



July 26, 2021

VIA EMAIL

Cindy Parker, Co-panel Manager
Impact Assessment Agency of Canada
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Dear Ms. Parker:

RE: Comments on the Environmental Impact Statement for the Proposed Marathon Palladium Mine CEAA Registry # 54755

Thank you for the opportunity to comment on the Environmental Impact Statement (“EIS”) and Volumes 1 and 2 of the EIS Addendum for the proposed Marathon palladium mine project “the Project”) by Generation PGM Inc. (“GenPGM”).

Environment North is a registered charitable organization based in Thunder Bay, Ontario. Our goal is to benefit the community by protecting the environment and increasing the public's understanding of environmental issues. Environment North strives to improve and protect ecological sustainability and the socio-economic well-being of Northwestern Ontario through leadership, research, partnerships, education, advocacy, information and capacity building.

Please find enclosed:

1. A report specific to the climate impacts of the project prepared by our legal counsel, Kerrie Blaise of the Canadian Environmental Law Association
2. A socio-economic review of the project’s impacts by our expert, Dr. Karen Peterson.

In addition to the above, we adopt the other submissions of Mining Watch Canada and Citizens for Responsible Industry in Northwestern Ontario in their comments.

Sincerely,

GVS

Graham Saunders
President, Environment North
Email: weatherw@tbaytel.net
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**Review of Climate Impacts of the Marathon Palladium Project
by Environment North to the Joint Review Panel**

July 26, 2021

**Prepared by: Kerrie Blaise, Legal Counsel
Canadian Environmental Law Association**

I. INTRODUCTION

Environment North submits this review of climate impacts in response to the Joint Review Panel’s public notice revised June 2, 2021, inviting comments on the Environmental Impact Statement (“EIS”) and Volumes 1 and 2 of the EIS Addendum (the “EIS documents”) for the proposed Marathon palladium mine project “the Project”) by Generation PGM Inc. (“GenPGM”).

In summary, Environment North submits that:

- Climate change is a necessary and critical aspect of development which has been overlooked in GenPGM’s consideration of sustainability and is necessary to meet the purposes of the *Canadian Environmental Assessment Act, 2012* (“CEAA 2012”) and uphold international climate agreements;
- Climate change is a relevant consideration in assessing environmental effects under CEAA 2012 and should be integrated within the review of all ecological sensitives and Valued Environmental Components;
- Greenhouse gas emissions should be publicly reported given the stated interest of the public in this project and concerns about its climate impacts; and
- The environmental assessment of the Marathon mine is premature and should be delayed until it can be demonstrated that climate change has been incorporated within the process and at a minimum, all direct emissions have been responsibly measured and offset.

II. COMMENTS ON THE EIS AND EIS ADDENDUM

(1) Climate change is a necessary component of sustainable development

Environment North submits GenPGM’s consideration of climate impacts is wholly insufficient and for the reasons detailed below, fails to meet the purposes of the CEAA 2012, specifically section 4(h) which is “to encourage federal authorities to take actions that promote sustainable development in order to achieve or maintain a healthy environment and a healthy economy.” This provision is reflected in the EIS Guidelines, including section 1.2.3 which lists sustainable

development as guiding principle for EA and section 2.4.1 which requires sustainable development to be demonstrated in a proponent’s assessment of alternatives.¹

First, climate change is a development issue requiring consideration by GenPGM within its sustainability assessment.² To achieve sustainability requires meeting climate commitments and preserving a viable legacy for future generations.³ While GenPGM references its role in enabling a “sustainable future”⁴ and asserts the project “will support achievement of a successful and sustainable future,”⁵ the project’s alignment with sustainability is otherwise constrained to a narrow accounting of greenhouse gas emissions (GHGs). What is necessary, is for GenPGM to assess the project in light of climate impacts, specifically (1) mitigation, (2) adaption, and (3) loss and damage effects.

Mitigatable impacts are those which can be prevented, reduced or offset through specific strategies aimed at reducing GHGs or increasing GHG sinks. Adaption refers to adjustments to actual or expected consequences due to the variation in natural or human systems.⁶ Loss and damage are those effects which can neither be mitigated against nor adapted to.⁷

Table 1, below, reviews some examples of mitigatable, adaptation and loss and damage effects considered by GenPGM and proposes recommendations in light of the EIS documents’ deficiencies.

Table 1. Project alignment with sustainability

	Proposed in EIS	Recommendations
<p>Mitigatable Impacts</p> <p>Impacts which can be prevented, reduced or offset through specific strategies aimed at reducing GHGs or</p>	<p>Optimizing the mine design by centralizing infrastructure and improving haul truck routes to reduce travel distances; using energy-efficient equipment where practical; management of fuel use by proper vehicle maintenance, reducing idling times, optimizing vehicle movements, fuel use</p>	<ol style="list-style-type: none"> 1. To document and test the effectiveness of specific mitigation measures, tracking and monitoring is needed to gauge efficacy. 2. Robust monitoring and evaluation is needed to drive success and continuous identification of mitigation activities.

¹ IAAC, “Appendix B - EIS Guidelines and Updated Joint Review Panel Terms of Reference” (2021), online: <https://iaac-aeic.gc.ca/050/documents/p54755/139025E.pdf>

² P Byer et al, “Climate Change in Impact Assessment: International Best Practice Principles” (2012) 8 IAIA Special Publication Series, p 1.

