

Evaluating the role of science in the proposed *Impact Assessment Act*

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Preface

In the two years of public consultation leading up to the reform of impact assessment (IA) legislation in Canada, experts across sectors (including scientists, lawyers, Indigenous leaders, and policy analysts) repeatedly expressed concerns about the role of science in impact assessment processes and decisions.

On February 8, 2018, Canada's federal government released Bill C-69, *an Act to enact the Impact Assessment Act and the Canadian Energy Regulator Act, to amend the Navigation Protection Act and to make consequential amendments to other Acts*. Among other things, this bill proposed a new *Impact Assessment Act* as well to repeal the previous federal legislation for IA, the *Canadian Environmental Assessment Act, 2012* (CEAA, 2012). We surveyed experts to see if the proposed *Impact Assessment Act* met the 14 recommendations for providing a legal IA framework which supports strong science (i.e., science completed in a way that is rigorous, independent, and transparent). The results were released on February 9, 2018 in an infographic report card grading the government's performance on science in the proposed Act (Appendix to this text and [available online](#)).

The Survey

After Bill C-69 was released at 12:00 ET on February 9, we sent a survey to experts in the science, practice, and law of environmental impact assessment with a 24-hour deadline for response. Participants were invited based on recognized national expertise as well as prior engagement with consultations on environmental assessment reform in Canada. We pre-screened participants by categorizing their area of expertise and asking if they had read the Westwood et al. (2018) [Strong Foundations report](#) on science in IA and [Bill C-69, Part I, pages 1-86](#) (the proposed IAA). If they answered 'yes' to both, we then asked them to respond to whether the bill fulfilled each of 14 criteria from *Strong Foundations* (the original report contained 15 criteria, however, we combined two similar criteria).

For each criterion, participants were able to choose 'yes', 'partially met', 'no', 'other: specify' or 'skip this question'. Following each criterion, participants could fill out an optional space to explain their answer. Eleven participants completed the survey by the deadline, and self-identified as having direct experience in one or more of the following sectors: environmental science research (n=7), environmental impact assessment practice (n=3), and environmental law research or practice (n=5).

In this fact sheet, we present results and summary for the performance of the proposed *Impact Assessment Act* for each of the 14 elements of strong science in environmental impact assessment.

Evaluation of 14 scientific components in the proposed *Impact Assessment Act*

1. Assessments account for project impact on climate change. This may include: cumulative effects assessment including climate change; recognition that impact assessment decisions should be consistent with climate-related laws and international agreements; explicit triggers for projects related to climate impacts or emissions.

Analysis:

Climate change was included as one of the primary factors that *must* be considered when making the decision whether to approve a project (S.22(1)) or whether it is in the public interest (S.63). It does not prohibit the government from approving projects that are inconsistent with its national and international commitments. There is also no trigger in the legislation to ensure projects receive an IA based on climate impacts (this may be included in the relevant regulation, the Designated Project List). The definition of "effects" in Section 2 of the Act lacks specific mention of climate. Section 2 does not explicitly mention climate concerns as a reason to require a project be subjected to an IA. Climate is not one of the factors used to determine whether a project will cause significant environmental effects (S.23).

Criterion met?

Partially

2. Evidence-based, adaptive, and regional assessments. This may include: cumulative effects assessment mandated at the regional level; language indicating that data and frameworks must be interoperable between jurisdictions (e.g., across provincial boundaries, provincial-federal coordination); requirements for federally-coordinated regional databases.

Analysis

Cumulative effects assessment is encouraged (S.6(1)), but not required, and remains at the discretion of the Minister of Environment and Climate Change. Cumulative effects are to be included as a factor in decision-making (S.22(1)), but there is no context for what the scope of these effects may be (in space and time) or how that scope may be determined. Regional and strategic assessments are mentioned (e.g. S.92), but they are not mandatory and are also at the discretion of the Minister. There is no indication that regional assessments will differ from 'regional studies' included as possibilities under *CEAA, 2012*. No information was included about data sharing across jurisdictions on a regional or strategic level, as cooperation was only emphasized for single projects.

Criterion met?

