

May 26, 2022

Environment and Climate Change Canada
351 St-Joseph Boulevard, 12th Floor
Gatineau QC K1A 0H3

Sent via email

RE: Strategic Assessment of Climate Change – Draft Technical Guide: Assessing Climate Change Resilience

The Land and Water Boards of the Mackenzie Valley (the Gwich'in, Sahtu, Wek'èezhii, and Mackenzie Valley Land and Water Boards) (LWBs) would like to thank you for the opportunity to participate in the review of Environment and Climate Change Canada's draft Technical Guide: Assessing Climate Change Resilience (the Guide), related to the Strategic Assessment of Climate Change (SACC).

Although the SACC does not apply in the LWBs' jurisdiction, the LWBs believe it is the best interests of all parties to develop clear guidance on incorporating climate change into project planning and, where possible, to promote consistency across jurisdictions. The LWBs appreciate ECCC's efforts to develop the Guide and would like to offer the following comments and suggestions on the draft.

1. General: The Guide does not provide actual detailed technical guidance on how to conduct a climate change resilience assessment for a project, and it acknowledges that expertise is required to conduct such an assessment. Accordingly, the Guide could be simplified and written in more plain language, so that proponents can more easily understand what the goals of this assessment are before they contract experts.
2. General: The Guide should take the proximity of other projects and potential cumulative effects into consideration. Other projects could potentially affect baseline conditions for valued components over time and could also add to the potential consequences of climate hazards.
3. Glossary: In general, several of the definitions are not clear, and/or do not reflect similar terminology in existing climate change-related guidance, common usage, or how the terms are used in the Guide itself. This makes the Guide difficult to understand. Specifically:
 - a. Adaptation: The last two sentences of this definition are repetitive and could be combined into one clear statement
 - b. Climate change resilience: As currently written, this is not a description of resilience to climate change, but rather of resilience to a single climate-related hazard. Climate-related hazards can occur regardless of whether climate change is occurring, so the current definition does not directly or indirectly incorporate climate change. The definition should be revised to encompass the potential changes in climate-related hazards (e.g., nature, magnitude, frequency, etc.) due to climate change over a project's lifetime – a more accurate description

- of this term is provided in the opening paragraph of section 3. Additionally, this definition should be consistent with the expectations for a project's climate change resilience statement (section 3.3).
- c. Climate impact: The Guide defines 'effects' as inclusive of both positive and negative consequences. The definitions for 'climate change hazard' and 'climate impact' seem to imply that impacts are negative subset of effects. If this is intent, this differentiation should be more clear in the definitions. Note that this differentiation is consistent with how the LWBs use the terms 'effect' and 'impact.'
 - d. Likelihood (in quantifying climate change uncertainty): This definition could be simplified and clarified for the reader as: "The chance of a specific outcome (i.e., insert example), expressed quantitatively and based on quantified measures of uncertainty expressed probabilistically (based on statistical analysis of observations or model results, or expert judgement)." Additionally, this definition would benefit from an example parallel to the example provided in the definition of 'likelihood (in risk analysis).' This would help clarify where the different meanings of the term 'likelihood' would apply.
 - e. Scenario (forcing scenario, emissions scenario): Based on this definition, forcing and emissions scenarios are related in the sense that emissions scenarios are one of the variables used to develop forcing scenarios in climate change modeling. These do not seem to be directly interchangeable terms, so their relationship should be clarified in the definition. Additionally, since emissions would be only one of the variables in a forcing scenario, the use of these terms throughout the Guide should be reviewed to ensure expectations are clear. For example, section 3.1.1 directs proponents to consider a range of forcing scenarios (at a minimum, a low and high), while Appendix A directs proponents to consider a range of emissions scenarios.
 - f. Vulnerability: The current definition is inconsistent with common understanding of vulnerability. Vulnerability typically expresses the susceptibility to the possibility of harm, not the conditions that underly it (i.e., the causes of the vulnerability). This definition could be rephrased as: "The susceptibility (or exposure) of aspects of a project (or related valued components) to the possibility of harm due to the impacts of hazards. Vulnerability is determined by physical, social, economic, and environmental factors and processes."
4. Consideration of multiple scenarios: Although several sections of the Guide direct proponents to consider multiple scenarios in their resilience assessment, it is unclear how the results are supposed to be presented in the assessment results. This is particularly important given the noted uncertainty in climate change projections, and considering that different scenarios affect a project's vulnerabilities in varying ways (i.e., reducing some while increasing others). For example, should proponents focus on identifying and planning for worst-case scenarios for each of the identified vulnerabilities for their project?
 5. Figure 1: Overall, it is unclear how the consideration of a range of scenarios fits into this framework. Additionally,
 - a. the footnotes to this figure seem to be missing;