³ B Gibson, “Assessment law is still too vague to achieve lasting green goals,” (2019), online: <https://policyoptions.irpp.org/magazines/october-2019/assessment-law-is-still-too-vague-to-achieve-lasting-green-goals/>

⁴ GenerationPGM, “Volume 1 of 2, 2.0 Project Scoping,” (2021), p 2.6 [**Project Scoping**]

⁵ GenerationPGM, “Volume 1 of 2, 1.0 Background and Information,” (2021), p 1.8 [**Background**]

⁶ Executive Summary, p 36

⁷ Background, p. 1.53

	Proposed in EIS	Recommendations
increasing GHG sinks ⁸	tracking, exploring the use of biodiesel and Trolley Assist; and, exploring the possibility of CO2 capture in construction concrete and processed solids stream ⁹	
	Mitigation measures proposed for fish and fish habitat, including required offsets for the loss of fish habitat ¹⁰	3. Offsets specific to greenhouse gas emissions should be a requirement, as is already practiced when there is potential harm to fish or loss of fish habitat.
Adaption Adjustments to actual or expected consequences due to the variation in natural or human systems ¹¹	Alternatives assessment for permanent mine waste stockpiles consider “environmental factors” ¹²	4. Climate factors should be a necessary inclusion within an alternatives’ review of “environmental factors”
	Catch basins and collection system will be sized based on a 1 in 25 year rainfall event; overflow spillways sized to convey 1 in 100 year rainfall event ¹³	5. Environmental baselines often rely on historical climate data, which does not represent future environmental conditions and therefore does not accurately predict impacts. All project components within each of the three phases (ie. construction, operations and decommissioning) should be evaluated against climate forecasts and modelling.
Loss and damage	Residual effects include permanent lowering of the groundwater table as a	6. Harm to nature, life support systems and community on a global scale should be presumed

⁸ A Majekolagbe, “Impact Assessment, Sustainability, and Climate Change: Lessons from Lower Churchill” (2021) Dalhousie Law Journal, online:

<https://digitalcommons.schulichlaw.dal.ca/cgi/viewcontent.cgi?article=2160&context=dlj>, p 83 [Majekolagbe, 2021]

⁹ GenerationPGM, “Volume 2 of 2: Table of Contents, Abbreviations and Executive Summary” (2021), p 33 [Executive Summary]

¹⁰ Executive Summary, p 36

¹¹ Executive Summary, p 36

¹² GenerationPGM, “Volume 1 of 2: 3.0 Project Alternatives” (2021), p 3.17 [Project Alternatives]

¹³ Background, p. 1.53

	Proposed in EIS	Recommendations
Effects which can neither be mitigated against nor adapted to ¹⁴	consequence of dewatering open pits; increase in concentration of constituents in groundwater and surface water relative to background conditions; change in contributing subwatershed area due to the construction of Project infrastructure and resulting water management, as well as Project-related effluent discharge; transport of solids to watercourses or water bodies through erosion of disturbed areas ¹⁵	<p>when considering GHG emissions from projects.¹⁶</p> <p>7. GenPGM should develop a GHG emissions management plan to (1) identify viable pathways to net-zero GHGs and (2) set GHG reduction goals.</p> <p>8. GenPGM must be responsible for its emissions in line with the polluter-pays principle, obligated to offset said emissions.</p> <p>9. GenPGM must, at a minimum, be mandated to be emissions (carbon)-neutral¹⁷</p>

Second, considering climate change within EA is not simply an assessment of whether a project aids in meeting Canada’s climate objectives, but rather whether the project itself is aligned with sustainability. The following questions assist in determining whether a project is aligned with sustainability:

- Does the project cause, induce, or exacerbate extreme weather events or slow onset events?
- Does it irreversibly alter an ecosystem?
- Does it make a community less resilient?
- Does it affect its life support systems?
- Does it sustain nature, life support systems and the community?¹⁸

Table 2 below offers a brief summary of differences between a traditional approach to climate change. As drafted, GenPGM’s EIS documents reflect a traditional approach to climate change in EA.

¹⁴ Background, p. 1.53

¹⁵ Executive Summary, p 36

¹⁶ Majekolagbe, 2021, p 84

¹⁷ Majekolagbe, 2021, p 84

¹⁸ Majekolagbe, 2021, p 84

Table 2. Summary of Climate Change in Traditional IA and Sustainability based IA¹⁹

Climate Change in Traditional EA	Climate Change in Sustainability
Mitigation focused	Mutually considers mitigation, adaptation and loss and damages
Based on project’s contribution to national mitigation commitment	Applies a presumption of harm approach
Project’s emission intensity is determined on an individual project basis	Effects are considered cumulatively
Negative contribution to global warming is a primary contribution	Emphasizes positive contribution to nature, life support system, and the community
Trade-off is resolved in favour of emission mitigation	Trade-off is resolved in favour of overall contribution to sustainability

Third, the United Nation’s Framework Convention on Climate Change (“Convention”), of which Canada is a signatory, offers further interpretive value to *CEAA 2012*’s purpose of promoting sustainable development. The Convention requires that Parties promote sustainable development “to protect the climate system against human-induced change.”²⁰ This is based on the recognized need to protect the climate so that all countries have access to the resources required to achieve sustainable social and economic development.²¹ As a result, it is the ultimate objective of the Convention that greenhouse gases be stabilized at level which prevents dangerous anthropogenic interference with the climate system and enable economic development which proceeds in a sustainable manner.²²

Recommendation No. 10: In order to fulfill *CEAA 2012*’s purpose of promoting sustainability development and uphold international climate commitments, GenPGM must incorporate consider climate *within* sustainability.

