

UNIVERSITÉ DU QUÉBEC À MONTRÉAL

TOWARDS A CONCEPTUAL MODEL TO UNDERTAKE STRATEGIC
ENVIRONMENTAL ASSESSMENT (SEA) IN CANADA :
REVISITING SEA IN THE CANADIAN CONTEXT

ESSAI ENV8515

PRÉSENTÉ

COMME EXIGENCE PARTIELLE

DE LA MAÎTRISE EN SCIENCES DE L'ENVIRONNEMENT

PAR

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16 SEPTEMBRE 2011

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Résumé

Cet essai se penche sur la possibilité de développer un modèle conceptuel pour entreprendre des évaluations environnementales stratégiques (EES) au Canada. En général, l'EES a pour objectif de mettre en œuvre une politique, un plan ou un programme (PPP) en respectant l'environnement. L'EES est un domaine qui n'est pas encadré sur le plan conceptuel. Tout d'abord, l'essai définit le contexte de l'EES. Par la suite, les similitudes et les différences entre les évaluations d'impact environnementaux (EIE) et les EES sont clarifiées. Dans la deuxième partie de l'essai, la chronologie du développement de l'EES au Canada est exposée. Les documents les plus importants qui ont façonné l'EES au Canada sont détaillés. La troisième section de l'essai étudie la possibilité de développer un modèle conceptuel pour entreprendre les EES au Canada. L'essai illustre l'importance d'intégrer une démarche d'EES au processus d'élaboration des politiques. La dernière partie analyse l'étude de cas du *Saint-Laurent source de richesse: Programme d'évaluations environnementales stratégiques sur la mise en valeur des hydrocarbures en milieu marin*.

Mots-clés: Évaluation Environnementale Stratégique (EES), l'Évaluation d'Impact Environnemental (EIE); modèle conceptuel, les Politiques, Plans et Programmes (PPP), la prise de décisions.

Executive Summary

This essay looks at the possibility to develop a structured approach to undertake Strategic Environmental Assessment (SEA) in Canada. In general, SEA aims to implement a policy, a plan or a program (PPP) respecting the environment. SEA is a field that is not framed conceptually. First, the essay sets the context of SEA. Thereafter, the similarities and the differences between Environmental Impact Assessment (EIA) and SEA are clarified. The essay lists the requirements to undertake a SEA. In the second part of the essay, the chronology of the development of the SEA field in Canada is laid out. It specifies the most important documents that shaped SEA in Canada. The third section of the essay studies the possibility to have one conceptual model to undertake SEA in Canada. The essay illustrates the importance of integrating the SEA approach to the policy-making process. The last part analyses the case study of the *Le Saint-Laurent source de richesse: Programme d'évaluations environnementales stratégiques sur la mise en valeur des hydrocarbures en milieu marin*.

Key-words: Strategic Environmental Assessment (SEA); Environmental Impact Assessment (EIA); conceptual model; Policies, Plans and Programmes (PPP); decision-making.

List of Abbreviations, Initials, and Acronyms

AQEI	Association Québécoise pour l'Évaluation d'Impacts
BAPE	Bureau d'audiences publiques sur l'environnement (Québec)
CEAA	Canadian Environmental Assessment Agency
CEARC	Canadian Environmental Assessment and Research Council
CESD	Commissioner of the Environment and Sustainable Development
DFID	Department for International Development
EARP	Environmental Assessment and Review Process
EIA	Environmental Impact Assessment
FEARO	Federal Environmental Assessment Review Office (Canada)
IAIA	International Association for Impact Assessment
SEA	Strategic Environmental Assessment
PPP	Policies, plans and programmes
WCED	World Commission on Environment and Development

Introduction

On March 8th 2011, the report studying the public preoccupations of the exploration and the exploitation of shale gas written by the *Bureau d'audiences publiques sur l'environnement (BAPE)* of the province of Quebec was made public. The BAPE proposed Pierre Arcand, Minister of Sustainable Development, Environment and Parks, to consider a Strategic Environmental Assessment (SEA) to assess the impact of this programme.

SEA, a high-order environmental assessment (Noble, 2004), is recognized as the integration of the environment in decision-making process. "Strategic Environmental Assessment has gained momentum in recent years" (Noble and Harriman-Gunn, 2009; p. 104). It is viewed by some scholars as the evolution or the extension of Environmental Impact Assessment (EIA) (Bina, 2008; Dalal-Clayton and Sadler, 1999). SEA is a field, developed as much by practitioners than by scholars, that is not framed conceptually. In other words, a structured SEA approach is missing. A general framework to undertake SEA is required to increase our understanding of this concept. This essay supports that there are constant interactions between theory and practice. It studies the possibility to develop a conceptual model to undertake SEA in Canada. This model would enhance the integration of key environmental concerns, thus lead to better decision-making.

