

**Brief submitted to the Standing Senate Committee on Energy, the Environment and Natural Resources responsible for examining 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**

Yves Gingras

Professor

Chairholder of the Canada Research Chair

in History and Sociology of Science (2004-2018)

Centre Interuniversitaire de recherche sur la science et la technologie (CIRST)

UQAM

([gingras.yves@uqam.ca](mailto:gingras.yves@uqam.ca))

**Expertise:** Yves Gingras has published numerous books and articles on the history, philosophy, and sociology of science. He has also taught the epistemology of natural and social science for 30 years. His work has earned him numerous awards and recognition, including his election as a Fellow of the American Association for the Advancement of Science (AAAS) and the Prix du Québec Léon-Gérin in social science.

**Summary:** The current version of Bill C-69 engages in non-standard and inconsistent use of the notions of “community knowledge”, “scientific information” and “Indigenous knowledge”. To avoid the unintended effects and confusion that these poorly defined terms may produce, we are proposing some simple amendments based on the concept of “knowledge” as defined in a manner consistent with the Supreme Court’s 1994 decision in *Mohan*. These proposals do not in any way affect the right of any person or group to have their arguments heard, discussed and taken into account by the Agency, the Commission or the committee established to assess the impact of an environmental or other project.

Bill C-69 is an entirely legitimate effort to ensure that all persons and groups potentially affected by environmental projects have an opportunity to present their views, based on arguments, at public hearings. However, we believe that the way to achieve this legitimate goal, in particular to ensure that Indigenous groups are also heard, should not be by using poorly defined and problematic concepts such as “community knowledge”, “scientific information” and “Indigenous knowledge”, which are scattered throughout the present version of the bill. There is a risk that these poorly defined notions will result in adverse effects and confusion. The goal of the bill can be achieved better, more directly and with no confusion by defining a framework that allows all relevant knowledge, information and data presented at public hearings by the persons and groups who believe they are affected by the project to be taken into account.

Because laws are intended to last and to be applied in the same way to all Canadians, as groups and as individuals, it is important that they be written using a clearly defined vocabulary and a sufficiently high level of generality that they go beyond individual cases and so are potentially able, insofar as possible, to encompass all future cases, without discriminating against persons or groups. In the first section of this brief, we will first identify the problematic uses of the notions of “community knowledge”, “scientific information” and “Indigenous knowledge” found in the body of the bill and propose amendments to solve the problems identified. In the

second section, we will discuss the importance of distinguishing the origin and holder of the knowledge from its validity. In the third section, once that distinction has been made, we will propose that in order to determine the validity of the knowledge, information and data submitted to it by the persons and groups who appear at public hearings or submit briefs, the Committee must apply the criteria already laid down by the Supreme Court of Canada in its 1994 decision in *Mohan*. Last, in the fourth section, we will propose a number of amendments concerning how confidential information that might be submitted to the Committee should be handled.

We believe that all of our proposals for rewording the bill avert the problems identified without infringing the right of persons, groups and institutions to participate in any environmental impact process in order to present their views in light of the knowledge, information and data that they consider to be relevant.

### **1. Problematic use of the expressions “community knowledge”, “scientific knowledge” and “Indigenous knowledge”.**

We would first note that the amendments made to the original version of the bill include one that replaced the expression “traditional knowledge” by the expression “Indigenous knowledge”, at the request of the Assembly of First Nations (AFN). In its brief, the AFN noted, rightly, in our view, that “The term ‘traditional knowledge’ is not defined in any of Acts. This creates uncertainty about what will be considered by the government to be ‘traditional knowledge’.”<sup>1</sup> The AFN then suggested that “Indigenous Knowledge” be defined as including “Knowledge or information arising from Indigenous Knowledge Systems, as prescribed by regulation”. The new version of the bill did not adopt that definition (which is in fact not clear), and instead opted for defining “Indigenous knowledge” as being simply “the Indigenous knowledge of the Indigenous peoples of Canada (*connaissances autochtones*)”: that is, in fact, the “knowledge” held by Indigenous people. However, this is a tautology that avoids the real problem raised by the AFN. The AFN’s brief pointed out: “This creates uncertainty about what will be considered by the government to be ‘traditional knowledge’” (emphasis added). While referring to “Indigenous knowledge” does make it clear whom is being referred to, it leaves the question of what is being referred to, when the term “knowledge” is used, unanswered.