Recommendation No. 11: Environment North recommends the JRP’s considerations of sustainability be of high priority in its assessment of the project because of the interrelated socio-economic and biophysical implications of the proposed mine. It is crucial - to ensure a sound EA process from the outset - that the JRP require GenGPM to include both (1) climate considerations within any assessment of sustainability and (2) the project’s alignment with sustainability.

(2) Climate change is a relevant consideration in assessing environmental effects

Environment North submits the GenPGM has not provided sufficient information to meet *CEAA 2012*’s list of environmental factors that must be taken account in an environmental assessment and decision of the JRP. Section 19 of the *CEAA 2012* enumerates the factors to be considered

¹⁹ Majekolagbe, 2021

²⁰ United Nation’s Framework Convention on Climate Change, Article 3

²¹ United Nation’s Framework Convention on Climate Change, Preamble

²² United Nation’s Framework Convention on Climate Change, Article 2

when conducting an EA such that it can be determined whether “the designated project is not likely to cause significant adverse environmental effects or that the significant adverse environmental effects that it is likely to cause are justified in the circumstances.”²³

The integration of environmental factors into federal decision-making remains a central purpose of federal EA law and this must be reflected in the GenPGM’s EIS documents.²⁴ Section 19(1)(a) requires that the EA take into account “the environmental effects of the designated project ... and any cumulative environmental effects that are likely to result from the project in combination with other physical activities that have been or will be carried out.”

The definition of environmental effects set out in section 5(1) includes “a change that may be caused to the environment that would occur... in a province other than the one where the... project is being carried out, or outside Canada”.²⁵ It is under this provision that GHG emissions from the project must be evaluated and assessed.

As drafted, GenPGM’s EIS documents categorize climate change and greenhouse gases as one “component” of the Atmospheric Environment “valued environmental component” (VEC).²⁶ As a result, the component of climate change/greenhouse gas accounts for one of over fifty VECs reviewed in the EIS. This approach is problematic for a number of reasons: *first*, Environment North submits climate change should not be identified as single component with the 12 VECs and rather, should be integrated with all ecological sensitives and VECs reviewed in the EIS. The gaps caused by this compartmentalized approach are summarized in **Table 3**.

Second, an analysis of environmental effects is not simply a deduction of human-induced stresses on ecological systems. Rather, it requires an analysis of impacts on maintaining the integrity of these systems and associated life support functions.²⁷

Third, mining infrastructure – including tailings ponds and waste management areas – have been designed on the assumption that the climate is *stable*.²⁸ Therefore, the risk of structural failure due to the forces of climatic changes in all stages from construction, operations, and post-closure, is of great concern.²⁹

Extreme rainfall, rain, snow and rapid melting events pose specific risks to mine sites because they can overwhelm site drainage and diversion structures, thereby causing excess runoff to tailings impoundment areas.³⁰ This in turn can lead to erosion, slope instability and the rapid increase of water levels and threaten releases of acid rock draining and other contaminants into the environment. Changes in temperatures can also affect mine sites, by altering the availability

²³ CEAA 2012, s 7(b)

²⁴ B. Hobby, “Canadian Environmental Assessment Act: an Annotated Guide” (2019-) Toronto: Thomson Reuters

²⁵ CEAA 2012, 5(1)(b)

²⁶ Project Scoping, p 2.3-2.4

²⁷ Gibson R (2005) Sustainability Assessment: Criteria and Process. Earthscan, London, p 97

²⁸ T Pearce et al. “Climate change and mining in Canada” (Mitigation and Adaptation Strategies for Global Change, 2011), p 12 [Pearce, 2011]

²⁹ Pearce, 2011, p 13

³⁰ Pearce, 2011, p 15

of water (ie. due to prolonged droughts) and triggering increased evaporation from tailings ponds and potentially exposing or re-exposing metals and contaminants below.³¹

Table 3. Climate omissions within Valued Environmental Components (VEC)

VEC	Comments in EIS	Climate Relevancy	Recommendations
Section 6.2.3: Water Quality and Quantity	No express mention of “climate”		
	Water level in Hare Lake throughout mine life determined based on changing inflow rate as a result of project activities ³²	Climate impacts like droughts can lead to increased sensitivity to pollution loading in surface watersheds ³³	12. Study effect of water levels in Hare Lake when inflow from project is disrupted or changed due to climate events like droughts or floods.
	Ice-free periods in Hare Lake set as April to November ³⁴	Changes to freeze/thaw cycle are occurring as a result of climate change	13. Re-evaluate water management practices using scenarios where there is lesser/greater ice-free months and greater seasonal variability.
	Suspension of particulate/sediments from site discharges applicable at all project phases ³⁵	Climate exacerbated flooding events can lead to erosion and unscheduled release of contaminated effluents ³⁶	14. Review resiliency of local and regional study areas to increased risk of sediment deposition.

