overall responsibility for the inventory. In light of that overall responsibility, our request below in relation to Concern A is addressed to the Minister of Environment and Climate Change, while our questions/requests in relation to Concerns B and E are addressed to both the Minister of Environment and Climate Change and the Minister of Natural Resources.

Our questions in relation to Concern C are also addressed to the Ministers of Environment and Climate Change and of Natural Resources, as NRCan has led Canada's development of the reference level approach, while ECCC is responsible for Canada's overall approach to GHG emissions and targets.

Our requests in relation to Concern D are addressed to the Minister of the Environment and Climate Change, as he is responsible for the relevant portions of the *Greenhouse Gas Pollution Pricing Act*.

The first request below relates to the entire set of concerns that we have raised with Canada's current approach to forest carbon accounting and quantification. It is addressed to the Minister of Environment and Climate Change given the Minister's overall responsibility for federal climate policy.

Petition questions/requests

Each of our requests is presented below in bold font. Paragraphs in standard font provide context to help clarify technical issues and terms.

Overall request to the Minister of Environment and Climate Change

Question/request 1

Will you establish a process within the government, also involving independent experts, (i) to determine the changes required in the policy framework for forest carbon to address the entire set of concerns raised in our technical report cited above, and (ii) to adopt those changes before the end of 2022, in time for Canada's Fifth Biennial Report to the United Nations Framework Convention on Climate Change?

Concern A: request to the Minister of Environment and Climate Change

Question/request 2

NRCan is currently responsible for determining the emissions/removals of the forest industry for Canada's GHG inventory, and the department also has a traditional role of supporting and promoting the competitiveness of the industry.⁴ These dual roles are in direct conflict with one another, which significantly reduces confidence in NRCan's forest carbon calculations. This is compounded by the unusual complexity of forest carbon calculations, which is an obstacle to transparency and scrutiny. There is therefore a strong case for improving transparency and scrutiny via strengthened consultation of independent experts. Currently, the only open consultation process for the national GHG inventory is a simple invitation for feedback on ECCC's inventory website.

Will you commit to convening, in consultation with NRCan, an expert stakeholder group to provide independent, regular scrutiny of the forest carbon calculations undertaken for Canada's GHG inventory, and to recommend additional detail to be included in, and/or changes to, Canada's GHG inventory reporting?

³ <https://naturecanada.ca/wp-content/uploads/2021/10/Missing-the-Forest.pdf>

⁴ See, e.g., <https://pm.gc.ca/en/mandate-letters/2019/12/13/archived-minister-natural-resources-mandate-letter>.

Concern B: questions/requests to the Ministers of Environment and Climate Change and of Natural Resources

Question/request 3

Current IPCC guidelines (2006) for national GHG inventories⁵ as well as updated IPCC guidelines (2019)⁶ both require that a country report all emissions and removals from managed land (this is known as the “managed land proxy”). However, Canada’s 2021 GHG inventory excludes from reported emissions/removals areas of the managed forest significantly affected by “natural disturbances”, notably major wildfires. The inventory report does additionally *present* figures for total net emissions from the managed forest, but in doing so it refers to the emissions/removals attributed to natural disturbances as “tracked but *not reported*” [our emphasis].⁷ The figures that Canada formally reports to the UN through “common reporting format (CRF) tables”⁸ as well as the “headline” numbers in the inventory report – those included in total national emissions, in summary tables and the associated descriptive text – all exclude areas of the managed forest significantly affected by “natural disturbances”.

Do you agree that (i) Canada’s 2021 GHG inventory does not comply with the managed land proxy, but that (ii) such compliance is, in contrast, a requirement of IPCC inventory guidelines? If not, please explain.

Question/request 4

Areas excluded due to stand-replacing wildfires are re-inserted into Canada’s 2021 GHG inventory once the trees have regrown to “commercial maturity” (after 76 years on average).⁹ The inventory report justifies this re-insertion of commercially mature post-fire stands by deeming their removals to be anthropogenic. However, many such stands will be located in areas that have never been industrially logged, and that are too remote to be subject to fire suppression or any other significant human decision-based actions.

Do you agree that (i) some of the commercially mature post-fire stands whose carbon removals Canada’s 2021 GHG inventory deems to be anthropogenic are not subject to fire suppression, and therefore that (ii) the regrowth of these trees involved no human decision-based actions either before or after the stands reached commercial maturity? If not, please explain.

Question/request 5

A considerable proportion of the managed forest area used in Canada’s 2021 GHG inventory will not yet have been industrially logged; in other words, it is primary forest. In an idealized primary forest where the fire rate has been constant for a sufficient time (and emissions from disturbances other than fire are not significant), a steady state is reached where emissions from fires are equal and opposite to removals from growing trees, which means the forest is neither source nor sink. Yet the methodology used in Canada’s 2021 GHG inventory to exclude stand-replacing wildfires would find such a forest to be a carbon sink, since it would exclude all the emissions while including removals from commercially mature stands.