The first section of the essay sets the context of SEA. It defines the concept of SEA and its objectives. The essay highlights the differences and the similarities between EIA and SEA. To increase our understanding of the studied concept, the purposes, the applications, and the scope of SEA are defined. This first section also critiques the SEA approach. The second part portrays the history and the development of SEA in Canada through time. In this section, the most important legal documents with regard to SEA in Canada are described. The timeline starts in 1973 with the

Environmental Assessment Review Process (EARP) and ends in 2010 with the most recent Cabinet Directive. In the third section, the conceptual model is defined and then the possibility of a model for SEA in Canada is studied. This section highlights that one unique model to undertake all SEAs is not practicable. A possible conceptual model for SEA to assess plans, policies, programmes (PPP), including guiding principles, is proposed. The last section of the essay illustrates an application of SEA in Canada. The case study is the *Saint-Laurent source de richesse: Programme d'évaluations environnementales stratégiques sur la mise en valeur des hydrocarbures en milieu marin*.

1 Context of SEA

To have a good understanding of SEA, a clear definition of the studied concept is primordial. A SEA approach allows decision-makers to have an integrated perspective on laws, plans, policies, programmes (PPP) and strategies either existing or proposed (Bina, 2008; Dalal-Clayton and Sadler, 1999; Noble, 2004). This essay will use the generic term of PPP, but there is a little distinction to be made (see Fig. 1.1).

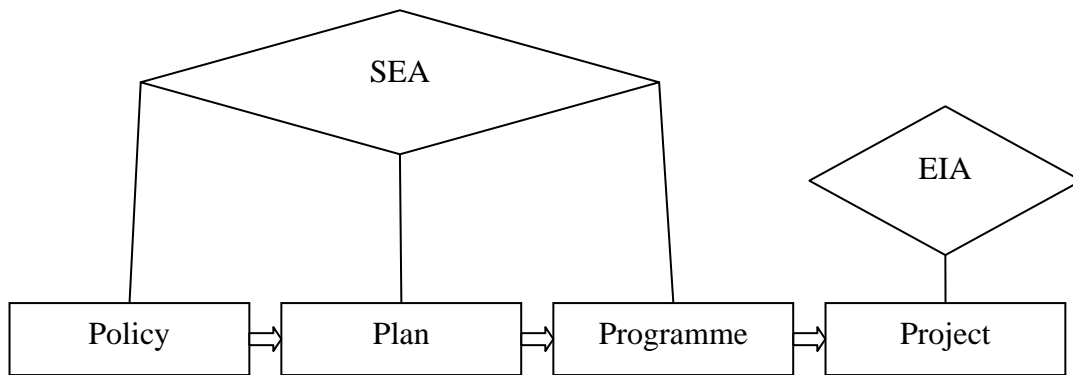


Fig 1.1 Sequence of PPP and environmental assessment.
Source: Thérivel and Partidário, 1996.

The legal requirements are often the main justification of the application of SEA, but there are other objectives to undertake SEA. As mentioned in the introduction, some scholars view SEA as the evolution or the extension of EIA (Bina, 2008; Dalal-Clayton and Sadler, 1999). For this reason, the differences and similarities between EIA and SEA are listed. SEA has many purposes and applications. Because defining the scope of the assessment is an important step in SEA, we will explain this concept.

1.1 Definition and Characteristics of SEA

Few definitions are now used in the literature. Environmental assessment practitioners and scholars often superficially define SEA as the environmental

assessment of PPP and strategies (Brown and Thérivel, 2000). This simple definition might lead to semantic drift as it is an abusive simplification of the studied concept. Sheate and colleagues (2001) note that there are various definitions that explain the different roles and purposes of this concept. Since the field of SEA is in development internationally, there is no one definition for SEA (Dalal-Clayton and Sadler, 1999; Marsden and Dovers, 2002). The Brown and Thérivel (2000) definition of SEA is the most cited definition in the literature. These scholars define SEA as

a process directed at providing the proponent (during policy formation) and the decision-maker (at the point of policy approval) with a holistic understanding of the environmental and social implications of the policy proposal, expanding the focus well beyond the issues that were the original driving force for the new policy (Brown and Thérivel, 2000; p. 184).

In sum, SEA is a process that helps the integration of environmental and social concerns into decision-making.

According to Noble and Harriman-Gunn (2009; p. 104) “Achieving a common definition of SEA, however, is far less important than understanding the principles upon which SEA is based”. These principles will be detailed in the following sub-section.

1.2 SEA Principles

Principles of SEA work beyond a definition to detail the applications and the procedural requirements of SEA (Verheem and Tonk, 2000). According to Fischer and Gazzola (2006), the SEA principles have two main objectives: the first is to “underpin the decision-making context SEA works in”; and the second objective is to “guide SEA methodology” (Desmond, 2007; p. 69). These principles can also be used to assess the quality of any SEA (Desmond, 2007). When determining SEA

principles, they “should be broad enough to include effective approaches designed for a wide range of specific uses” (Verheem and Tonk, 2000; p. 178). To develop a frame of reference, it is important that the principles are not EIA-based, since these principles are developed for project assessments. In order to develop a SEA framework, it is essential to explore guiding principles that should underpin the SEA process. The list of SEA principles is extensive. It is beyond the scope of this essay to list all the principles detailed in the literature. The most cited principles are described below.

