

Policy Context: Addressing “Need for”, “Purpose of”, “Alternatives to” and “Alternative means”



THIS GUIDANCE IS PART OF THE PRACTITIONER’S GUIDE TO
FEDERAL IMPACT ASSESSMENTS UNDER THE *IMPACT
ASSESSMENT ACT*

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The [Practitioner’s Guide](#) is an evergreen document. Check it periodically, its contents may have been updated because of ongoing engagement and feedback received. If you have feedback, please send it to guidancefeedback-retroactionorientation@iaac-aeic.gc.ca.





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Disclaimer

This document is for information purposes only. This document is not intended to fetter decision-makers. It is not intended to suggest that the Government can regulate matters of provincial jurisdiction. It is not a substitute for the [Impact Assessment Act](#) (IAA) or its regulations. In the event of an inconsistency between this document and the IAA or its regulations, the IAA and its regulations would prevail.

For the most up-to-date versions of the IAA and regulations, please consult the [Department of Justice website](#).



1. Purpose

The purpose of this document is to provide clarification to proponents, federal authorities (FAs), Indigenous peoples, and other participants when considering the following factors to be considered under the *Impact Assessment Act* (IAA):

- the "purpose of" and "need for" the designated project (paragraph 22(1)(d));
- any "alternatives to" the designated project that are technically and economically feasible and are directly related to the designated project (paragraph 22(1)(f)); and
- "alternative means" of carrying out the designated project that are technically and economically feasible, including through the use of best available technologies, and the effects of those means (paragraph 22(1)(e)).

Detailed guidance for proponents on these factors is provided in "[Guidance: "Need for", "Purpose of", "Alternatives to" and "Alternative means"](#)".



2. Explanation of Key Terms/Definitions

The **"need for"** the project is the opportunity that the project is intended to satisfy. That is, the "need for" establishes the fundamental justification or rationale for the project.

The **"purpose of"** the project is what is to be achieved by carrying out the project, including any objectives the proponent has in carrying out the project.

The **"need for"** and "purpose of" the project should be established from the perspective of the project proponent and provide the context for the consideration of alternatives.

"Alternatives to" the project are functionally different ways to meet the need for the project and achieve its purpose that are technically and economically feasible

"Alternative means" are the various technically and economically feasible ways, including through the use of best available technologies, which would allow a designated project and its physical activities to be carried out.

"Alternatives" refers to both "alternatives to" and "alternative means".

"Best available technology" (BAT) means the application of the most effective technology or technique for mitigating adverse effects on people and the environment that is economically feasible to implement.

"Technically feasible" means that it can be successfully implemented under the specific circumstances of the project and is either generally accepted/common/documented/tested or, if relatively new, has a high estimated probability of successful implementation. Examples of criteria to determine technical feasibility include: availability of energy sources, ability to implement in local climate, mode of operation, performance metrics, requirement for supporting infrastructure, inherent risks (e.g. safety), use of proven technology, and distance to the main project site.

"Economically feasible" means that the costs associated with an action are not prohibitively high. In reviewing a proponent's views regarding the extent to which actions are economically feasible, the Impact Assessment Agency of Canada (the Agency) or review panel will consider, on a case-by-case basis and in the context of the particular project, different economic criteria and the positive effects associated with the action. Examples of economic criteria could include estimated costs (capital and operating), revenue, profit, and production forecasts.

"Effect" means changes to the environment or to health, social or economic conditions and the positive and negative consequences of these changes.

"Valued components" (VCs) may represent environmental, health, social, economic or additional elements or conditions of the natural and human environment that may be impacted by a designated project and are of concern or value to the public, Indigenous peoples, FAs and interested parties. VCs may be identified as having scientific, biological, social, health, cultural, traditional, economic, historical, archaeological and/or aesthetic importance.



3. Context

There is a long history of considering the "need for", "purpose of" and alternatives ("alternatives to" and "alternative means") in environmental assessments. The "purpose of" and "alternative means" are currently considered under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012), whereas the "need for" and "alternatives to" are being reintroduced to the IAA since being previously included under the *Canadian Environmental Assessment Act 1992* (CEAA 1992).

Consideration of these factors provides an important opportunity for meaningful engagement with Indigenous peoples, the public and other participants. The "need for", "purpose of" and alternatives should be considered as early as possible in the planning of a designated project before major commitments to and investments in a particular project design are made. The Planning phase allows for the early identification of key issues of concern. In this phase, high-level information on alternatives is obtained to inform the Tailored Impact Statement Guidelines (the Guidelines), allowing the Agency to scope the assessment of alternatives appropriately.