Partially

3. Funding for intervenor and stakeholder-led science. The new bill will likely include an expanded list of eligible activities for Indigenous and public funding, which may include: scientific or evidence-gathering activities explicitly mentioned as eligible; participant funding amounts are sufficient to fund independent scientific studies.

Analysis

Public participant funding will be made available (S.75), but there indication yet as to what activities will be approved for funding or if amounts will be sufficient to fund scientific research. Past public participation funding was meant to enable members of the public to attend hearings or engage in other activities during the review, not engage in scientific studies. In many locations in the proposed Act, it is explicitly mentioned that the proponent will be responsible for providing studies and information (e.g. S.26(2), S.38, S.52(2), and others). This suggests that the past emphasis on proponent-led science will remain. We must wait to see the list of eligible activities for funding as described in regulations.

Criterion met?

No

4. Provisions for open science and data. This may include: a central repository with all project-related information including raw assessment and monitoring data open to the public in perpetuity; requirements for detailed study methodologies and/or statistical code available to the public; timing of data availability before public participation opportunities; reasonability of exclusions to public record (e.g., data related to national security, traditional knowledge, precise locations of species at-risk).

Analysis

The new Act will require all information be posted on a public registry (S.105 and S.106), although in cases these may be just summaries of information, and there are no requirements for posted materials to meet standards of open science, including available raw data and code. It is not clear how this will be substantially different from the existing EA registry. It is also unclear if the record is permanent. There are only requirements to maintain a project file until either the IA is concluded or follow-up activities are completed (S.105-106), suggesting that data and records could be removed. Exclusions to the public record can be made based on protection of Indigenous traditional knowledge (S. 119(1), or information which may harm persons, Indigenous groups, or the environment (S.53(4-5)). There are no stated abilities for industry to withhold technical information proprietary reasons. Forthcoming regulations may specify what level of detail is required for publicly available scientific information.

Criterion met?

Partially

5. Indigenous knowledge (IK) included within nation-to-nation relationship. This may include: affirmation for the principles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP); deferment to Indigenous peoples on providing direction about how to incorporate IK into the review process; requirements for IK to be considered with equal respect alongside scientific information.

Analysis

The proposed Act does have increased allowances for Indigenous participation and consent, as well as explicit requirements to include Indigenous knowledge when determining significant environmental effects (S.84) and to protect this knowledge (S.63). However, there is no recognition of UNDRIP, a nation-to-nation relationship, or deferment to Canada's Indigenous peoples in determining how IK may be used. There is also no mention of ensuring that Indigenous governance bodies or knowledge holders should have a role in determining how IK is used or incorporated.

Criterion met?

Partially

6. Provisions for rigorous, independent peer review. This may include specific requirements for peer review: including who is to conduct it; what stage(s) of the assessment process it will occur; if and how reviewers will be compensated.

Analysis

The bill is silent on the issue of peer review. A verbal technical briefing (February 8, 2018) accompanying the release of Bill C-69 specified that there would be provisions for third party review in certain cases where there was "substantial public controversy" or "the science was uncertain"; however, it was also stated that this third party review

would “not be an academic peer-review”. The proposed Act itself contains no provisions for peer review, nor any indication that it may be included in subsequent regulations or policy.

Criterion met?

No

7. More comprehensive, efficient, and complete assessments. This may include: Impact assessment going beyond economic and environmental impacts to include socio-ecological systems; assessments to be tested against national objectives and values; specific and thorough provisions for follow-up and monitoring; criteria and trade-off rules to maximize benefits while guarding against unwanted ecological trade-offs.

Analysis

Assessments have been expanded to include sustainability, social, health and economic effects, including gender-based analysis (e.g. S.22(1)). Inclusion of contribution to sustainability as the first of five mandatory requirements for consideration and justification of decisions is a positive step. However, there are no criteria or trade-off rules in the legislation that explain how to assess the importance of various factors in decision-making. Although provisions for mitigation measures and follow-up are included, they are essentially the same as in the current regime. No requirements were included for IAs to be written or evaluated with explicit consideration of national objectives, values, and/or commitments.

Criterion met?