A useful starting point is the set of SEA principles suggested by the UNECE (1992) which argues that the process should include scoping, outside review, public participation, documentation, decision making and post decision making monitoring, and evaluation (Desmond, 2007). The IAIA (2002) principles are recognized by Dalal-Clayton and Sadler (2005).

1.2.1 Strategically Focused

This principle stresses that enough information has to be provided in order to take an informed decision (Dalal-Clayton and Sadler, 2005). The focus of the assessment should be on sustainable development issues (IAIA, 2002), thus the three pillars, the environment, the economy and the society, should be considered. Clear objectives have to be determined in order to achieve them (Noble and Harriman-Gunn, 2009).

1.2.2 Future Oriented

The aim of this principle is to look forward and “backcasts desirable ends and alternative means” (Noble and Harriman-Gunn, 2009; p. 106). The results have to be available early enough to influence decision-making and inspire future planning (IAIA, 2002). A SEA should also be iterative, meaning it is involved in a repetition of steps in a procedure.

1.2.3 Focused on Alternatives

An important difference between SEA and EIA is that the former assesses the alternative options of PPP (Noble and Harriman-Gunn, 2009). Assessing the alternatives is an essential step in making sure the chosen option is the best. This principle provides trustworthy and pertinent information for development planning and decision-making (IAIA, 2002).

1.2.4 Proactive

The anticipation of future problems and impacts is an important principle. By being proactive, the aim of SEA is to avoid, eliminate and minimize negative impacts and enhance positive impacts (Fischer, 2007; Noble and Harriman-Gunn, 2009).

A proactive approach to SEA means that SEA should be implemented at an early stage in the decision making process in order to shape the development and assessment of alternatives and arrive at the preferred, rather than most likely future (Noble and Storey, 2001; p. 487).

An early start of the SEA process helps to attain this principle.

1.2.5 Integrated

The integration is an important principle when undertaking a SEA. The study of interactions between different spheres such as the economic, the society and the environment is essential to grasp the problematic (Noble and Harriman-Gunn, 2009). This principle ensures the right assessment to attain sustainable development (IAIA, 2002). A SEA should also be integrated among the assessment family such as EIA.

1.2.6 Broad focus

Again we have to go beyond an EIA approach, which is project-specific. “Scopes broaden as assessment moves from program, to plan, to policy-level assessment” (Noble and Harriman-Gunn, 2009; p. 104) and even more so from project. It is therefore important to define the scope of the assessment.

1.2.7 Tiered

SEAs have to be built over previous SEAs and serve as building blocks for future SEAs and EIAs (Noble and Harriman-Gunn, 2009). “In the absence of tiering, communication processes become broken or interrupted, creating dissonance with other levels of decision-making. Tiering also provides a means and an incentive for auditing and monitoring” (Sheate *et al.*, 2001; p. v). This principle highlights the iterative process of SEA.

1.3 Objectives of SEA

To complete our understanding of SEA, we need to identify the objectives of using this approach. The objectives of a SEA vary. The aims and the objectives of SEA are first, to integrate environmental protection and sustainable development; second, to strengthen environmental impact assessment (EIA); and third, to consider the environment into a decision-making process. These following SEA objectives are mingled and interconnected, in other words there is no clear line separating them. The objectives are described below.

1.3.1 Environmental Protection and Sustainable Development

The first objective of a SEA approach is to protect the environment and reach ecologically sustainable development (Marsden and Dovers, 2002). It should be added that conceptually a SEA can contribute to sustainable development without have sustainable development as an objective. The concept of sustainable

development originates from the 1987 Brundtland report entitled *Our common Future* (WCED, 1987).

The goals of the Report were to propose long-term environmental strategies for achieving sustainable development, and to identify how relationships among people, resources, environment and development could be incorporated into national and international policies (Desmond, 2007; p. 66).

According to Noble and Storey (2001), this Report, among others, revealed the necessity to address the environmental issues of PPPs at a strategic level. We need to keep in mind that sustainable development is tripartite. In other words, sustainable development is reached when the economy, the society and the environment are balanced (Marsden and Dovers, 2002). “SEA can assist the decision-making process in improving the design of more sustainable policies and strategies” (Noble, 2002; p. 4). In a few words, SEA integrates the concept of sustainable development.

1.3.2 Strengthen EIA

SEA and EIA are complementary tools to assess environmental consequences. SEA should be undertaken first as it takes place upstream. SEA therefore sets the guidelines of a PPP before even thinking if a given project should be realised at all, as is or with modifications (the final objective of an EIA).

Some scholars perceive SEA as an extension of EIA. Fischer (2003) writes that too often SEA is perceived as the ‘big brother’ of EIA. Objectives of SEA are broader than the ones for project-level EIA (Noble and Harriman-Gunn, 2009). The differences between EIA and SEA will be clarified in section 1.6.