In considering the "need for", "purpose of", "alternatives to" and "alternative means" a proponent frames the opportunity ("need for"), states what is to be achieved by carrying out a project ("purpose of"), considers the functionally different approaches ("alternatives to"), and then provides the various technically and economically feasible ways to implement their preferred approach ("alternative means").

Information on alternatives that were considered by a proponent before the Planning phase may be brought forward into the process to support the alternatives analysis.

As relevant, the "alternatives to" and "alternative means" assessments should be informed by, but not limited to, the following:

- any regional or strategic assessment (S.22(p));
- any study or plan that is conducted or prepared by a jurisdiction — or an Indigenous governing body not referred to in paragraph (f) or (g) of the definition jurisdiction in section 2 — that is in respect of a region related to the designated project and that has been provided with respect to the project (S.22(r));
- any assessment of the effects of the designated project that is conducted by or on behalf of an Indigenous governing body and that is provided with respect to the designated project (S.22(q)); and
- Indigenous knowledge (S.22 (g)), community knowledge (S.22 (m)), comments received by the public (S.22 (n)), comments received from a jurisdiction (S.22 (o)).

When applicable, proponents are encouraged to describe how the alternatives under consideration relate to, or were informed by these studies, plans or assessments. The process overview below shows how the "need for", "purpose of", "alternatives to" and "alternative means" are integrated in the impact assessment process.



Table 1 - Impact Assessment Process Overview

Planning phase	
Initial Project Description	<ul style="list-style-type: none"> • Proponent submits information on the “purpose of” and “need for” the designated project. • Proponent provides a list of potential “alternatives to” that it is considering that are technically and economically feasible and directly related to the project. • Proponent provides a list of potential “alternatives means” that it is considering that are technically and economically feasible, including through the use of best available technologies. • Participants may comment on the Initial Project Description and provide input for the Summary of Issues.
Summary of Issues	<ul style="list-style-type: none"> • Agency leads engagement with participants and prepares a Summary of Issues raised, including on the “need for”, “purpose of” and alternatives. • Proponent responds to the Summary of Issues, indicating how they might be addressed.
Detailed Project Description	<ul style="list-style-type: none"> • Proponent submits updated information on the “purpose of” and “need for”, including any potential benefits. • Proponent provides a description of potential “alternatives to” the project that it is considering that are technically and economically feasible and directly related to the project. • Proponent provides a description of potential “alternative means” of carrying out the project that it is considering that are technically and economically feasible, including through the use of best available technologies.
Tailored Impact Statement Guidelines	<ul style="list-style-type: none"> • Agency scopes the requirements for the alternatives assessment based on their relevance and importance, and if the Agency determines that further assessment is required, provides direction to proponent in the Tailored Impact Statement Guidelines.
Impact Statement phase	
Impact Statement	<ul style="list-style-type: none"> • The proponent collects the necessary information and conducts an assessment of alternatives in conformity with the Tailored Impact Statement Guidelines. • If required, the proponent conducts a best available technology/best environmental practices (BAT/BEP) determination following the direction provided in the Strategic Assessment on Climate Change (SACC). • Agency or review panel engages with Indigenous groups, federal authorities and lifecycle regulators, other jurisdictions, and the public on the proponent’s Impact Statement. • Agency reviews the Impact Statement to ensure it meets the requirement in the Tailored Impact Statement Guidelines.



Impact Assessment phase	
Impact Assessment Report	<ul style="list-style-type: none">• Agency or review panel solicits views on the proponent’s alternatives assessment and may request clarification from the proponent and advice from federal authorities or other participants.• Agency or review panel includes the results of its consideration of the purpose of and need for the project and the alternatives assessment, as appropriate, in the Impact Assessment Report.
Decision-making phase	
Decision Statement	<ul style="list-style-type: none">• The “need for”, “purpose of”, “alternatives to”, and “alternative means” provide context for public interest determination made by the Minister or the Governor in Council.• The Minister may establish conditions related to the implementation mitigation measures that were considered in the alternative means assessment.
Post decision phase	
Compliance & Follow-up	<ul style="list-style-type: none">• The Agency ensures that the project remains in compliance with the conditions established by the Minister.• If an Adaptive Management Plan is required, the proponent monitors the effectiveness of mitigation measures and considers alternatives, including newly-developed BATs, to improve mitigation as necessary.