Do you agree that (i) parts of the managed forest area used in Canada’s 2021 GHG inventory have never been industrially logged, and (ii) the methodology used in Canada’s 2021 GHG inventory to exclude stand-replacing wildfires would, if applied to an idealized primary (never-logged) forest as described

⁵ Intergovernmental Panel on Climate Change,

IPCC Guidelines for National Greenhouse Gas Inventories (2006), Vol. 4 Chapter 1 p.1.4–1.5.

⁶ Intergovernmental Panel on Climate Change, *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* (2019), Vol. 4 Chapter 2 p.2.71.

⁷ Environment and Climate Change Canada, *National Inventory Report 1990–2019: Greenhouse Gas Sources and Sinks in Canada* (2021a), Part 1 p.149,151.

⁸ Environment and Climate Change Canada, *2021 Common reporting format (CRF) tables* (2021b). In CRF table 4.A, which provides the detailed reporting for forest land, no emissions/removals are reported for items labelled “ND Impacts” (natural disturbance impacts).

⁹ Environment and Climate Change Canada (2021a), Part 2 p.127–128.

above, determine it to be a carbon sink even though such a forest is neither source nor sink? If not, please explain.

Question/request 6

If the managed forest area used in Canada's 2021 GHG inventory had been shrunk to exclude the parts that have never been industrially logged, this would have reduced the amount of removals from commercially mature post-fire stands included in the inventory's reported emissions/removals. As a result, the inventory's reported net emissions from forest land and associated wood products would have been higher.

Do you agree that if the managed forest area used in Canada's 2021 GHG inventory had been shrunk to exclude the parts that have never been industrially logged, the inventory's reported net emissions from forest land and associated wood products would have been higher? If not, please explain.

Question/request 7

Updated IPCC guidelines (2019) for national GHG inventories state that "when emissions from natural disturbances are disaggregated, it is good practice that subsequent removals are also disaggregated until the balance [between emissions and removals] has been reached".¹⁰ In our technical report cited above, we provided detailed reasoning concluding that the methodology used in Canada's 2021 GHG inventory to exclude stand-replacing wildfires fails to achieve the balance referred to in the IPCC guidelines. We are aware of only one counter-argument made by NRCan or ECCC officials, based on ages of stands excluded from and re-inserted in the inventory.¹¹ Our report showed that argument to be invalid.

Apart from the argument based on stand ages made in *Can. J. For. Res.* 48: 1227–1240 (2018), please provide any other reasoning that you believe supports the notion that the methodology used in Canada's 2021 GHG inventory to exclude stand-replacing wildfires achieves balance between disaggregated emissions and disaggregated subsequent removals, as required by the 2019 IPCC guidelines (see IPCC text cited above).

Concern C: questions to the Ministers of Environment and Climate Change and of Natural Resources

Question/request 8

For emissions/removals from "forest land remaining forest land and associated harvested wood products" (FLFL+HWP), the Government of Canada does not currently intend to use the standard "net-net" approach to meeting its 2030 GHG target – comparing the GHG inventory level in the target year (2030) to the inventory level in the base year (2005). Instead, it intends to use "reference level" accounting. Under this approach, the comparison point for the 2030 target is not the emissions/removals level in 2005 but rather a projection – the "reference level" – of what emissions/removals would be in 2030 if logging continued until then at a historical rate.¹² Reference level accounting for forest land was agreed a decade ago specifically for the second commitment period of the Kyoto Protocol, but not for the Paris Agreement, under which countries are free to choose their own accounting approaches.

Do you agree that there is no international agreement or requirement that Canada use reference level accounting for forest carbon for purposes of meeting its 2030 GHG target under the Paris Agreement, and that Canada would be free to use standard "net-net" accounting instead, if it so chose? If not, please explain.

¹⁰ Intergovernmental Panel on Climate Change (2019), p.2.71–2.72.

¹¹ W.A. Kurz et al., "Quantifying the impacts of human activities on reported greenhouse gas emissions and removals in Canada's managed forest: conceptual framework and implementation", *Can. J. For. Res.* 48: 1227–1240 (2018).

¹² Environment and Climate Change Canada, *Canada's 4th Biennial Report to the United Nations Framework Convention on Climate Change* (2019), p.160–162.