1.3.3 Integration of environmental concerns into decision-making

The final objective, and *raison d’être* of SEA, is the mitigation of the environmental impacts of PPP doing so the process integrates “environmental considerations into strategic decision-making” (Desmond, 2007; p. 63). Sheate and

colleagues (2001) note that public participation is a key tool to ensure the integration of the environmental and social concerns into decision making. The results of the SEAs are integrated in the decision-making process (Sheate *et al.*, 2001). SEAs precede project decisions (Fischer, 2007). This essay only looks at public participation in a transversal manner (see section 3.3.8).

1.4 Purposes and applications of SEA

The cross-sectoral nature of sustainability issues suggests the use of SEA (Marsden and Dovers, 2002). Since SEA is a flexible and adaptable process, there are many purposes and applications to this approach internationally. Brown and Thérivel (2000; p. 185) list “Water resources; transport; spatial and energy planning; agriculture; forestry; trade agreement; regional economic investment” as the main sectors of applications of SEAs. To this list Desmond (2007) and Fisher (2007) would add fisheries, industry, waste management, telecommunications, tourism, funding programmes, economic development plans, oil and gas extraction, town and country planning or land use.

1.5 SEA Requirements and Criteria

Complementary to the principles, to undertake a holistic SEA, some formal requirements have to be met. These requirements help achieve a consistent approach to conduct SEAs. Clear goals for the assessment have to be determined (Fischer, 2007). Partidário (1996) highlights that, although EIA and SEA have similar principles, the requirements for both forms of environmental assessment differ.

Funding, time and support are essential components for the success of a SEA (Fischer, 2007). These criteria assure the meaningfulness of the assessment of achieving successful outcomes and goals.

Openness is important. All the involved stakeholders have to cooperate and traditional decision-making approaches have to be considered (Fischer, 2007).

As it has been mentioned many times, SEA is often compared to EIA.

It should be remembered that in the early days, policy and wider planning issues were excluded from EIA because of difficulties in ensuring sufficient data to satisfy the then acceptable limits of uncertainty (Partidário, 2007; p. 461).

When using SEA, we need to acknowledge and deal with uncertainties and unforeseeable impacts as they are greater than in EIA (Fischer, 2007). This could be justified by the differences in the scope of the assessments. Various approaches, such as the precautionary principle, can be used to factor this issue in the SEA.

Ideally, these formal requirements are guidelines that should be included in legislation and guidance. It is challenging to include the listed guidelines into legislation as they are abstract. That being said, all regulations and directives have to be clear and explicit (Fischer, 2007).

1.6 Differences and similarities between SEA and project EIA

To understand the objectives of SEA and to study the possibility of developing a conceptual model for this approach, it is important to list the differences and similarities between EIA and SEA.

It is right to think that EIA and SEA are complementary, but we have to keep in mind that these two types of environmental assessments have different scopes and objectives. The main difference between EIA and SEA is that EIA is the assessment of projects whereas SEA is the assessment of policies, plans, programmes and strategies. EIA differs from SEA, since the former analyzes the impacts of large-scale projects, “are site-specific and normally involve only one activity, and are therefore not strategic” (Thérivel and Partidário, 1996; p. 4). As mentioned above, the SEA approach has been developed using EIA methods or as Partidário (2007) writes an “EIA culture”. One might question this practice, as the two approaches have notable differences.

What could be more seductive than the notion that we can shift our project-based EA procedures upstream in planning processes to apply the same approaches and tools to plans, policies and programmes (PPPs)? (Brown and Thérivel, 2000; p. 183).

An EIA answers ‘how’ questions and SEA ‘why’, ‘what’ and ‘where’ questions (Verheem and Tonk, 2000).

When scholars defined the concept of SEA, it has put forward that there are two ‘forms of SEA’. The first type of SEA being ‘EIA-based’ or ‘EIA-driven’ SEA and the second ‘objective-led’ SEA (Desmond, 2007).

1.6.1 ‘EIA-based’ SEA

Sheate and colleagues (2001) define EIA-driven SEA, also called “EIA-driven’ or ‘EIA-inspired’, as project-level EIA applied to PPPs. “*This approach originates from ecological/resource management disciplines*” (Sheate *et al.*, 2001; p. 61). The use of this form of SEA limits the consideration of alternatives (Desmond, 2007). EIA-driven SEA, a reactive process, is too often undertaken late in the assessment process, for example when the policy is already adopted. It is often used at the programme level (Sheate *et al.*, 2001).

The main steps of SEA are similar in nature to project EIA steps: screening, scoping, prediction of variations compared to a baseline, mitigation of impacts, monitoring, review, and public participation (UNECE, 1992).

The Canadian Environmental Assessment and Research Council (CEARC, 1990), which later became the Canadian Environmental Assessment Agency (CEAA), suggested that the methodology for SEAs should be EIA-based or project-level based, as the EIA methodology was already developed and tested (Noble and Harriman-Gunn, 2009). Canadian SEAs are now carried by a process parallel to EIAs

(Dalal-Clayton and Sadler, 2005). This process is characterised in the next subsection.

Even though it limits the consideration of alternatives, many countries use the 'EIA-based' SEA model as the "EIA" methodology is already developed and tested. For example, the 2000 European SEA Directive (2001/42/EC) is an application of a systematic EIA-based and participative process (Fischer, 2007). "Under the [European] Directive, 'environmental assessments' are to be carried out for a specified list of plans and programmes" (Dalal-Clayton and Sadler, 2005; p. 49).