4. Considerations in Addressing "Alternatives to"

The "alternatives to" assessment compares a designated project to other technically and economically feasible ways to meet a project's need and achieve its purpose. The Guidelines may require proponents to include the no-action (null) "alternative to" which may serve as a benchmark for the assessment and comparison of the designated project and any other "alternatives to" considered by the proponent.

For example, in the case of an entity that is able to generate electricity from multiple sources, "alternatives to" a hydro-electric dam that is being proposed to meet the future energy demand of a region, could include other functionally different ways to generate the electricity (i.e. wind, solar, nuclear, etc.) or meeting the future demand through means of improving the conservation and efficiency of the current energy supply.

The "alternatives to" assessment provides an opportunity for a proponent to highlight the benefits of its designated project as compared to not proceeding with the project, or as compared to other alternatives to a project (as appropriate). It also allows members of the public and other participants, Indigenous groups, federal authorities, lifecycle regulators, as well as other jurisdictions, to compare a designated project to the no-action alternative or other possible alternatives, if applicable.

The range of "alternatives to" that are required to be considered will vary depending on the project type. In this way, the assessment is scalable. For example, for some project types, such as mines, there may be limited "alternatives to" that meet the need for a project and achieves its purpose. Public sector (i.e. government) proponents are generally able to consider a broader range of "alternatives to" in the analysis than private sector proponents as they are less likely to specialize in a particular project type, and are better positioned to frame the purpose and need for the project from the broader public interest perspective.

The process of identifying and considering "alternatives to" should be inclusive and participatory, and a proponent must consider views, information and knowledge from Indigenous peoples, the public and other participants, as well as existing studies and reports, when developing and evaluating alternatives to a project.

In the Planning phase, the proponent first **lists** the potential "alternatives to" that they are considering that are technically and economically feasible and directly related to the project, in the Initial Project Description. The proponent then provides a **description** of the technically and economically feasible "alternatives to" in the Detailed Project Description. If, based on the information provided, the Agency determines that further consideration of "alternatives to" is required, the Agency will outline how the "alternatives to" should be assessed as part of the Guidelines.

The results of the analysis should allow a reader to understand the advantages and disadvantages of the different ways to meet the need for a project and achieve its purpose, the implications of the no-action alternative (as required), and the rationale for a proponent's preferred option. Following the "alternatives to" assessment, a proponent should then consider the alternative means of carrying out its preferred option.

Detailed steps on conducting the "alternatives to" assessment are outlined in [Guidance: "Need for", "Purpose of", "Alternatives to" and "Alternative means"](#).

5. Considerations in Addressing "Alternative Means"

The procedure for assessing alternative means under the IAA is similar to the approach under CEAA 2012. However, whereas CEAA 2012 focused on adverse effects in these assessments, the process under the IAA includes both short-term and lasting positive and adverse effects of the project. This includes major environmental, health, social, and economic effects, taking into consideration their distribution and interactions (see "[Framework: Implementation of the Sustainability Guidance](#)" for more information on the systems approach and the interactions between valued components). A proponent must also consider the use of best available technologies (BATs) when comparing alternative means against a number of factors and selecting its preferred alternative. The identification of BATs may come from various sources, such as technical experts, public or private documents, academic literature, etc.

As appropriate, the assessment of "alternative means" should consider project components such as alternative locations, development and/or implementation methods, routes, designs, technologies, mitigation, etc. The assessment may also consider alternative means of enhancing the positive effects of the project. Enhancements can take many forms and may include measures to improve the positive effects of a project (e.g. enhancing employment and training opportunities, including for women) or be implemented outside of a project (e.g. local procurement, rehabilitating degraded landscapes, creating new landscapes, reinvesting profit shares into the local community, etc.) A more comprehensive list of typical project components and elements that could be included in the "alternative means" analysis is provided in the [Tailored Impact Assessment Guidelines Template](#).

Specific Considerations for Mining Projects

For mining projects proposing the use of natural water bodies frequented by fish for the disposal of mine waste, including tailings and waste rock, and for the management of process water, the Metal Mining Effluent Regulations (MMER) require the affected waterbody to be added to its Schedule 2, in order to designate them as tailings impoundment areas (TIA). This regulatory process will not be initiated until a detailed assessment of alternatives for mine waste disposal has been undertaken by the proponent.