³¹ Pearce, 2011, p 16

³² GenerationPGM, “Volume 2 of 2: 6.2.3 Water Quantity and Quality,” (2021), p 6.2.3, 6.140 [**Water Quantity and Quality**]

³³ German Environment Agency, “Impacts of climate change on mining, related environmental risks and raw material supply: Final Report,” (2020), online: https://www.umweltbundesamt.de/sites/default/files/medien/479/publikationen/texte_106-2020_impacts_of_climate_change_on_mining_related_environmental_risks_and_raw_material_supply.pdf, p 69

[German Environment Agency]

³⁴ Water Quantity and Quality, p 6.2.3, 6.140

³⁵ Water Quantity and Quality, p 6.100

³⁶ Water Quantity and Quality, p 71

VEC	Comments in EIS	Climate Relevancy	Recommendations
			15. Review drainage system sufficiency to respond to extreme precipitation events.
Section 6.2.4: Fish and Fish Habitat	No express mention of “climate”	Temperature and ice cover influence evolution and ecological adaptation of freshwater fish ³⁷	
	Potential effects and pathways set out in Table 6.2.4-1	“Freshwater ecosystems are among the most threatened in the world. The lakes and rivers of northern Ontario are part of the single largest area of high fish biodiversity that has experienced the least amount of human alteration in Canada.” ³⁸	16. Mitigation and compensation plans must contain detailed measures to verify effectiveness of strategies and include contingency actions to take if measures were not successful. ³⁹
Section 6.2.5: Terrain and Soils	No express mention of “climate”	Climate change exacerbates land	17. For each project which interacts with terrain and soil and will result in a change to soil quality, mitigation

³⁷ C Chetkiewicz et al “Climate Change and Freshwater Fish in Ontario’s Far North” (2012), online: <https://www.wcscanada.org/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=14249&PortalId=96&DownloadMethod=attachment> [Chetkiewicz 2012]

³⁸ Chetkiewicz, 2012

³⁹ As reported by the Commissioner of the Environment and Sustainable Development in its “Report 2 – Protecting Fish from Mining Effluent” (2019), online: https://www.oag-bvg.gc.ca/internet/English/parl_cesd_201904_02_e_43308.html#hd4a, s 2.36

[H]alf of the compensation plans that were related to construction work missed some detailed measures to address the loss of fish and their habitat. For example, some plans lacked measures to verify their effectiveness and cost. Others lacked details on contingency actions to take if measures were not successful. These detailed measures are important elements in fish habitat compensation plans.

VEC	Comments in EIS	Climate Relevancy	Recommendations
		degradation; spurs soil degradation ⁴⁰	measures should be detailed and not broadly considered.
	Removal, relocation and stockpiling of soil could result in losses of material volumes through slumping and erosion; fugitive emissions from land clear/site development; mitigation plan to avoid or reduce effects proposed ⁴¹		18. Regeneration of lands and disturbed areas should not rely on natural revegetation processes. GenPGM should be required to rehabilitate disturbed areas and create opportunities to restore biomass (which has co-benefits for GHG uptake) ⁴²
Section 6.2.6 Vegetation	No express mention of “climate”		
	40 species of non-native flora observed in the LSA with species being “most abundant along trails and road” ⁴³	Climate change accelerates the introduction and spread of invasive species ⁴⁴	19. For each invasive specie identified, best management practices should be set out, see for instance: Best Management Practices Database ⁴⁵
	Mitigation through invasive species awareness and control program proposed ⁴⁶	IUCN states it is “essential” that invasive species be incorporated in climate change policies as spread	20. Require mitigation efforts that respond to the threats posed by the expansion of road networks, introduction of invasives via vehicle

⁴⁰M Howden, “UN climate change report: land clearing and farming contribute a third of the world’s greenhouse gases” (2019), online: <https://theconversation.com/un-climate-change-report-land-clearing-and-farming-contribute-a-third-of-the-worlds-greenhouse-gases-121551>

⁴¹ Water Quantity and Quality, p 6.234

⁴² IPCC, “Special Report on Climate Change and Land – Ch 4 Land Degradation” (2019), online: <https://www.ipcc.ch/srccl/chapter/chapter-4/>

⁴³ GenerationPGM, “Volume 1 of 2, 4.0 Environmental Setting,” p 4.48; GenerationPGM, “Volume 2 of 2 – 6.2.6 Vegetation” (2021), p 6.256 [Vegetation]

⁴⁴ Invasive Species Centre, “Invasive species in a changing climate” (2021), online: <https://www.invasivespeciescentre.ca/invasive-species/what-is-at-risk/climate-change/> [Invasive Species Centre]

⁴⁵ Invasive Species Centre

⁴⁶ Vegetation, p 6.241

VEC	Comments in EIS	Climate Relevancy	Recommendations
		and establishment of invasives is compounded by climate change ⁴⁷	and imported fill which creates new and additional pathways for the spread of invasives 21. Require rapid response, reporting and control methods for each stage of operations (construction, operation, decommissioning) to prevent introduction and spread of invasives

(3) Greenhouse gas emissions should be publicly reported

GenPGM has identified carbon dioxide (CO₂), nitrous oxide (N₂O) and methane (CH₄) as the greenhouse gases relevant to the project,⁴⁸ noting the potential pathways for GHG releases include vegetation removal, fuel combustion, electricity generation and blasting. GenPGM also states that GHG emissions rates will be measured in tonnes CO₂ equivalents per year, wherein the emission rate of each substance will be multiplied by its global warming potential, to report a carbon dioxide equivalent.⁴⁹

First, Environment North requests the EIS documents clarify if all GHGs have been included and reviewed. In line with the United Nations Framework Convention on Climate Change, reporting on emissions is required for seven GHGs: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride and nitrogen trifluoride. Currently, only three of seven appear in the EIS documents.

Second, Environment North requests GenPGM be required to report GHGs to Environment and Climate Change Canada as part of the federal *Greenhouse Gas Reporting Program*. For facilities which do not exceed 10 000 tonnes per year of CO₂ equivalents, reporting is not required.⁵⁰ However, given the stated interest of the public in this project and its climate impacts, public report of GHGs should be required.