The problems linked to this type of SEA are that the scope of SEA and EIA are different, therefore the steps should not be the same. The problem of using such an approach is that it is harder to redo the thinking process as the decision-making is either too advanced or completed (Sheate *et al.*, 2001). "Furthermore, they are likely to be more resource intensive due to the extensive baseline data required" (Sheate *et al.*, 2001; p. 77). This approach to SEA uses EIA methods that are 'tried' and 'trusted' (Sheate *et al.*, 2001).

1.6.2 Objective-led SEA

Many scholars (including Bailey and Renton, 1997; Noble, 2009; Noble and Storey, 2001) support that an alternative approach to EIA-based SEA is required since the two approaches have different objectives.

This form of SEA, also called 'policy-assessment' based SEA is the alternative to 'EIA-based' SEA (Fischer, 2007). It originates from political science (Sheate *et al.*, 2001). In this type of SEA "the potential impacts of a proposal are assessed against a series of aspirational environmental objectives, rather than against a baseline" (Desmond, 2007; p. 64). Objectives-led SEA is proactive and promotes the assessment of alternatives.

In this approach, we should focus on SEA principles (see 2.2) “on goals to be achieved, rather than on specified process requirements” (Verheem and Tonk, 2000; p. 178).

The objective-led approach is also criticised. According to Fischer (2007; p. 5), “Generally speaking, non-EIA-based assessment approaches are considered to be less methodologically rigorous than EIA-based processes (...)”. This could be explained partly by the lack of experience in SEA and the absence of a clear procedural model.

Brown and Thériviel (2000; p. 186) write “Thus, new methodologies and procedural requirements, specifically for SEA, will be required”. This is the justification of the thesis of this essay. The following sections attempt to develop a conceptual model to undertake SEAs in Canada.

1.7 Scope of a SEA

The scope of an assessment can be defined as the limits or the boundaries of the studied impacts. It should be noted that the scope of SEAs goes far beyond environmental issues. SEA concerns include political, physical, ecological, institutional, economical and social considerations. According to Noble (2009), public involvement and public review of the SEA documents play an important role in the development of the terms of reference and the establishment of the scope of the environmental assessment. SEA integrates cumulative impacts as this approach is upstream of projects assessments. Since SEA studies for example a programme that includes different projects, the impacts of these projects can have interactions. When looking at cumulative impacts three time frames should be looked at: the past, the present and foreseeable future (Hegmann *et al.*, 1999). The Cumulative Effects Assessment Practitioners Guide, published by the Canadian Environmental Assessment Agency (CEAA) in 1999, provides guidance to practitioners (Hegmann *et al.*, 1999). It is beyond the scope of this essay to study thoroughly cumulative impacts.

2 History of SEA in Canada

In order to develop a conceptual model to undertake objective-led SEAs in Canada, it is essential to have a general understanding of the history of SEA in Canada. “Canada was the first country to implement the SEA of cabinet proposals” (Jones *et al.*, 2005; p. 10). In Canada, SEA is particularly important in decision-making as policies have the power to affect the shaping of programmes, and therefore individual projects (Thérivel and Partidário, 1996). This section details the SEA chronology in Canada.

It should be noted that the current version of the *Canadian Environmental Assessment Act* only applies to project EIAs (Partidário, 1996).

2.1 Objectives of Canadian SEA

In section 1.3, the general objectives of SEA were detailed. As Canada is the focus of this essay, we have to contextualise the objectives of SEA in this country.

Systems and practices of SEA in Canada are diverse and, in many cases, designed to meet specific objectives and functions that range from program-level decision making and streamlining downstream project-based EIA to broader visioning and considerations of sustainability in plan and policy development (Noble, 2009; p. 72).

This citation highlights that, in Canada, SEAs are customized to meet specific objectives and purposes. EIAs are under the SEA umbrella.

2.2 Stakeholders Involvement

In Canada, SEA is a formal procedure undertaken mainly by the federal government (Dalal-Clayton and Sadler, 2005). The Commissioner of the Environment and Sustainable Development (CESD) has the role, on an annual basis, to oversee SEA processes and to monitor performance of the Canadian SEA system

(Fischer, 2007). The CEAA is the federal agency that supports the SEA process and provides guidance (Fischer, 2007; Sadler, 2005). This agency, created in 1992, is “responsible for administering and promoting environmental assessment policies and practices of the federal government” (Sheate *et al.*, 2001; p. 26). The CEAA also provides training programmes that anchor the SEA practice within the different departments and agencies (Lerond *et al.*, 2003). On the CEAA website, we can notice that no training is offered on that topic neither in 2011 or 2012. Environment Canada provides expert advice (Sadler, 2005) and “is also responsible for co-ordinating the development of federal policies and the actions of other departments who are required to produce sustainable development plans of their actions” (Sheate *et al.*, 2001; p. 36). Sadler (2005; p. 52) writes “It is unclear who is responsible for quality control within this institutional framework”.