It is customary for the MMER assessment of alternatives to be included in the impact assessment process. Conducting this robust and thorough assessment of alternatives during the impact assessment is intended to streamline the overall regulatory review process and minimize the time required to proceed with the MMER amendment process. The proponent is strongly encouraged to include MMER requirements for an assessment of alternatives for mine waste disposal in the Impact Statement. For further guidance, the proponent should consult Environment and Climate Change Canada's [Guidelines for the assessment of alternatives for mine waste disposal](#).

"Alternative means" should be considered by a proponent as early as possible in the planning of a designated project. As with the consideration of "alternatives to" a project, the proponent first **lists** the potential "alternative means" that it is considering that are technically and economically feasible that are directly related to the project, in the Initial Project Description. The proponent then provides a **description** of the technically and economically feasible "alternative means," including through the use of BATs, in the Detailed Project Description. The information provided in the Detailed Project Description will be used to



focus the assessment on the alternative means and potential effects that are of greatest relevance and importance in the context of a project.

The approach and level of effort applied to addressing "alternative means" can be established on a project-by-project basis taking into account five key considerations:

- the description of the project components and activities;
- the anticipated positive and adverse effects associated with the potential alternative means, taking into account the potential for mitigation;
- the current status or vulnerability of VCs that may be impacted by the alternative means;
- the potential for alternative means to increase the positive effects of the project; and
- the preferences and views expressed by Indigenous groups and the public.

Proponents of projects that have the potential for high greenhouse gas (GHG) emissions will be directed to conduct a formal Best Available Technology/Best Environmental Practice (BAT/BEP) Determination for reducing GHG emissions. A proponent can consider new (or reconsider previously rejected) alternative means in light of information that is presented during the Impact Statement phase. Indigenous peoples, the public and other participants should be provided opportunities to provide input on alternatives, identify (VCs) that are affected by the alternatives, and take part in identifying criteria to evaluate the alternative means and provide their views.

A proponent can compare "alternatives means", by taking into account the potential adverse effects and positive effects. In instances where there are multiple possible mitigation measures for an adverse effect, a proponent could compare the advantages and disadvantages of the mitigation measures as part of the "alternative means" assessment.

The purpose of the analysis is to understand the advantages and disadvantages of the different ways of carrying out a project as well as a proponent's rationale for its preferred options. After completing these steps, a proponent's preferred means of carrying out a project are brought forward into the impact assessment.

Detailed steps on conducting the "alternative means" assessment are outlined in the [Guidance: "Need for", "Purpose of", "Alternatives to" and "Alternative means"](#).

6. Guiding Principles for the Consideration of "Alternatives to" and "Alternative means"

1. Consider the alternatives assessment as a process for optimizing the project

- The process of considering alternatives may allow project proponents to proactively find solutions to issues throughout project planning and the impact assessment;
- Effective consideration of alternatives requires starting the process as early as possible in project planning, meaningfully considering alternatives, and remaining open to innovative solutions;
- Should new information be obtained, consideration could be given to adjusting the alternatives; and
- Technically and economically feasible alternatives that avoid adverse effects altogether should be given preference over those that have effects that require mitigation or compensation.

2. Facilitate an open and participatory process

- The engagement of external parties facilitates transparency and may foster greater support for projects and decisions; and
- Various perspectives obtained through early meaningful engagement of Indigenous peoples, the public and other participants can inform the development and assessment of alternatives.

3. Scope the assessment of alternatives

- Proponents would not be expected to consider every plausible alternative, but rather a reasonable number that covers the spectrum of options that meet the project's need and achieves its purpose;
- What constitutes a reasonable number is case specific, but should include those that are technically and economically feasible and that satisfy the "need for" and "purpose of" the project; and
- The extent to which alternatives are to be analyzed and compared is also case specific. Some instances where more detailed analyses may be warranted include when the difference among alternatives and their associated effects are unclear (i.e. one alternative does not clearly outperform the others) or when there is substantial interest or concerns from participants.

4. Apply the Sustainability Principles

- Refer to "[Guidance: Considering the Extent to which a Project Contributes to Sustainability](#)" for more information on applying the sustainability principles.

5. Provide clear and complete documentation

- Present and explain the methodologies used and outline the steps taken in enough detail to allow the reader to understand the analysis;
- Clearly describe the criteria, rationale and process applied in evaluating the technical and economic feasibility of the potential alternatives;
- Provide clear criteria, rationale and processes applied in the analysis of alternatives and selection of the preferred alternative(s); and
- Present the information in a clear and understandable way. Use tables to summarize the comparison of alternatives and their effects when appropriate.