Question/request 9

Canada's GHG inventory¹³ found FLFL+HWP to be a net sink of 10 Mt carbon dioxide equivalent in 2005, and FLFL+HWP is projected, in the absence of any new policies affecting forests, to be a net 16 Mt sink in 2030¹⁴. In contrast, the government currently projects reference level FLFL+HWP emissions in 2030 (again without any new policies) to be +9 Mt.¹⁵ This means that the reference level approach would generate an accounting contribution of 25 Mt¹⁶ (the difference between +9 and -16), compared to the true emissions reduction of just 6 Mt (the difference between -10 and -16) that would be used in the net-net approach. The reference level approach would therefore make a bigger contribution to meeting Canada's 2030 GHG target than the net-net approach. As a result, despite the government presenting Canada's 2030 GHG target as a 40–45% reduction below the 2005 level, the target would be considered to be achieved even while actual national GHG emissions are reduced by LESS than 40–45% during 2005–2030.

Do you agree that for forest carbon, (i) even in the absence of any new policies affecting forests, the reference level approach is currently projected to make a bigger contribution to meeting Canada's 2030 GHG target than the net-net approach, and (ii) under the same assumptions, the reference level approach would result in the government considering Canada's 2030 GHG target to be achieved, even while actual national GHG emissions are reduced by LESS than 40–45% during 2005–2030? If not, please explain.

Question/request 10

Do you agree that if Canada switched to net-net accounting for “forest land remaining forest land and associated harvested wood products”, this sector would, according to your current projections,¹⁷ still make a positive contribution to meeting Canada's target – i.e., a reduction in net emissions or increase in net removals during 2005–2030 – even in the absence of any new policies affecting forests? If not, please explain.

Concern D: requests to the Minister of Environment and Climate Change

Question/request 11

The Government has made clear that it sees mandatory carbon pricing as the most important policy to drive down industrial GHG emissions, and it is supported in this by a broad consensus of climate policy experts. The coverage of mandatory industrial carbon pricing will clearly need to be extended to a more comprehensive set of sources/sinks as Canada moves towards the demanding goal of net zero GHG emissions by 2050. The current exemption of biological forest carbon from carbon pricing means that the forest industry is receiving an effective incentive for more logging, more wood-burning, and higher emissions than would otherwise be the case. Offset credits for the forest sector cannot adequately compensate for this exemption. Mandatory reporting of corporate-level emissions/removals is a prerequisite for carbon pricing, as well as for “public right to know”.

Will you make a commitment to initiate the regulatory process required for mandatory corporate-level reporting of biological forest carbon flows, including all emissions/removals on forest land as well as emissions from all wood products?

¹³ Net removals from FLFL and emissions from HWP are from Environment and Climate Change Canada, *Common Reporting Format Tables* (2020), Table 4. The latter are adjusted by subtracting HWP emissions from forest conversion, taken from Environment and Climate Change Canada, *Canada's Greenhouse Gas and Air Pollutant Emissions Projections 2020* (2021c), p.38. Note that we take actual GHG inventory emissions values from the 2020 inventory report, now a year out of date, in order to be consistent with the projected emissions values which were based on that report.

¹⁴ Environment and Climate Change Canada (2021c), p.39.

¹⁵ Ibid.

¹⁶ Ibid, p.10,39.

¹⁷ Ibid.

Question/request 12

It is likely that the Government has not yet moved towards mandatory carbon pricing for forest carbon because of (i) a belief that net emissions from Canada's forest land and associated wood products are close to zero, and (ii) a view that corporate-level reporting of forest carbon emissions/removals would be too methodologically complex. We regard both of these objections as invalid: on point (i), the GHG inventory is massively overestimating annual removals in the managed forest (see Concern B above); and on point (ii), the necessary methods have already been developed at the national level, and could now be applied at the corporate level.

Please provide all reasons why you believe forest (biological) carbon should continue to be exempted from mandatory carbon pricing.

Concern E: requests to the Ministers of Environment and Climate Change and of Natural Resources

Question/request 13

Many instances of long-term forest cover loss, such as barren logging scars and roads as well as seismic lines, are not captured in Canada's GHG inventory.¹⁸ In our technical report cited above, we made a rough, conservative estimate, based on the research on logging scars by Wildlands League,¹⁹ that this is resulting in the inventory omitting annual CO₂ emissions on the order of 10 Mt. NRCan officials have told us they do not view remedying this omission as a priority.²⁰

Please provide an approximate estimate, including full details of how it has been calculated, of the annual emissions resulting from the creation of logging scars and other narrow/small instances of long-term forest cover loss that are currently omitted from Canada's GHG inventory.

Question/request 14

If you have provided an estimate in response to request 13, please explain, with reference to this estimate, the priority you assign to remedying this omission from the GHG inventory relative to other planned improvements to the inventory. If you have not provided an estimate in response to request 13, please explain how you have arrived at the decision not to prioritize remedying this omission.

We hereby submit this petition to the Auditor General of Canada under section 22 of the *Auditor General Act*.



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¹⁸ Natural Resources Canada officials, personal communication, May 2021.

¹⁹ Wildlands League, *Boreal Logging Scars* (2019).

²⁰ Natural Resources Canada officials, personal communication, May 2021.