2.3 Chronology of Canadian SEA Development

Canada played an important role in the development of the concept of SEA. In Canada, as in most countries, the field of SEA developed from EIA. In the United-States, in 1969, the Environmental Protection Agency (EPA) proposed a strategic approach for federal initiatives. This essay focuses on the Canadian SEA context.

2.3.1 Environmental Assessment and Review Process (EARP) –1973

In 1973, the Environmental Assessment and Review Process (EARP) formally adopted environmental assessment in Canada (Noble, 2009). This document marks the beginning of SEA in Canada (Noble, 2008). It defined Canada’s EIA policy and created the Federal Environmental Assessment Review Office (FEARO) –which later became the Canadian Environmental Assessment Agency (CEAA)- which role was to administer the EARP (Sadar and Stolte, 1994). According to the FEARO (1983; p. 9), the objectives of the EARP were:

to ensure that the environmental consequences of all federal projects, programs and activities are assessed before final decisions are made and to incorporate the results of these assessments into planning, decision-making and implementation.

The EARP was introduced as a solution for environmental issues (Weston, 1997). The EARP has influenced various planning decisions to some extent, but it has fallen short of original expectations (Weston, 1997). Weston (1997) explains this by the fact that many federal departments and agencies did not think the environment was part of their mandates.

2.3.2 Mackenzie Valley Pipeline Inquiry –1974–1977

Beyond documents produced by the federal government, various cases studies helped defining the concept of SEA in Canada. The Mackenzie Valley Pipeline Inquiry, although not formally recognised as SEA, shaped the development of SEA in Canada (Noble, 2008; Noble, 2009). This inquiry, commissioned by the Government of Canada, studied the environmental, social and economical impacts of a proposed gas pipeline (Berger, 1977). The extensive public participation of the inquiry, led by Mr. Justice Thomas Berger, was an innovative stepping stone (Gibson and Hanna, 2009). It recognized the possibility of communities to influence environmental management (Berkes *et al.*, 2001). The Mackenzie Valley Pipeline Inquiry sets the expectations of an assessment (Gibson and Hanna, 2009).

2.3.3 Guidelines Order of 1984

The Guidelines Order of 1984 was prepared by the federal Minister of Environment (Sadar and Stolte, 1994). This document “defined the reach of environmental assessment to extend well beyond individual projects and encompass broader regional, conceptual, and policy-level review processes” (Noble, 2008; p. 66). The guidelines shed light on the roles and responsibilities of the different

stakeholders either participating or involved in implementing EARP (Sadar and Stolte, 1994). According to Sadler (2005; p. 52), “The Guidelines provide useful advice but are short on direction and the details necessary for quality assurance and achieving integration.” This 1984 document was an important step towards SEA in Canada.

2.3.4 Environmental Assessment Process for Policy and Programme Proposals –1990

In 1990, SEA was accepted as a tool by a federal Cabinet Directive with the *Policy and Programme Assessment* (Dalal-Clayton and Sadler, 1999; Noble, 2009). The Directive required all federal departments and agencies to apply environmental assessment to policy and programme proposals submitted for Cabinet consideration (Dalal-Clayton and Sadler, 1999). Only guidelines were provided, no formal requirement for SEA procedure was given (Dalal-Clayton and Sadler, 1999).

In the Canadian context, a directive is a legislative act that requires the departments and agencies to achieve given results without dictating neither the specific form nor the means to achieve these goals. This internal document provides a guidance to undertake environmental assessments.

This federal SEA process “was established as a non-statutory procedure, separate from EIA legislation, and intended to be applied flexibly and pragmatically to integrate environmental considerations into policy and programme” (Dalal-Clayton and Sadler, 2005; p. 61). It only applies to proposals submitted to the Cabinet.

2.3.5 Environmental Assessment Process for Policy and Programme Proposals –1993

Also called the ‘Blue Book’, the *Environmental Assessment Process for Policy and Programme Proposals of 1993* offered procedural guidance on SEA in

Canada (Dalal-Clayton and Sadler, 2005; FEARO, 1993). It included a general, non-prescriptive procedure to undertake policy EA (Partidário, 1996). “The decision on the relevance of environmental impacts is left to the discretion of the minister submitting the proposal” (Partidário, 1996; p. 21). About the document, Partidário (1996) mentions that it lacks methodological and procedural aspects.

2.3.6 Natural Resources Canada: guidelines for the integration of environmental considerations into energy policies –1993

In order to reach the requirements for policy EA, different federal departments and agencies came up with ‘specific internal procedures and guidelines’.

In 1993, in response to FEARO guidelines, Natural Resources Canada (NRCan), the federal department responsible for energy policies and programs, released its guidelines for the integration of environmental considerations into energy policies (Noble, 2002; p. 5).

This department was among the first to define the concept of sustainable development and include its application in their mandate (Noble, 2002).

