

# Webequie Supply Road Supplemental Analysis

## Introduction

The Impact Assessment Agency of Canada (IAAC) has drafted preliminary impact assessment chapters for the Webequie Supply Road project. Among other effects, these chapters include a paragraph on the project's greenhouse gas (GHG) emissions and climate change implications. The analysis paragraph on the Extent to which project effects contribute to Canada's climate change commitment is very succinct and does not provide the details on the information provided by the Proponent on the GHG emissions from project construction or operation phases and does not discuss the mitigation measures or climate change resilience aspects considered by the Proponent.

In addition, the draft paragraph compares the project's GHG emissions to the total national GHG emissions, which in all cases will always be very small and not very meaningful.

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 the 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 and Table 2 represent the maximum estimated emissions from the construction and ongoing operations (i.e. if no GHG mitigation measures are taken). The estimated maximum annual GHG emissions from the construction phase of the project, which is expected to last five years, is 44,699 tonnes of carbon dioxide equivalent per year (CO<sub>2</sub> eq. / year). The main GHG emission sources during this phase include mobile land equipment, stationary fuel combustion, heavy-duty trucks, and living and dead organic matter clearing.

**Table 1: Proponent-Estimated Maximum Annual GHG Emissions for Construction (5 years, maximum in Year 2) in Units of t CO<sub>2</sub>eq. (from Appendix H)**

Activity	GHG Emissions (t CO <sub>2</sub> eq/yr)
Mobile land equipment	5,980
Stationary fuel combustion	1,547
Crew vehicles	162
Heavy-duty trucks	3,386
Land mobilization and demobilization	264
Air travel	55

Living biomass clearing	10,899
Dead organic matter (DOM) clearing	22,405
<b>Construction Total per Year</b>	<b>44,699</b>

The estimated maximum annual GHG emissions from the operations phase of the project, which is expected to last seventy-five years, is 11,226 t CO<sub>2</sub> eq. / year. The main GHG emission sources during this phase include road traffic, road maintenance, and land-use changes.

**Table 2: Proponent-Estimated Maximum Annual GHG Emissions for Operations in Units of t CO<sub>2</sub>eq. (75 years, from Appendix H)**

Activity	GHG Emissions (t CO <sub>2</sub> eq/yr)
Road Traffic	4,687
Road Maintenance (trucks)	310
Road Maintenance (mobile equipment)	422
Road Maintenance (stationary fuel combustion)	3,933
Land-use Changes (mineral soil disturbance)	1,338
Land-use Changes (biomass carbon accumulation loss)	458
Land-use Changes (peatlands net emissions)	78
<b>Operations Total per Year</b>	<b>11,226</b>

## Carbon sinks

The Proponent discusses the Project's impact on peatland ecosystems and carbon storage in Appendix H Section 5.1.

The Proponent states that tree and vegetation clearing during the construction phase will result in the removal of a carbon sink (or the addition of a GHG emissions source associated to the project). In addition, the construction of the road will have an impact on peatlands, though it is assumed that the floating road design will slow or stop the decomposition which may result in GHG emission reductions, but will also result in a removal of a carbon sink. The Proponent outlines the methodology and all assumptions and data used in the carbon sinks assessment.

## 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 Webequie road lifespan is unspecified. The Proponent intends to operate the road beyond the life span of the proposed mineral exploration activities in the area.

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 Statement phase. ECCC considers the methodologies used in assessing impacts to be reasonable, as well as the assumptions and data used.

## 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:

- Eco driving, leading to fuel savings
- Optimized equipment maintenance program
- Use multi-passenger vehicles where practical
- Minimize idling

The Proponent also states that there is GHG emission reduction potential in the use of biomass for other purposes such as timber or woodchips instead of biomass burning, and in restoration of disturbed areas and habitat restoration.

During operations, the main mitigation measure could be through the design and operation of the maintenance and storage facility generator to minimize electric power requirements.

## 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 comes from Proponent efforts to limit emissions from land-use change and biomass.

## Climate Change Resilience

The Proponent stated that the assessment of climate change effects was carried out while considering the general guidelines provided in the draft SACC Technical guide: Assessing climate change resilience.

According to the Proponent's climate risk analysis, there are no « moderate » and « high » risks associated with this Project. Risk level is « very low » or « low » in general situations where the component is recognized to be sensible, but the impact is considered marginal or sufficiently low to not have tangible repercussion on the road integrity. Extra control measures are not considered necessary. This conclusion is based on the Project adopting, and in some cases exceeding provincial standards, guidelines and codes for the design and operation and maintenance of provincial highways.

ECCC considers the Proponent's conclusions to be reasonable.

## Impact on Canada's Climate Change Commitments

The Proponent states the presence of the road could accelerate the development of mines in the region in which ore could be used in replacement of ore coming from abroad. The project could improve Canada's GHG inventory by limiting transportation emissions from abroad or could also have the reverse effect if the ore is shipped abroad.

It is difficult to determine the potential contributions of projects that may result from the project infrastructure due to many uncertainties. Given the scope of this project, and understanding the GHG implications, it's difficult for ECCC to state whether this project will contribute to Canada's climate change objectives or not due to the uncertainties inherent to potential future project development in the Ring of

Fire. However, the project 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 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. 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.