Marten Falls Community Access Road Supplemental Analysis

Introduction

The Impact Assessment Agency of Canada (IAAC) has drafted preliminary impact assessment chapters for the Marten Falls Community Access Road project. Among other effects, these chapters include a description of the project's main sources of GHG emissions and climate change implications.

Section 6 of the Strategic Assessment of Climate Change (SACC) states that IAAC or the lifecycle regulator, with the support of expert federal authorities, will provide supplemental analysis on the project's net GHG emissions in the context of Canada's emissions targets and forecasts.

Given the above, Environment and Climate Change Canada (ECCC) prepared this supplemental analysis to fulfill this SACC requirement, and to support the IAAC in the drafting of the preliminary impact assessment chapters. The information contained in this supplemental analysis provides information that could be used to fill gaps in the draft preliminary Impact Assessment chapters.

Greenhouse Gas Emissions and Carbon Sinks

Greenhouse Gas Emissions from the Project

The Proponent's estimated GHG emissions in table 1 represent the maximum estimated emissions from the construction and ongoing operations. The estimated maximum annual GHG emissions from the construction phase of the project, which is expected to last 3 to 10 years, is 295.4 kilotonnes of carbon dioxide equivalent per year (kt CO_2 eq. / year). The main GHG emission sources during this phase include construction mobile equipment, quarry and road blasting, and land-use changes.

The estimated maximum annual GHG emissions from the operations phase of the project, which is expected to last 75 years, is 44 kt CO_2 eq. / year. The main GHG emission sources during this phase include road traffic and land-use changes.

Table 1: Proponent-Estimated Maximum Annual GHG in Units of kt CO_2eq/yr.

Phase	Source	Annual GHG Emissions (kt CO2eq/yr)
Construction	Construction Mobile Equipment	18
	Quarry and Road Blasting	0.4
	Land-Use Change	277
	Total	**295.4**
Operations	Future Road Traffic	27
	Land-Use Change	17
	Total	**44**
Decommissioning	No estimate, no plans to decommission the Project	

Carbon sinks

The Proponent discusses the Project's impact on peatland ecosystems and carbon storage in Appendix B6. The Proponent states that the disturbance of organic soils in peatlands is minimized by using the floating road technique which does not require excavation of underlying soils, but the soil's carbon sequestration capacities are expected to be impacted. Construction is expected to remove some peat from forest land.

The Proponent stated that the peatlands are currently sources of carbon to the air, so the project will remove carbon emissions. However, according to ECCC experts, peatlands, swamps and fens can be sources or sinks, and it is site-dependent with a high level of uncertainty.

ECCC's Observations

The proponent has considered the anticipated Project activities that are within the scope of the Impact Assessment that have potential for GHG emissions. The proponent's estimated GHG emissions are adequately calculated and are supported by sufficient information provided in the Application and its supporting appendices. The GHG emissions from the decommissioning phase were not estimated since the road lifespan is unspecified and there is no expected end date for its need.

The Proponent considered the SACC technical guidance in the consideration of land use change emissions and carbon sink impacts, and addressed comments made by ECCC on these topics provided during the impact assessment process. ECCC considers the methodologies, the data and the assumptions used in assessing impacts to be reasonable.

Mitigation Measures

The Proponent states that electrification of vehicles and equipment would not be feasible during the construction phase due to electrical generation being produced by generator sets. The Proponent's planned mitigation measures include:

- The development of a Construction Best Management Practice Plan prior to construction, to implement:
    - Anti-idling policies;
    - Strategic haul planning; and
    - Use of fuel-efficient vehicles.

The Proponent states that it has less control over operational emissions, but it is expected that as time progresses and more fuel-efficient vehicles are used, annual GHG emissions will decrease over the lifetime of the project.

The Proponent also states that there is GHG emission reduction potential in route planning to avoid high-carbon stock areas, preserving and reusing the topsoil, and using a 'floating road' technique to reduce the need for extensive soil excavation and disturbance.

ECCC's Observations

The Proponent did not undergo a Best Available Technologies/Best Environmental Practices (BAT/BEP) methodology for the selection of GHG mitigation measures. ECCC acknowledges that the project type limits the mitigation measures and technologies – the greatest GHG reduction potential would come from Proponent efforts to limits emissions from land-use change.

Climate Change Resilience

The Proponent completed a climate change risk assessment to identify and evaluate the risk that climate-related hazards may have on the Project.

The Proponent considered the risks and potential ways to mitigate:

- Heavier precipitation and flooding
- Wildfires
- Heat health impacts on workers
- Impacts to local ecosystems

ECCC considers the Proponent's conclusions to be reasonable.

Impact on Canada's Climate Change Commitments

The Proponent notes that the Project, by providing infrastructure that supports creation of a critical mineral supply chain for advancing the green and digital economy, could contribute indirectly to Canada's ability to meet its climate change commitments in the long term.

Overall, ECCC's opinion is that the project infrastructure could contribute indirectly to Canada's ability to meet its climate change commitments in the long term. However, this is only in a specific scenario where the project infrastructure supports critical mineral projects where those projects would not have occurred without the project infrastructure, and where the materials are used directly in Canada to have a measurable reduction in GHG emissions or displace higher-emitting sources.

Conclusion

The Proponent followed the SACC in their assessment of GHG emissions, and the methodologies, assumptions and data used were reasonable. The Proponent did not perform a BAT/BEP assessment but did consider options to mitigate GHG emissions in the construction and operations phase of the proposed Project.

The Proponent adequately considered risks by assessing the project's climate change resilience.

Overall, the project infrastructure could contribute indirectly to Canada's ability to meet its climate change commitments in the long term provided that the project infrastructure supports critical mineral projects where the materials are used within Canada to reduce GHG emissions.