2.3.7 Update of the 1990 Cabinet Directive –1999

In 1999, the 1990 Cabinet Directive was updated. The *Cabinet Directive on Environmental Assessment of Policy, Plans and Programme Proposals* is a document that strengthens the country’s commitment to SEA as a higher-order assessment (Noble, 2004). The 1999 Cabinet Directive “was issued to strengthen the role of SEA in policy, plan and programme decision-making” (Dalal-Clayton and Sadler, 2005; p. 62). This update also shed light on the responsibilities of federal departments and agencies to plan and to implement sustainable development strategies (Dalal-Clayton and Sadler, 2005). In the updated Cabinet Directive, these responsibilities are

'mentioned' but not 'explained', no methodology is provided "and an opportunity to tap the potential role of SEA for delivering environmentally sustainable development has been missed" (Sadler, 2005; p. 52). It should be noted that none of the federal sustainable development strategies were assessed using a SEA process. This example shows that the federal government has not fully implemented the SEA into its daily practice.

2.3.8 Strategic Environmental Assessment: The Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals –2010

Since 2004, federal departments and agencies are required to release a public statement when a SEA has been completed (Noble, 2009). "There is no legislative basis for SEA, mainly because cabinet decision-making processes are not regulated" (Fischer, 2007; p. 84). In 2010, the Canadian Environmental Assessment Agency (CEAA) published *Guidelines for implementing the Cabinet Directive* (Government of Canada, 2010). The aim of this document is to provide SEA practitioners and government officials a tool to apply the Cabinet Directive. It proposes seven guiding principles to undertake SEA in Canada; from 'early integration' to the 'use of existing mechanism'. These principles do not provide enough information to create a methodological framework.

It should be noted that none of the Directives requires direct consultation or public participation (Fischer, 2007).

2.3.9 Cumulative Effects Assessment Practitioners Guide and Other Publications by the CEAA

The CEAA has published, through the years, useful tools to guide environmental assessments in Canada. As mentioned in section 1.7, among those tools, the Cumulative Effects Assessment Practitioners Guide. Most of these publications are available online on the CEAA website.

2.4 Application of SEA in Quebec

In Canada, the application of SEA at the federal level is well analysed, but little attention has been given to the study of the application of SEA in Canadian provinces (Noble, 2004). In Quebec, no legislation requires to undertake SEA to assess the environmental impacts of PPPs (Noble, 2004).

The difficulty pointed by Noble (2003) with respect to the application of SEAs in Quebec is the ‘consideration of PPP alternatives’. It is important to point out that the main barrier to the implementation of SEA at the provincial level is the limited understanding of the nature and benefits of this tool (Noble, 2004). The most significant barrier to practice SEA is the ‘lack of agreement on the need for and benefits of SEA’ (Noble, 2004). In Quebec, as it is in Canada, there is no legislative framework to undertake SEA. Insufficient legislative requirements are also an important obstacle in the province of Quebec. It is important to mention that SEA vary by jurisdiction.

Quebec reported two recent strategic EAs, both at the policy level: the first involving a provincial water policy assessment, completed May 2000; the second involving a policy assessment for swine production, currently in progress. Water policy, agriculture, forestry, and waste management were identified by Quebec as being most the common sectors subject to PPP assessment (Noble, 2004; p. 355).

At a conference given by Jean-Philippe Waaub, on April 11, 2011, he specified that what some scholars called SEA in Quebec were formally ‘generic public audiences’ orchestrated by the BAPE. Too often, these generic public audiences are government exercises to study a given topic, but no strategic documents come out of these audiences. The BAPE plays an important role in Quebec to analyse

the environmental preoccupations of various projects. The Bureau's roles could be extended to SEA.

The *Association Québécoise pour l'Évaluation d'Impacts* (AQEI) declares that SEA is a powerful and 'proven' tool that should be included in the Quebec Sustainable Development Strategy. SEA is not mentioned anywhere in the 2008-2013 Quebec Sustainable Development Strategy.

2.5 Limitations of Canada's Current SEA System

The *Canadian Environmental Assessment Act*, which replaced the EARP, regulates the EIA of projects undertaken in Canada (Dalal-Clayton and Sadler, 1999). There are no legislative SEA requirements, "mainly because cabinet decision-making processes are not regulated" (Fischer, 2007; p. 84). There are no legal support mechanisms, therefore the enforcement is difficult. According to Noble (2009), there are no federally legislated requirements for SEA, because of the current state of development and understanding of SEA in Canada. This is also a limitation for the application of SEA in Canadian provinces. The documentation is not publicly available and the process lacks public participation (Fischer, 2007). On this subject, Noble (2009) adds that there is no central registry for SEAs as there is for EIAs. There are no clear environmental goals (Fischer, 2007). Funding and time often limits the outcome of the SEAs (Fischer, 2007). There is only a cabinet SEA system in place (Fischer, 2007). It should be noted that SEA is not limited by the absence of methods and techniques (Noble and Storey, 2001).

2.6 Future of SEA in Canada: Legislative Situation

From the limitations stated above, the one that is the most constraining to the development of SEAs in Canada is the lack of legal support to undertake SEAs. Many Cabinet Directives have been issued but these are not legal mechanisms. They

are only general guidelines that apply to PPPs submitted to the Cabinet and are not imputable.