⁴⁷ IUCN, “Invasive alien species and climate change,” (2021), online: <https://www.iucn.org/resources/issues-briefs/invasive-alien-species-and-climate-change>

⁴⁸ Atmospheric Environment, p 6.13

⁴⁹ Atmospheric Environment, p 6.13

⁵⁰ Canada, “Reporting greenhouse gas emissions” (2021), online: <https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/facility-reporting/reporting/questions-answers.html>

IV. CONCLUSION

Environment North provides these comments to aid the JRP in its sufficiency analysis of GenPGM's EIS. Currently, the EIS documents do not provide a clear narrative of climate impacts, beyond calculating and quantifying GHGs.

The environmental assessment process is well suited to climate change considerations – in part because it allows for an early accounting of a project's impacts – however its success is dependent upon the information provided by the proponent. In this instance, GenPGM has not provided the requisite basis for the JRP to consider the project's impact on sustainability per the purposes of *CEAA 2012* nor demonstrate conformance with international climate commitments.

Environment North respectfully submits the environmental assessment for the Marathon mine is premature and should be delayed until it can be demonstrated that climate change has been incorporated within the process and at a minimum, all direct emissions have been responsibly measured and offset. Ultimately, the effects of unmitigated local emissions are global and no matter the quantum of harm, all emissions are additive and contributory.⁵¹



Kerrie Blaise
Northern Services Legal Counsel
Canadian Environmental Law Association

Per
ENVIRONMENT NORTH

⁵¹ Majekolagbe, 2021, p 84

**Review of Socio-Economic Environment of the Marathon Palladium Project
Submitted by: Environment North to the Joint Review Panel**

July 26, 2021

**Prepared by: Karen A. Peterson, PhD
Planning, Development & Impact Assessment**

I INTRODUCTION:

Environment North submits this review of socio-economic impacts in response to the request for comments on the Joint Review Panel's public notice revised June 2, 2021, on the Environmental Impact Statement ("EIS") and Volumes 1 and 2 of the EIS Addendum (the "EIS documents") for the proposed Marathon palladium mine project "the Project") by Generation PGM Inc. ("GenPGM").

This review pertains to the sufficiency of information provided by GenPGM regarding the prediction and assessment of the Project's social and economic effects on the Town of Marathon and surrounding communities. Relevant sections of the EIS document, Stillwater and GenPGM's supporting documents, community and regional profiles, local planning documents and interviews with key stakeholders were considered in this review along with pertinent literature and/or reports related to the effects of extractive industries in northern regions and best practices for socio-economic impact assessment and public involvement. Community issues and concerns were assessed in relation to GenPGM's assessment process, methods for analysis and communication of results.

In summary, Environment North submits that:

- Meaningful public participation throughout the Project is imperative to ensure inclusion of community values from the outset of project scoping through identification and interpretation of VECs, anticipated effect of Project activities, identification of mitigation strategies, determination of residual significance ratings, to mine closure and thereafter.
- Impact Assessment needs to incorporate divergent public/community perspectives given the potential for adverse as well as beneficial effects that can have for long term consequences and the implications for community well-being.
- Cumulative Effects needs to consider changes caused by past, present and future human activities and natural processes.
- The environmental assessment of the Marathon mine is premature and should be delayed until it can be demonstrated that the public has been involved in a meaningful manner and their values have been duly incorporated within the decision making process and reflected in the decisions made. Environment North strongly encourages the Agency to require the proponent to provide more rigour to their assessment process. All direct impacts need to identify measures for periodic review and monitoring, offset by the agreement of stakeholders potentially affected by the Project.

II. COMMENTS ON THE EIS AND EIS ADDENDUM

(1) Meaningful public participation throughout the project ensures inclusion of community values

Environment North submits that the review process is just as significant as the stated results. Structuring processes to incorporate community's perspectives requires working together, relationship building, collaboration and compromise to build and maintain capacity, mutual understanding of issues and confidence by the public in the decisions that affect their lives.

GenPGM describes their public consultation process and the various methods that were utilized such as site tours, community visits, publications, meetings, information sessions, presentations to councils, open houses, websites, drive up information board, radio, websites, display boards, u-tube, and news briefs. These forms of public engagement are primarily passive in nature focussed on information sharing, providing details of the project and inviting comments from the public. Information flow of this type relates to the planning conventions depicted as Step 3 of the Arnstein's Ladder of Public Participation which is the 'informing' stage, found at: <https://www.citizenshandbook.org/arnsteinsladder.html>. Informing is generally a one-way communication strategy that mainly result in only minor adjustments. Informing does not denote, nor reflect the concept of meaningful public participation which requires relationship building and collaboration to bring forth the community values critical for long term success of the project, avoidance of conflict and constrained relations with the nearby communities as well as confidence in the process by various stakeholders.

Although working committees have been established to ensure social accountability, information is not provided regarding who is on the committee or who/what perspectives they represent. Besides the Chamber of Commerce and Marathon's Town Council, there are service and recreation clubs and organizations that have particular interests which can add value to VEC selection, impact identification, information requirements, best means of collection, interpretation of impacts, trade-offs and monitoring. Despite restrictions due to covid, review groups could have been organized through technologies such as Zoom and community surveys distributed. Without their direct inclusion in the structure of GenGPM's engagement strategy, active public involvement is truncated and mitigation strategies limited.