Partially

8. Expand spatial and temporal scope of assessments. This may include: broader definition of spatial and temporal scope to include project lifespan and environmental risks (e.g. contaminant dispersal, animal movements); scope determined collaboratively with Indigenous peoples and local communities through early assessment; inclusion of downstream emissions; specific targets of recovery defined and mandated on timelines.

Analysis

The scope of factors to be considered in an IA is stated to be determined by the Agency or the Minister (S.22). The information a project proponent is required to submit in determining whether an IA is required (S.10) will be set out in regulations, but it is unclear whether scope will be determined collaboratively (e.g., with communities, Indigenous groups, stakeholders). There are provisions for public participation in the planning phase (S.11), but no specifics, and there is no statement that Indigenous peoples are to be included during the scoping phase. Although elsewhere in the Act mentions broader inclusion of cumulative effects (including climate change) and socioecological concerns, there is no mention of assessment of project lifespan, up/downstream emissions, or other elements which would indicate an expanded scope beyond *CEAA, 2012*.

Criterion met?

No

9. Clear triggers for assessment; impact thresholds which should not be exceeded. This may include: triggers for project inclusion include environmental setting and its sensitivity; project list accounts for international commitments such as climate change and biodiversity; mandated regular reviews for the project list; impact thresholds/limits which, if exceeded, trigger adaptive management or project shut-down.

Analysis

Triggers for project inclusion and thresholds for project approval may be included in regulations, but there are no provisions in the proposed Act addressing these issues. Importantly, the absence of any legislative criteria means that a subsequent government would be relatively free to modify the Project List regulation. Although there is a stipulation that the Act shall be reviewed ten years after coming into force (S.167), there is no specific mention of either adaptive management or timed reviews of the Project List.

Criterion met?

No

10. Establish clear national values and objectives for decision-making; clearly explain rationale for decisions. This may include: requirements for developing and adhering to national environmental values and strategy; communication of full rationale behind decisions to the public; set limits to risk; a new independent agency for assessment establish in place of the current National Energy Board (NEB - may be renamed Energy Regulator or something similar) and other regulators; sustainability-based decision-making criteria and trade-off rules.

Analysis

The factors to be included for decision-making have been greatly expanded (S.63), and the Minister or Review Panel must explain how factors that must be considered were met or not met. The requirements for disclosure of grounds and rationale for decisions has improved significantly (S.65). The preamble, which is not binding but functions to guide interpretation, states that “the Government of Canada recognizes that the public should have access to the reasons on which decisions related to impact assessments are based (S.1)”. However, beyond oblique references to sustainability and the public interest, there is no reference to national objectives and values stated to guide decision-making. Although criteria may be developed as part of the terms of reference for individual reviews, without a requirement and/or generic criteria in the law, they are likely to be inconsistent between projects.

Criterion met?

Partially

11. Precautionary principle guides assessment process from the start. This may include: explicit inclusion of the precautionary principle; requirements for the project proponent to provide burden of proof for safety (i.e., they must prove it is safe rather than an external party having to prove it is unsafe).

Analysis

The precautionary principle is explicitly referenced in purposes and mandate of the Act (S.6), but not the operational provisions of statute. In terms of responsibilities, the Act seems to echo *CEAA, 2012*, where the proponent is in the role of information provision whereas the Agency and/or Review Panel is in the role of assessment. The type and extent of burden of proof on the proponent is unclear, and may be borne out in subsequent regulations.

Criterion met?

Partially

12. Commitments to support federal agencies to do science related to assessment. This may include: statements of support for agencies such as Environment and Climate Change Canada, Parks Canada Agency, Fisheries & Oceans Canada, etc.; statements of support for fundamental science and granting agencies.

Analysis

Although there are several clauses in the bill that mandate relevant federal authorities to provide expertise (e.g. S.13, S.23, S.85), there is no mention relating to funding or direct support for federal agencies.

Criterion met?

No*

**Verbal commitments have been made by the Minister of Environment and Climate Change that increased funding will be supplied to support federal IA, though it is unclear what proportion of this will go to scientific activities as opposed to administration, legal fees, and other activities.*

13. Assessments contain commitments to scientific integrity. Mentions of scientific integrity may include: provisions for "conducting, interpreting, and communicating results objectively, honestly, thoroughly, and expeditiously" or similar wording.

