AIR QUALITY VOL 5
CLIMATE CHANGE (GHG)

TWIN METALS MINNESOTA PROJECT
Environmental Review Support Document

Prepared for Twin Metals Minnesota, LLC
Prepared by

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REVISION RECORD

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REVISION NARRATIVE

DISCLAIMER

This document is a working document. This document may change over time because of new information, or further analysis or deliberation.

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LIST OF ABBREVIATIONS, ACRONYMS, AND SYMBOLS

TMM	Twin Metals Minnesota, LLC

1.0 INTRODUCTION

The Twin Metals Minnesota, LLC (TMM) Project (Project) is focused on designing, permitting, constructing, and operating an underground copper, nickel, cobalt, platinum, palladium, gold, and silver mining project. Located approximately nine miles (14 kilometers [km]) southeast of Ely, Minnesota, and 11 miles (18 km) northeast of Babbitt, Minnesota, the Project targets valuable state, federal, and private minerals within the Maturi deposit, which is a part of the Duluth Complex geologic formation.

All potential Project infrastructure locations presented herein are considered preliminary and are undergoing further design and engineering evaluations which will dictate final design and locations. Further information about TMM and the Project is located at http://www.twin-metals.com/.

The purpose of this document is to provide necessary information for the environmental review and permitting process. TMM retained [insert Consultant name] (insert abbreviated Consultant name) to complete [insert text].

2.0 SUMMARY

This report will summarize the current state of climate regulations as they apply to the proposed action and alternatives and summarize the impacts to climate change from the proposed action and alternatives.

Report will also reference relevant sections of the FSDD, SEAW, and / or federal documents to remind the reader there is a defined scope that is being followed.

3.0 REGULATORY FRAMEWORK

Establish regulatory framework by discussing the current climate policies and regulation at the state and federal level.

4.0 GREENHOUSE GASES IMPACT ANALYSIS

Account for the amount of extra CO_2 that the proposed action and alternatives are planning to emit and comparing this to the existing CO_2 emissions at a state, national, and global level.

4.1 Climate Change

Review direct on-site emissions of GHGs from the other volumes of the *Air Quality Data Package*. The impact of GHG emissions would be further reviewed with respect to direct and indirect impacts from a regional and global perspective.

- The two bulleted items have been included from the SEAW Comments that the MPCA made specific to GHGs and climate change:
  - The assessment should compare the estimated average annual emissions of the proposed action and alternatives to the net incremental state-level GHG reduction found in the Minnesota Next Generation Energy Act.
  - Social cost of carbon relates emission of the next or marginal ton of GHGs to their damages via formal modeling of GHG atmospheric retention.

4.1.1 Direct Emissions

Stationary or area industrial process sources, permanent land-clearing (aboveground biomass carbon), and GHG emissions from stockpiled stored peats and soils

4.1.2 Indirect Emissions

Emissions associated with purchased electricity. In estimating CO_2 emissions from permanent land-clearing, emissions should be estimated for CO_2 losses from removed and marketed or combusted woody biomass and lost sequestration potential from cleared acres.

4.1.3 Climate Change Modeling

Discuss how modeling accounts for persistent climatic change as background condition.

4.2 Greenhouse Gas Reduction Measures

Identify GHG reduction measures that TMM has or will be committing to.

5.0 REFERENCES

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