The data used regarding the available labour supply is taken from the 2011 census. A forecast to the current decade is not provided which could provide a clearer picture of the number of retirees, local working age population, etc. Labour force projections enable proactive planning for regional sustainability of the local workforce to reduce youth out-migration, re-employ laid-off workers and provide incentives for return of workers who left the region or are commuting to jobs elsewhere. These projections as well would need to consider the economic changes in the region over the past decade and its resulting effect on demographics.

Table 1 below provides a summary of Environment North's comments regarding GenPGM's public participation methodology and Environment North's recommendations to address insufficiencies.

Table 1. Broaden the scope for meaningful public engagement

Issue	Described in EIS	Recommendations
Meaningful Public Participation	Public involvement methods identified in Volume 5, Consultation and Engagement, include passive rather than active forms of inclusion. Specific information regarding structure and of the Working Committees are not described.	<ol style="list-style-type: none"> 1. Utilize collaborative mechanisms to further enable the public to participate in a meaningful way regarding the decisions that affect their lives. 2. Work together with the community to identify: (a) What perspectives need to be represented. (b) Who is best to represent those perspectives. (c) When committees should meet. (d) What type of information to collect and at what level of detail; (d) How to include public perspectives in the decision making?

(2) Impact assessment & monitoring is a critical driver of Project operations

Environment North submits that GenPGM has not provided a robust evaluation process. A thorough assessment of impacts is critical to identify potential effects early in the process and determine the appropriate response before there are serious or irreversible effects.

For the socio-economic environment, GenPGM’s overview of their process for assessment and significance rating pales in comparison to the expectations of a Joint Review. The process is basically desk top research, utilizing broad descriptions of thresholds and methods rather than specifics and relying on conventional mitigation strategies. Sources of primary data collection are undefined and vague terminology is often used, eg. *‘may also result in’*, *‘predicted to not be significant’*, *‘may also be incompatible with land use plans and zoning’*, *‘may affect nearby landowners’*, *‘has the potential to affect harvesting activities’*, *‘could increase competition for species’*. This type of terminology conveys assumption and conjecture. The rating descriptions of high, medium, and low are defined differently for different VECs and the rationale for the resulting significance rating is not thoroughly explained which leads to confusion. It would also be helpful to the reviewer, if rating descriptions are located close to the analysis for ease of reference.

GenPGM describes their evaluation as being conservative in order to overcompensate for information limitations and data availability and they overstated rather than understated risk. Confidence is justified by their knowing the effectiveness of mitigation and having trust in the experience of the team. This methodology resulted in most impact significance ratings as ‘not significant’. Confidence in the ratings is identified as medium because of data limitations and availability of specific information such as intensity or extent of use of community services,

infrastructure or lands. Justification for the rating is due to the environmental effects being well understood and the standard mitigation responses have been successfully practiced in previous mining projects.

VEC’s designed and evaluated in-house, derived from secondary data and interpreted by industry reduces public confidence. GenPGM assessment requires enhanced public involvement through community surveys and establishing a public review group consisting of representatives from various community clubs or organizations in order to bring forth a diversity of views, values and opinions within the social context. Public review groups facilitate two way communications that can contribute to the selection and description of VECs, incorporating social values and priorities regarding the nature of impact, mitigation strategies and significance ratings. Such an approach would improve confidence and social accountability. Risks regarding potential impacts need to be managed as well as identified. A risk management approach should be an ongoing, iterative process where response strategies are re-assessed at regular intervals. Responses to risk include acceptance, avoidance, reduction or shared/transferred to another partner/agency. Methods to address these options include monitoring the impact, eliminating it, instituting controls or entering into agreement with a viable partner. In regards to the capacity issues identified for Biigtigong Nishnaabeg (BN), for example, the barriers for participation and resulting identification of mitigation strategies were deemed to be the responsibility of government through the Department of Indigenous Services Canada (ISC). However, indication that an agreement has been entered into with BN and ISC or GenPGM and ISC to ensure the government will commit to the mitigation required that would enable BN members to participate meaningfully in the Project.

Table 2 below provides a summary of the shortfall in the document regarding the methodology used to conduct the impact assessment and recommendation to address the insufficiency.

Table 2: Broaden the scope for the methodology used in the impact assessment process.

Issue	Described in EIS	Recommendations
Impact Assessment	The impact assessment regarding potential socio-economic impacts utilized vague terminology, was disjointed, relied on secondary sources of information, faith in conventional strategies for mitigation, and experience of team members and lacked inclusion of a	<ol style="list-style-type: none"> <li data-bbox="850 1440 1442 1545">3. Conduct community surveys to determine frequency and extent of use of community services, infrastructure and land use. <li data-bbox="850 1587 1442 1766">4. Establish review groups for direct involvement in the impact assessment process from the identification and description of VECs to development of the monitoring program. <li data-bbox="850 1808 1442 1871">5. Format the evaluation process and communication of results in a manner that

Issue	Described in EIS	Recommendations
	diversity of public interest views.	<p>facilitates ease of reference for public scrutiny and interveners.</p> <p>6. Develop a rating scale of with consistent criteria for dependability, clarity and ease of reference and understanding by the Agency, the Joint Review Panel, the public and reviewers.</p>

(3) Cumulative effects considers changes caused by the combined impact of past, present and future human activities and natural processes.