- b. in step 2, there is a change in terminology – ‘climate change hazard’ is used, but the term in the glossary is ‘climate hazard;’ and
 - c. in step 3, it is unclear what the likelihood scores would be for.
6. Section 3.2.1: The identification of valued components and risk thresholds (i.e., unacceptable risks) should be part of the first step (or the requirement to do so in other guidance should be summarized and referenced).
7. Section 3.2.1 – Project lifetime: For the last sub-bullet, an indication of what is considered a ‘short-term’ project would be helpful. Additionally, it would be helpful to explain whether the bullet above about the expected length of the climate record and predictions still applies for short-term projects, and if so, what the difference would be between the ‘recent’ historical record and a historical record equivalent to the project life.
8. Section 3.2.1 – Project lifetime: The last bullet in this subsection says, ‘project area,’ but it might be more appropriate to say, ‘project life.’
9. Section 3.2.1 – Project type and design elements: The second bullet in this subsection is limited to types of projects; however, it should also include design elements, since the design elements are not necessarily the same for all projects of a given type and can also be similar between different types of projects. This suggestion also reflects the title of this subsection.
10. Section 3.2.2 – Obtain or generate relevant past and future climate information: The link between this task and Step 3 (Risk Analysis) is a bit unclear. Is this task supposed to identify future trends based on historical climate data and trends, and then the modeling scenarios are applied to these baseline predictions in Step 3? Or does this task incorporate predicted trends based on the modeling scenarios to set the stage for Step 3?
11. Section 3.2.3 – Risk Analysis and Guiding Questions: As noted above in relation to Figure 1, it is unclear how the proponent should incorporate predictions for different forcing scenarios (e.g., the minimum low and high forcing scenarios recommended in the section 3.1) in the risk assessment. Are they expected to conduct a risk analysis for each modeled scenario?
12. Section 3.2.3 – Risk Analysis: In the first bullet, it would be more clear to simply say, ‘over the entire project lifespan,’ because it is unclear what is meant by the ‘present and future’ project lifespan.
13. Section 3.2.3 – Risk Analysis: The sub-bullets to the first bullet in this section should clearly explain whether the proponent is expected to evaluate how likely changes in climate hazards are due to climate change projections, or how likely climate hazards are to occur during the project lifespan given climate change projections, or both. For example, the second sub-bullet currently refers to the analysis of the “likelihood for the future likelihood of the various climate hazards that pose risks to the project related to potential future changes in climate,” which does not provide clear direction on what is expected.

Land and Water Boards of the Mackenzie Valley

14. Section 3.2.3 – Risk Analysis: In the sub-bullets to the second bullet, the explanation of the differences between ‘impacts’ and ‘effects’ here is not consistent with the definitions. Additionally, the use of this terminology is not consistent between the two sub-bullets or the following guiding questions. The use of ‘impacts,’ ‘consequences,’ and ‘effects’ should be reviewed here for consistency with the definitions and for consistent use throughout the Guide.
15. Section 3.2.3 – Guiding Questions: It would be more reasonable to limit the first guiding question to the project lifespan rather than the future in general.
16. Section 3.2.4 – Risk Evaluation: The paragraph under Table 4 refers to the proponent identifying the unacceptable risks. As previously noted, unacceptable risks should be identified in the earlier steps to assist in determining project vulnerabilities, rather than at the final stage of risk evaluation. Additionally, at a minimum, the Guide should recognize that the proponent is not solely responsible for determining what is unacceptable – this should entail engagement with affected parties, which is not mentioned anywhere in the Guide.
17. Section 3.3 – Statement of the project’s resilience to climate change: For projects with a longer lifespan, the proponent should also be required to identify when the project’s resilience will be reassessed, since the available modeling, as well as the accumulation of project-specific data, will change over the life of the project. For long-term projects, this should be iterative; however, at a minimum, this should be reassessed before commencing closure and reclamation activities.

Sincerely,



Shelagh Montgomery
Executive Director
Mackenzie Valley Land and Water Board



Ryan Fequet
Executive Director
Wek’èezhìi Land and Water Board



Leonard DeBastien
Executive Director
Gwich’in Land and Water Board



Paul Dixon
Executive Director
Sahtu Land and Water Board