Instead, the bill should avoid defining the notion of “Indigenous knowledge”, since the purpose can be amply achieved by simply using the concept of “knowledge”, which conveys the idea of a true statement since it has been validated by generally accepted methods and is potentially accessible to any reasonable person. The other advantage of this approach is that it avoids multiplying, for no valid reason, the types of knowledge on which there is by no means a consensus. This concern is particularly relevant given that the bill also uses the terms “data”,

---

<sup>1</sup> Assembly of First Nations, Submission to the Standing Committee on Environment and Sustainable Development. Study on *Impact Assessment Act, Canadian Regulator, and Navigable Waters Act* (Bill C-69), April 15, 2018, p. 18.

“information” and “comments” without defining them and that the role of “scientific knowledge” in the decision-making process provided in the bill is not readily apparent in this abundance of terms. These proposals for amendment also in no way jeopardize the right of individual actors to have their arguments heard, discussed and taken into account.

New subsection 84(1) in Bill C-69 provides: “An authority’s determination regarding whether the carrying out of the project is likely to cause significant adverse environmental effects must be based on a consideration of the following factors:

- (a) any adverse impact that the project may have on 20 the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the *Constitution Act, 1982*;
- (b) Indigenous knowledge provided with respect to the project;
- (c) community knowledge provided with respect to the project;
- (d) comments received from the public under subsection 86(1); and

...

This wording implies, or at least suggests, that the authority is not required to base its decision also on “scientific knowledge”, since no reference is made to that type of knowledge in the list. This is probably an unfortunate oversight, because it is unimaginable that in making a “determination whether” an environmental project may proceed or not, the authority would not also rely on the established “scientific knowledge” on the question. The preamble to the Act clearly states, in fact, that the Government of Canada “is committed to using transparent processes that are built on early engagement and inclusive participation and under which the best available scientific information [but “connaissance scientifique” in French] and data and the Indigenous knowledge of the Indigenous peoples of Canada are taken into account in decision-making”.

Notwithstanding that statement, the expression “scientific knowledge” is not widely seen in the body of the Act. For example, subsection 6(1) states that it is a purpose of the Act “(j) to ensure that an impact assessment takes into account scientific information, Indigenous knowledge and community knowledge.” Here, “scientific knowledge” is oddly replaced by “scientific information”, with no indication of whether that implies different weight, validity or importance as compared to “scientific knowledge and other types of comments” or “data”. In addition, in the factors to be considered in making any decision, subsection 22(1) provides a list that includes the following:

- (g) Indigenous knowledge provided with respect to the designated project;

...

- (m) community knowledge provided with respect to the designated project;

- (n) comments [French: *observations*] received from the public;

- (o) comments from a jurisdiction that are received in the course of consultations conducted under section 21;

...

Here again, we note the absence of the factor “scientific knowledge” but we see “comments” from

the public or another jurisdiction.

As well, the subsections of sections 28 and 102 on public notices of a draft report and on the final report noted that the report must set out “how the Agency, in determining the effects that are likely to be caused by the carrying out of the designated project, took into account and used any Indigenous knowledge provided with respect to the designated project.” Those subsections do not specify whether the Agency should also state how it “took into account and used” scientific “knowledge”, “information” and “data”. Under duties, subsection 97(2) states only that “the Agency or committee, as the case may be, must take into account any scientific information and Indigenous knowledge provided with respect to the assessment.”

The inconsistency and confusion in the wording can also be seen in subsection 298(3), which states: “In determining whether to issue an authorization, the Commission must take into account — in light of, among other things, any Indigenous knowledge that has been provided to the Commission and scientific information and data — all considerations that appear to it to be relevant and directly related to the offshore renewable energy project or offshore power line”. It refers to “scientific information” but also to “data” with no further details. What exactly are “data”? Are they “facts”? “information”, “knowledge”? We don’t know. It should also be noted that where the French version use the word “knowledge”, the English version use the word “information”.