Environment North submits there is insufficient information regarding past, present and future activities that collectively could cause adverse effects to the environment and people. The number of sensitive land uses, their proximity, land use conflicts, intensity of impact or its duration contributes pressure to sensitive land uses. Scant attention has been given to other projects occurring in the region such as the East-West Transmission Tie-Line. The proposed North Shore Gas Project involving Marathon, Terrace Bay, Schreiber, Manitouwadge and Wawa is not reflected in the analysis. A project specific lens is not adequate to determine the incremental effects from past, present and future human actions to which the GenPCM will contribute. Issues that need to be considered are the inter-action of processes, permeable spatial boundaries, and the complexity of the causation of impacts.

Table 3 below provides a summary and recommendations regarding the limitation in GenPGM’s document regarding cumulative effects

Table 3: Cumulative Effects

Issue	Described in EIS	Recommendations
Cumulative Effects	No express discussion of cumulative effects.	6. Conduct a cumulative effects assessment that considers past, current and future uses in relation to the number of sensitive land uses, their proximity, land use conflicts, intensity of impact or its duration.

CONCLUSION:

Table 4 on the following pages, provides a synopsis of GenPGM’s socio-economic VEC’s, their approach to impact assessment and Environment North’s recommendations. Environment North

provides these comments to aid the JRP in its sufficiency analysis of GenPGM's EIS. The Joint Review Process is well suited to a comprehensive review of Project operations and their potential social and economic impacts because it allows for an early accounting of a project's impacts on the communities in the vicinity. Its success is dependent upon the methods and practices of the proponent and the degree and nature of public involvement. In this instance, the proponent has taken a truncated approach to the inclusion of community values and perspectives and has relied primarily on secondary data sources as well as past experience with other projects and current knowledge of mitigation strategies to inform their mitigation strategies and significance ratings.

Environment North submits that the environmental assessment of the Marathon mine is premature and should be delayed until it can be demonstrated that the public has been involved in a meaningful manner and their values duly incorporated within the decision making process and reflected in the decisions made. Environment North strongly encourages the Agency to require the proponent to provide more rigour to their impact assessment process. All direct impacts need to identify measures for periodic review and monitoring that are offset by agreement with the stakeholders potentially affected.

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References:

1. Arnstein's Ladder of Public Participation:
<https://www.citizenshandbook.org/arnsteinsladder.html>
2. Marathon Strategic Plan 2019 – 2022 Community Driven – Marathon Made
3. Stantec et al. Marathon Palladium Project Environmental Impact Statement Addendum VOLUME 2 OF 2 5.0 Consultation and Engagement, April 2021
4. Stantec, et al. Marathon Palladium Project Environmental Impact Statement Addendum VOLUME 2 OF 2 6.2.9 Socio-Economic Environment, April 2021

Environment North’s Review of GenPGM’s Socio-Economic VEC’s & Recommendations

Table 4

VEC	Existing Conditions	Anticipated Effect	Mitigation & Significance	Recommendation
Demographics	<p>Declining population</p> <p>Community Well-Being, education levels and labour force participation rates lower in FN communities</p> <p>Competition for workers due to other developments in the region such as the East/West Tie Line and the proposed Natural Gas.</p>	<p>Demand for labour will exceed local availability for construction and operations</p>	<p>Expats and workers primarily from Ontario and other provinces to relocate temporarily or permanently</p> <p>Specialized labour sourced from outside RSA</p> <p>Recruit from local communities</p> <p>Provide training</p> <p style="text-align: center;">Not significant</p>	<p>Provide specific information regarding predicted number of employees expected to move into the region on a permanent/semi-permanent basis or the predicted number who may be flying in and out on rotation as well as prediction of household composition for planning purposes.</p>
Accommodation (housing) available	<p>2015 Vacancy rates for rentals 1.7% – 3%</p> <p>2020 Vacancy rates for ownership – 0%</p> <p>Competition for accommodation due to other developments in the region such as the East/West Tie Lie and the proposed Natural Gas.</p>	<p>project demand would exceed capacity</p> <p>project workers placing additional demands on permanent and temporary accommodations</p>	<p>Proposed Accommodation Complex with individual modular units with shared bathrooms, show facilities and common areas</p> <p>Local hotels and rental accommodations</p> <p>may also be potential to expand existing capacity through advanced planning and investment to accommodate new development</p> <p style="text-align: center;">Not Significant</p>	<p>Provide a prediction of household composition.</p> <p>Work together with municipality regarding Accommodation Complex design</p>

VEC	Existing Condition	Anticipated Effect	Mitigation & Significance	Recommendation
Education & Training	<p>Elementary & secondary school enrollment operating below capacity</p> <p>Labour force supply not trained in direct or indirect employment opportunities</p>	<p>anticipated demand for elementary and secondary schools would exceed capacity due to influx of workers with families</p> <p>p. 6.433- elementary and secondary operating below capacity so should be able to accommodate Project related increases to enrollment</p>	<p>Provide training</p> <p>Provide awareness to students regarding employment opportunities in mining industry</p> <p>Not Significant</p>	<p>Provide predictions on household compositions</p> <p>Develop policies to train and hire from within the RSA as a priority</p> <p>Collaborate with the municipality, education/training providers to develop training tailored to meet Project needs.</p> <p>address regional sustainability needs of the local workforce such as youth retention and re-employment of laid off workers as well as ensure a match between employer needs and the training and education programs provided</p>
Community Infrastructure Demand	Gaining infrastructure	<p>anticipated additional demands on community and transportation services would exceed capacity</p>	<p>Engage with municipal authorities to coo-ordinate planning of infrastructure or upgrades</p> <p>Implement a Waste Management Plan</p> <p>Not Significant</p>	<p>Provide funding support to enhance community infrastructure to accommodate Project employee demands to avoid increased financial burden on town or local tax payers</p> <p>Further analysis of wear and tear on provincial highways due to increased truck traffic hauling heavy equipment and product from the mine site.</p> <p>Provide prediction regarding reduction in lifespan for use for industrial waste.</p> <p>Work together with Town of Marathon to develop a Waste Management Plan</p>