Analysis

No mention of scientific integrity was included in any form in the bill. Although the preamble references "best available scientific information", this is neither specified nor binding. Although the proposed Act contains improvements in communicating decisions and potentially the science behind them, scientific integrity is not addressed in the statute.

Criterion met?

No

14. Addresses concerns about professional reliance and independence. This may include: moving away from a model of proponent-funded science; requiring accreditation of professionals; government acts as an intermediary between proponents and third-party consultants; independent ombudsperson available for hired consultants to hear grievances.

Analysis

There does not seem to be any change from the proponent-funded science model. The Act specifically mentions that the proponent will be required to provide information and undertake studies (e.g. S.26(2), S.38, S.52(2), others). Although conflicts of interest are described with regard to the Agency, there is no discussion of how conflicts of interest are evaluated when the proponent funds collection of information by private enterprise. The bill requires the Agency to establish and "expert committee to advise it on issues related to impact assessments, including scientific, environmental, health, social or economic issues, (S.157)" which may provide an opportunity to revisit and revise the proponent-funded model in future.

Criterion met?

No

Summary

We evaluated whether the proposed *Impact Assessment Act* met 14 criteria recommended by experts for ensuring impact assessment is grounded in a strong scientific basis. Of these, the *Act* completely met zero, partially met seven, and failed to meet the remaining seven. Based on these results, we assigned the proposed *Act* a grade of “D”.

Some of these criteria may be met in subsequent regulations and policies resulting from the *Act* and its implementation, as well as in legislative amendments. There are certainly many possible amendments which could improve the proposed *Act* with regard to science and evidence-based decision-making. For example:

- Provisions with respect to the public registry should be amended to ensure open data and science at both the assessment and follow up stages, with explicit statements that it will be available prior to the public engagement process;
- The *Act* should impose a duty of objectivity on both proponents and federal authorities in the collection, analysis, and reporting of relevant data;
- Explicit mention of trade-off rules or sustainability-based criteria to govern decision-making;
- Describing the relationship between the proponent and those who gather information, including provision of an arms-length relationship between proponents and consultants;
- Inclusion of up-and-downstream cumulative effects (either in the *Act* or the Project List);
- Inclusion of a much-needed peer-review process to verify information used in decision-making; and
- Mandatory regional and strategic assessments.

Implementing an *Impact Assessment Act* with an independent, science-based assessment framework, with sustainability at its core, is key to restoring public trust as well as maximizing public interest while minimizing social, ecological, and human harm. Despite poor performance in Bill C-69 at first reading, we are hopeful that the government will take advantage of upcoming opportunities and expert advice to enshrine robust science in statute as well as accompanying regulations and policy.

Acknowledgements

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How does the Impact Assessment Act, Bill C-69, stack up on science?

Impact assessment is an essential tool for ensuring that industrial projects like pipelines, mines, and dams contribute to lasting and fair environmental, social, and economic well-being. Credible impact assessment needs a foundation of strong science. We compared Canada’s proposed Impact Assessment Act (Bill C-69) to recommendations* made by leading scientists and policy experts, focusing on the roles of science and evidence.

Report Card	
Name: Impact Assessment Act (Bill C-69)	
Date: February 9, 2018	
Experts’ Recommendation	Met?
Assessments account for project impact on climate change	PARTIALLY
Evidence-based, adaptive, and regional assessments	PARTIALLY
Funding for intervenor and stakeholder-led science	NO
Provisions for open science and data	PARTIALLY
Indigenous knowledge is included in the framework of a nation-to-nation relationship	PARTIALLY
Provisions for rigorous, independent peer review	NO
More comprehensive, efficient, and complete assessments	PARTIALLY
Expand spatial and temporal scope of assessments	NO
Clear triggers for assessment; impact thresholds which should not be exceeded	NO
Establish clear national values and objectives for decision-making; clearly explain rationale for decisions	PARTIALLY
Precautionary principle guides assessment process from the start	PARTIALLY
Commitments to support federal agencies to do science related to assessment	NO**
Assessments contain commitments to scientific integrity	NO
Addresses issues of professional reliance	NO

* Some recommendations may be borne out in related policy, regulation, practice, and/or amendments to the Act.
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