These ill-defined wordings and the lexical vagueness they create do nothing to help clarify the differences there might be among these multiple items. They may thus suggest that priority is given to “Indigenous knowledge” alone, without regard to, as the case may be, “scientific knowledge” or other established “information” or “data” on the subject. Or even that the scientific knowledge may not have the same probative value as the “Indigenous knowledge”, “community knowledge” and other “comments” by the public. In spite of Parliament’s intention, vagueness of this kind could fan the flames of misunderstandings rather than lessen them.

A simple way of solving the lexical problem is to avoid using multiple different expressions and simply apply the usual meaning of the words used, without adding qualifying adjectives to them that narrow them for no reason. Without expressly saying it, the brief submitted by the Environmental Law Centre proposes an elegant solution to the problem of how to characterize knowledge using only the expression “relevant knowledge” regardless of the persons or groups who invoke it.<sup>2</sup> The Act would be more coherent and would provide for fairer and more equitable treatment of any person or organization considering presenting their views in an environmental assessment, if this concept of “knowledge” were used systematically in the bill. The persons or groups who submit their knowledge, data and information in their argument at a public hearing would be identified without prejudging the validity of the proposals and arguments (based on knowledge, information or data) they put forward. The Review Panel would then be responsible

---

<sup>2</sup> Environmental Law Centre, “Submission to the Standing Committee on the Environment and Sustainable Development regarding Bill C-69”, April 6, 2018, p. 2.

for determining the validity of the elements invoked, as we will see in section 3.

## 2. Distinguishing the “knowledge” from its holders, discoverers and users

Distinguishing the words that refer to knowledge from the words that refer to the source, holders or users of that knowledge, as we propose, clarifies the Act and avoids any ambiguity. That distinction is fundamental insofar as it leaves open the question of the validity of the presumed “knowledge”, it being the task of the members of the Review Panel (or Committee) responsible for the public hearing to assess that validity in light of the criteria already established by the Supreme Court of Canada, as we shall see later in section 3.

English (or French) in current use makes a clear distinction between “knowledge” (“*connaissance*”) and “belief” (“*croyance*”). Before taking any “knowledge” into consideration in a decision-making process, it must be established that it is indeed knowledge in the usual meaning of that word, and not a mere belief that may be widespread but nonetheless objectively false or questionable. As we noted above, a generally accepted definition of “knowledge” is that it is a statement that is true because it has been validated by generally accepted methods that are potentially accessible to any reasonable person. That definition therefore distinguishes from the outset between the validity of the knowledge and the characteristics of its holder or discoverer. The idea of knowledge includes the idea of potentially universal validity: anyone who has the tools needed can confirm or invalidate the statements established or to be established.

A simple example in this regard, which relies on a discovery made by Indigenous people, is the use of annedda to cure scurvy, which affected the health of members of Jacques Cartier’s crew in 1536. Once the remedy was explained to Cartier, he was able to use it, as anyone could, and achieve the expected result: healing his crew members’ scurvy.<sup>3</sup> The statement (or proposition) “annedda cures scurvy” is therefore well validated and is knowledge. That validity does not depend in any way on the personal characteristics of the person who discovered this property of annedda: that it cures scurvy. In other words, any knowledge, datum or theory is only true or false and has no ethnic nature. Certainly, we can celebrate the people who discovered it and boast of their nationality, gender or ethnicity, but that in no way means that the knowledge, in itself, has an ethnic or national character. As Louis Pasteur said, «la science n’a pas de patrie» (“science has no homeland”). The same is true of the notion of “community knowledge”, which is in fact rarely used. If “communities” have knowledge — notwithstanding the major problem of tracing the limits of these “communities” — then it must be accessible and verifiable by any reasonable person. In this, we are leaving aside the question of patentable knowledge, which falls within the realm of intellectual property law.

---

<sup>3</sup> Alain Asselin, Jacques Cayouette and Jacques Mathieu, *Curieuses histoires de plantes du Canada*, Volume 1, Québec City, Septentrion, pp. 70-73.