VEC	Current Condition	Anticipated Effect	Mitigation & Significance	Recommendation
Community Services Demand	Loss of volunteers due to declining population resulting from Hemlo reduction in labour requirements	Anticipated additional demands on community services would exceed capacity	<p>Some services provided at Accommodation Complex.</p> <p>Will provide support to fund key community services or organizations</p> <p>Will provide fitness and recreational programs for workers within the existing facilities</p> <p style="text-align: center;">Not Significant</p>	<p>Provide projections regarding family characteristics and local constraints for each phase of the project.</p> <p>Provide additional opportunities for recreational programs at the Accommodation Complex</p> <p>Consider entering into a Good Neighbour Agreement to include environment, socioeconomic impacts and benefits</p>
Health & Emergency Services Demand	<p>Health and emergency services available in the LSA and RSA.</p> <p>Limited budgets and personnel.</p>	<p>anticipated additional demands on LSA and RSA health and emergency services would exceed capacity</p>	<p>Provide on-site health services and emergency service infrastructure including fire-fighting equipment</p> <p>Co-ordinate emergency preparedness with the town</p> <p style="text-align: center;">Not Significant</p>	<p>Consider hiring a Nurse Practitioner to reduce the pressures on local health Clinics.</p>

VEC	Current Condition	Anticipated Impact	Mitigation & Significance	Recommendations
Traffic		<p>anticipated project demand would exceed capacity</p> <p>Off hours traffic patterns could also have an impact on the safety of the communities as well as the traffic during work hours is not included.</p>	<p>housing complex planned in or near Marathon</p> <p>Encourage car-pooling, bus transport to and from site, encourage employees to observe traffic safety rules</p> <p>Scheduling to avoid peak traffic hours or school pick-ups and drop-offs</p> <p>Not Significant</p>	<p>Assess impacts due to increased policing re traffic & related issues</p> <p>Develop mitigation measures such as codes of conduct, policies and awareness for all staff regarding expected behaviour of good corporate citizens with consequences included for violations.</p> <p>Develop transportation alternatives for off hours traffic. Designate a Human Resources person as a direct liaison with police services.</p>
Employment & Income	<p>Aging workforce near retirement</p> <p>Recent retirees from mining industries</p> <p>Declining workforce age group as Hemlo reducing labour requirements</p>	<p>Hiring and retention of workers direct, indirect and tertiary activities</p> <p>Increased employment stimulates personal and household spending</p>	<p>80 -90% to be hires from RSA communities</p> <p>10 – 20% hiring expatriates, other areas of the province Ontario</p> <p>Provide opportunities for training for local residents to acquire skills with targets for women and indigenous persons</p> <p>Hiring and retention of workers direct, indirect and tertiary activities</p> <p>Specialized labour from outside the RSA</p> <p>Positive Benefit</p>	<p>Conduct impact analysis regarding competition between other developments in the region such as the East-West Tie Line and the proposed Natural Gas project</p>

VEC	Current Condition	Anticipated Impact	Mitigation & Significance	Recommendations
Employment & government revenue	<p>Existing mining labour force exceeds 700 persons mainly for Barrick Gold's Hemlo operations</p> <p>Hemlo site reducing labour requirements from 700 to 300 or 350 persons</p> <p>Tight mining labour supply in Ontario</p>	<p>Increases to GDP due to project expenditures, sustained capital expenditures</p> <p>Income taxes</p>	<p>Positive Benefit</p>	<p>Provide predictions of impacts to provincial highways and access routes due to trucks hauling heavy equipment and mine products.</p> <p>Include mitigation re: increased need for maintenance of highways. Estimate cost and mitigation for education and training.</p> <p>Identify costs for government expenditures for training and education to ensure timely commitments</p>
Economic & Business Development	<p>Declining population and impact of Covid having an effect on sustainability of local businesses.</p>	<p>Project spending will stimulate economic activity</p>	<p>Positive Benefit</p>	<p>Provide information regarding the extent, nature and length of stay of the expected influx of people</p> <p>Provide detailed information regarding expected population growth and increased income levels locally is required for municipalities, local businesses and entrepreneurs to plan or invest in the economy with any degree of certainty.</p>

VEC	Current Condition	Anticipated Impact	Mitigation & Significance	Recommendations
Land & Resource Use including Recreation and Tourism	Forestry operations Hunting, fishing, trapping Indigenous traditional pursuits Recreation – boating, hiking, harvesting	<p>project activities incompatible with sensitive land uses due to nuisance effects such as noise and dust,</p> <p>removal of commercial forest areas</p> <p>loss of land for recreation/tourism</p> <p>increased competition for local hunters, trappers, outfitters and fisheries</p> <p>loss of quality of experience for local users</p> <p>expected negligible effects to harvested species</p>	<p>Hunting not allowed on property</p> <p>Fire arms not allowed on property</p> <p>Not Significant</p>	<p>Conduct noise and emission studies to ensure within or below EPA standards which includes flying rock to ensure public safety</p> <p>Collaborate with key stakeholders regarding access and impacts to lands and resource use .</p> <p>Collaborate with stakeholders regarding mine closure plans.</p>