7. Major Roles and Responsibilities Relating to "Need for", "Purpose of", "Alternatives to" and "Alternative means"

7.1 Proponent

- Describes the "need for" and "purpose of" the project and lists the alternatives in the Initial Project Description;
- refines the "need for" and "purpose of" the project, including any potential benefits, as well as describes the "alternatives to" and "alternatives means" in the Detailed Project Description;
- engages Indigenous peoples, the public and other participants to solicit input on alternatives;
- collects the necessary information to conduct the alternatives assessment;
- determines and evaluates alternatives and proposes/defines a preferred option;
- submits the details and results of the alternatives assessment to the Agency or review panel in the Impact Statement; and
- responds to information requests from the Agency or review panel.

7.2 Agency

- Leads on the engagement of Indigenous groups, federal authorities and lifecycle regulators, other jurisdictions, and the public on potential effects or impacts to assess and possible alternatives to be considered;
- issues its requirements to the proponent for the alternatives assessment as part of the Guidelines;
- analyzes the proponent's alternatives assessment and requests additional information as needed; and
- prepares the Impact Assessment Report (for impact assessments conducted by the Agency).



7.3 Review panel (for Impact Assessments conducted by review panels)

- During the Impact Assessment phase, leads on the engagement of Indigenous groups, federal authorities and lifecycle regulators, other jurisdictions, and the public on potential effects or impacts to assess and possible alternatives to be considered;
- analyzes the proponent's alternatives assessment and requests additional information, as needed;
- holds a public hearing and receives views regarding "purpose of", "need for" and alternatives, as required; and
- prepares the Impact Assessment Report.

7.4 Public and other participants

- May comment on the "purpose of" and "need for" included in the Initial Project Description;
- may identify issues of importance relating to "purpose of", "need for", "alternatives to" and "alternative means" in the Planning phase to be included in the Summary of Issues;
- may propose "alternatives to" to be considered;
- may propose "alternative means" to be considered;
- may provide views or information on alternatives, assessment criteria, effects, etc.; and
- may provide community knowledge to inform the alternatives assessment.

7.5 Indigenous peoples

- May participate in all of the ways described above (public and other participants);
- may provide Indigenous knowledge to inform the alternatives assessment; and
- may conduct part or all of the project assessment, as a jurisdiction defined in the *Impact Assessment Act*.

7.6 Federal authorities, lifecycle regulators and other jurisdictions

- May propose alternatives to be considered as part of the assessment; and
- may review information provided by the proponent.



8. Conclusion

Taken together, the "purpose of", "need for", "alternatives to" and "alternative means" contribute key information to the impact assessment and promotes good project planning. To derive the greatest benefit from this process, proponents are encouraged to start considering these factors during or before the Planning phase and to follow the systematic process outlined in the [Guidance: "Need for", "Purpose of", "Alternatives to" and "Alternative means"](#).



9. Key Questions and Answers

Q1: How are "alternatives to" considered in decision-making?

A: "Alternatives to" is a factor to be considered in Impact Assessments under section 22 of the *Impact Assessment Act*. As such, the IA report will include information regarding the "alternatives to" taken into account by the Agency or review panel during the IA. Decision-makers determine whether the adverse effects within federal jurisdiction or the adverse direct or incidental effects are in the public interest. The public interest decision must be based on the IA report and consideration of the section 63 public interest factors.

"Alternatives to" provide context for decision-making. Decision-makers would not require a proponent to implement an "alternative to" that the proponent had not identified as their preferred option.

Q2: Does the scoping vary according to the type of project?

A: Yes. There are different project-related factors that will affect the level of analysis required for the consideration of "alternatives to" and "alternative means". Public sector (i.e. government) proponents are generally able to consider a broader range of "alternatives to" than private sector proponents, as they are less likely to specialize in a particular project type and are better positioned to frame the purpose and need of the project from a broader public interest perspective.

There may also be a more narrow scope applied because of the type of project. For example, for projects such as mines, there may be limited "alternatives to" that meet the need for the project and achieves its purpose. In such cases, the only "alternative to" that may be relevant is the no-action (null) alternative.

Q3: What is the purpose of the no-action (null) alternative?

A: The Guidelines may require proponents to include the no-action (null) "alternative to", which may serve as a benchmark and comparison of the designated project and any other "alternatives to" considered by the proponent.