### 3. Role of the Agency in assessing knowledge

To illustrate the importance of first establishing the validity of the “knowledge” that has been invoked by an individual or group, we recall that in *Mohan*, the Supreme Court of Canada established “under what circumstances expert evidence is admissible” by identifying criteria to apply in order to assess the value of expert testimony and their expertise in trials.<sup>4</sup> This quality control is by no means an idiosyncrasy of Canadian law; it has also been adopted into the law of evidence of the United States, one instance being the decision in *Daubert* (1993). In analogy with this kind of logic, we should agree that it is legitimate to make sure that the “knowledge” that the Agency, the Review Panel or the assessment committees must take into account in order to reach a decision in a particular situation also meets these criteria, which can be used to make sure that the material taken into account in the decision is, in fact, generally accepted knowledge. In *Mohan*, the Court defined the criteria for admissible evidence and noted that the trial judge should consider both the expert opinion and whether the expert is merely expressing a personal opinion or whether it is a conclusion accepted by the scientific community.<sup>5</sup> As Binnie J. said in *R. v. J.-L.-J.* [2000], the importance that expert witnesses have taken on in trials heightens the importance “suitable controls on their participation, precautions to exclude ‘junk science’, and the need to preserve and protect the role of the trier of fact – the judge or the jury”.<sup>6</sup>

It seems to me that this principle must also apply to any committee responsible for assessing the environmental impact of a project. The idea here is to transpose to “knowledge” what is required of expert witnesses in the Supreme Court’s decisions on expert opinions. As Binnie J., cited above, pointed out, the judge must apply to novel scientific theory or technique reliability tests, asking, for example, whether the theory or technique can be and has been verified, and whether it has been subjected to peer review, since “submission to the scrutiny of the scientific community is a component of ‘good science,’ in part because it increases the likelihood that substantive flaws in methodology will be detected.”<sup>7</sup> In addition, “[w]idespread acceptance can be an important factor in ruling particular evidence admissible” while a technique that has only marginal support “may properly be viewed with skepticism”.<sup>8</sup> In all cases, the 1994 decision in *Mohan*, which established the criteria for admissible evidence, notes that “expert evidence which advances a novel scientific theory or technique is subjected to special scrutiny to determine whether it meets a basic threshold of reliability .... The closer the evidence approaches an opinion on an ultimate issue, the stricter the application of this principle.”<sup>9</sup>

By analogy, the same reasoning should be applied to all “knowledge” alleged by a witness at a public hearing. It can only be considered to be valid knowledge, and therefore usable, as

---

<sup>4</sup> *R. v. Mohan*, [1994] 2 R.C.S. p. 13.

<sup>5</sup> *Ibid.*, p. 11.

<sup>6</sup> *R. v. J.-L.-J.*, [2000] 2 S.R.C. p. 611-612.

<sup>7</sup> *Ibid.*, p. 615.

<sup>8</sup> *Ibid.*, p. 616.

<sup>9</sup> *R.c. Mohan* [1994] 2 R.C.S. p. 25.

opposed to a “belief”, even if widespread, when it has met the types of criteria laid down by the Supreme Court. The members of the assessment committee therefore have the task of assessing the reliability of the statements and arguments presented at hearings by the various persons or organizations, without those persons (or groups) being themselves judged based on the validity or the knowledge alleged, or lack thereof.

The amendments proposed below reflect the foregoing discussion. They ensure accurate and consistent use of the concept of knowledge and avoid the use of expression whose logical consequences may involve significant ideological interference.

## **Proposed amendments:**

### **Preamble**

Whereas the Government of Canada is committed to using transparent processes that are built on early engagement and inclusive participation and under which the best available ~~scientific information and data~~ **knowledge, information and data submitted by persons and groups is taken into account concerning the project;**

### **Impact Assessment Act**

#### **Enactment of Act**

#### **Enactment**

**1 The *Impact Assessment Act*, whose Schedules 1 to 4 are set out in the schedule to this Act, is enacted as follows:**

An Act respecting a federal process for impact assessments and the prevention of significant adverse environmental effects

#### **Preamble**

Whereas the Government of Canada is committed to fostering sustainability;

Whereas the Government of Canada recognizes that impact assessments provide an effective means of integrating ~~scientific information and Indigenous knowledge~~ **all relevant knowledge, information and data** into decision-making processes related to designated projects;

Interpretation

#### **Definitions**

**2** The following definitions apply in this Act.

~~**Indigenous knowledge** means the Indigenous knowledge of the Indigenous peoples of Canada. (*connaissances autochtones*)~~ a statement that is true because it has been validated by generally accepted methods that are potentially accessible to any reasonable person.

**6 (1)** The purposes of this Act are

**(a)** to foster sustainability;

...

**(j)** to ensure that an impact assessment takes into account ~~scientific information, Indigenous knowledge and community knowledge~~ **all relevant knowledge, information and data submitted by the persons and groups participating in the impact assessment;**

Factors To Be Considered

#### **Factors – impact assessment**

**22 (1)** The impact assessment of a designated project, whether it is conducted by the Agency or a review panel, must take into account the following factors:

...

**(g)** ~~Indigenous knowledge provided with respect to the designated project~~ **all relevant knowledge, information and data submitted by the persons and groups participating in the impact assessment;**

...

~~(m) community knowledge provided with respect to the designated project;~~

#### **Final report submitted to Minister**

##### **Report — ~~Indigenous k~~Knowledge**

**(3.1)** Subject to section 119, the report must set out how the Agency, in determining the effects that are likely to be caused by the carrying out of the designated project, took into account and ~~used any Indigenous knowledge provided with respect to the designated project~~ **all relevant knowledge, information and data submitted by the persons and groups with respect to the designated project.**

##### **Review panel's duties**

**51 (1)** A review panel must, in accordance with its terms of reference:

**(d)** prepare a report with respect to the impact assessment that

**(ii.1)** subject to section 119, sets out how the review panel, in determining the effects that are likely to be caused by the carrying out of the designated project, took into account and used any ~~Indigenous~~ knowledge provided with respect to the designated project **by persons and groups.**

##### **Factors**

**84 (1)** An authority's determination regarding whether the carrying out of the project is likely to cause significant adverse environmental effects must be based on a consideration of the following factors:

**(a)** any adverse impact that the project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the *Constitution Act, 1982*;

**(b)** ~~Indigenous knowledge provided with respect to the project~~ **all relevant knowledge, information and data submitted by persons and groups with respect to the project;**

**(c)** ~~community knowledge provided with respect to the project;~~

##### **Minister's obligations — request for assessment**

**97 (1)** The Minister must respond, with reasons and within the prescribed time limit, to any request that an assessment referred to in section 92, 93 or 95 be conducted. The Minister must ensure that his or her response is posted on the Internet site.

##### **Committee's or Agency's obligation**

**(2)** When conducting an assessment referred to in section 92, 93 or 95, the Agency or committee, as the case may be, must take into account ~~any scientific information and Indigenous knowledge provided with respect to the assessment~~ **all relevant knowledge, information and data submitted by the persons and groups participating in the impact assessment.**

##### **Report to Minister**

**102 (1)** On completion of the assessment that it conducts, the committee established under section 92 or 95 or under an agreement or arrangement entered into under subparagraph 93(1)(a)(i) or paragraph 93(1)(b) or the Agency, as the case may be, must provide a report to the Minister.

##### **~~Indigenous k~~Knowledge**

**(2)** Subject to section 119, the report must set out how the Agency or committee, as the case may be, took into account and used ~~any Indigenous knowledge provided~~ **all relevant knowledge, information and data submitted by the persons and groups** with respect to the assessment.

## **4. Public nature of knowledge, data and information**

The question of public access to the knowledge, information and data used in making a decision concerning a project is fundamental to any public hearing process that aims for transparency, to ensure that the final decision is credible and legitimate.

The bill states that the Internet site must post "any scientific information that the Agency receives from a proponent or federal authority, or a summary of the scientific information and an indication



of how that information may be obtained,” but makes no mention of the information connected with the “Indigenous knowledge” or the “information” disclosed by the Indigenous people or the communities, as if they had a distinct and special status. To ensure that everyone interested in a project for which a public hearing is held does in fact have access to the knowledge put forward at hearings so that, where applicable, they are able to assess its validity, we propose the following amendments:

#### **Protection from civil proceeding or prosecution**

**108** Despite any other Act of Parliament, no civil or criminal proceedings lie against the Agency or the Minister — or any person acting on behalf of, or under the direction of, either of them — and no proceedings lie against the Crown or the Agency, for the disclosure in good faith **by persons or groups** of any record or any part of a record or any Indigenous knowledge under this Act or for any consequences that flow from that disclosure or for the failure to give any notice required under section 27 or 28 of the *Access to Information Act* if reasonable care is taken to give the required notice.

Indigenous **Confidential** Knowledge

#### **Confidentiality**

**119 (1)** Any Indigenous knowledge, **information and data** that is provided to the Minister, the Agency, a committee referred to in section 92, 93 or 95 or a review panel under this Act in confidence **by persons or groups** is confidential and must not knowingly be, or be permitted to be, disclosed without written consent.

#### **Exception**

**(2)** Despite subsection (1), the Indigenous **confidential knowledge, information and data** referred to in that subsection may be disclosed if:

**(a)** it is publicly available;

**(b)** the disclosure is necessary for the purposes of procedural fairness and natural justice or for use in legal proceedings; or

**(c)** the disclosure is authorized in the prescribed circumstances.

#### **Consultation**

**(2.1)** Before disclosing Indigenous knowledge, **information and data disclosed by persons and groups in respect of the project** under paragraph 2(b) for the purposes of procedural fairness and natural justice, the Minister, the Agency, the committee or the review panel, as the case may be, must consult the person or entity who provided the Indigenous knowledge, **information and data** and the person or entity to whom it is proposed to be disclosed about the scope of the proposed disclosure and potential conditions under subsection (3).

#### **Further disclosure**

**(3)** The Minister, the Agency, the committee or the review panel, as the case may be, may, having regard to the consultation referred to in subsection (2.1), impose conditions with respect to the disclosure of Indigenous knowledge, **information and data** by any person or entity to whom it is disclosed **by persons and groups in respect of the project** under paragraph (2)(b) for the purposes of procedural fairness and natural justice).

## **5. Other amendments**

In line with the foregoing amendments, the following subsections should also be amended as indicated below.

#### **Issuance**

**262 (1)** If the Commission is satisfied that the power line is and will be required by the present and future public convenience and necessity, the Commission may, subject to section 52 and to the approval of the Governor in Council, issue a certificate in respect of

**(a)** an international power line in relation to which an order made under section 258 is in force;

- (b) an international power line in relation to which an election is filed under section 259; or
- (c) an interprovincial power line in relation to which an order made under section 261 is in force.

**Factors to consider**

(2) In deciding whether to issue a certificate, the Commission must take into account — in light of, among other things, any ~~Indigenous knowledge, information and data~~ that has been provided to the Commission ~~and scientific information and data~~ — all considerations that appear to it to be relevant and directly related to the power line, including:

Authorizations

**Issuance**

**298 (1)** On application, the Commission may issue an authorization for

- (a) each work or activity that is proposed to be carried on, in the offshore area, in relation to an offshore renewable energy project or to an offshore power line; and
- (b) each work or activity that is proposed to be carried on to construct, operate or abandon any part of an offshore power line that is in a province.

**Contents of application**

(2) An application must include any information that may be required by the Regulator, or prescribed by regulation, with respect to the proposed work or activity and to the offshore renewable energy project or offshore power line, including information with respect to any facility, equipment, system or vessel related to the project or power line.

**Factors to consider**

(3) In determining whether to issue an authorization, the Commission must take into account — in light of, among other things, any ~~Indigenous knowledge that has been provided to the Commission and scientific information and data~~ **any knowledge, information and data that has been provided to the Commission by persons and groups with respect to the project** — all considerations that appear to it to be relevant and directly related to the offshore renewable energy project or offshore power line, including: ...

In conclusion, we believe that the arguments presented in this concise brief support the amendments proposed and will result in promulgation of an Act that achieves its objectives of ensuring that the persons and groups affected by an environmental project are heard and that their arguments are taken into account by the Committee responsible for analyzing the project.

In closing, we thank the members of the Senate Committee for receiving this brief and giving it your attention.

**END**