“The most successful SEA [in terms of immediate outcomes] generally occurs where there is a legal obligation to require it” (Sheate *et al.*, 2001; p. 85). The *Canadian Environmental Assessment Act* should include legal requirements for SEAs. These requirements would include a procedural model.

The only way to propose SEA regulations is to have a tested methodology to undertake SEA (Thérivel and Partidário, 1996). Unless SEAs are legally required, the number of case studies will remain low.

The notions of sustainable development, at least in terms of rhetoric, have infiltrated many levels of government so that there may already be broad-scale acceptance at the conceptual level of the need to incorporate sustainability and environmental considerations into PPP formulation and decision-making (Brown and Thérivel, 2000; p. 186).

The following section illustrates the procedural steps for a model SEA. This structured approach would be the first step towards the development of legislative requirements for SEAs in Canada.

3 Conceptual Model

The aim of this essay is to revisit SEA in the Canadian context and to study the possibility of a procedure to undertake SEA. This procedure will be based on existing literature.

3.1 Definition of a Conceptual Model

A conceptual model is a descriptive model of a system based on assumptions about its elements, their interrelations, and system boundaries. Such models are often represented using diagrams which illustrate theoretical entities, objects, or conditions of a system and the relations between them. Conceptual models are used to define the methodology of a given term or concept. “A methodology is a higher-order activity — a framework or structure for organising a process, a way by which SEA is performed, a system of conduct, a series of systematic steps” (Noble and Storey, 2001; p. 489).

The conceptual model also suggests that by following the procedural steps, the potential for achieving integration of key environmental issues in policy formulation and implementation can be greatly enhanced (World Bank, 2011; p. 23).

In this essay, the conceptual model method will be used to define the logical sequence of steps to undertake SEAs in Canada.

3.2 Multiple Applications: One Methodology?

Noble and Storey (2001; p. 487) highlight the importance of a structured methodology “in order to maintain consistency in application, and facilitate wide-spread SEA understanding.”

The aim of this essay is to study the possibility to develop a methodological and procedural framework to undertake SEAs in Canada.

Since SEA is adaptable to each socio-political context of decision-making, there is no universal approach to undertake this type of assessment (Partidário, 2007; Brown and Thérivel, 2000).

In Canada,

In large part, this skepticism is due to a lack of common understanding of the roles SEA can and should play in decision making, the limited availability of *tested methodological frameworks*, and, perhaps most significantly, a lack of cases clearly demonstrating the added value of SEA to PPP development or downstream assessment (Noble, 2009; p 73: emphasis added).

In this citation, Noble (2009) stresses the problems that a lack of “tested methodological frameworks” has in the development and the application of SEA as a decision-making tool in Canada. Also, the absence of a reliable methodology could lead to confusion among non-SEA specialists (Verheem and Tonk, 2000). It is therefore a never-ending loop. Because there is not enough understanding of the concept, it is not used. Since it is not used, there is little experience or new knowledge that are generated.

As mentioned in section 1.4, SEAs have various applications ranging from water resources to land uses. “While general guiding principles for SEA may be established, there is not likely to emerge a *single best one-size-fits-all framework*” (Noble, 2009; p. 74: emphasis added) that could be applied to all sectors. In other words, it is impossible to come up with one single framework that could be used for all possible SEA applications. When writing about the Canadian federal SEA process, Dalal-Claton and Sadler (2005; p. 64) write that “The [federal] guidance also notes

that there is no ‘single’ methodology for conducting a SEA of a policy or plan proposal”.

SEA borrows techniques and methods from different sources mainly EIA (Brown and Thérivel, 2000). It was often thought that the same EIA tools, methodological approaches and paradigms can be applied to SEAs, but the objectives and the purposes of these two assessments are quite different. “[...] there is no reason why the same rigid steps of EIA need to apply in a strategic approach in SEA” (Partidário, 2007; p. 469). Partidário (2007) explains the reason why it is important to dissociate SEA and EIA. Although they have noticeable similarities, the differences are too important to use the same framework to undertake EIAs and SEAs. Many scholars, including Partidário (2007) and Noble (2009), suggest that the approach and methodology currently used for SEAs is EIA-based.

Partidário (2007; p. 471) proposes a lexicon for SEA as “SEA requires specific terminology that embraces strategic thinking and culture in SEA”. She suggests terms that should replace concepts commonly used for EIAs. This lexicon is the first step towards the Noble’s (2009) “guiding principles” for all SEAs.

The SEA guiding principles, the precepts that guide SEAs, are quite similar to those of EIAs (Brown and Thérivel, 2000). The key concepts include for example waste, social impacts, pollution effects, ecological consequences, and all the dimensions of sustainable development such as equity, public participation, the precautionary principle, sustainable resource use and the provision of future needs.

3.3 The Conceptual Model: SEA Procedural Steps

The aim of this essay is to revisit SEA in the Canadian context and to study the possibility to develop a structured approach with detailed steps to undertake SEAs in Canada. Such an approach is essential for the development and more specially the use and application of SEA. “[...] if SEA is to receive widespread acceptance, then

there is a need for a consistent and structured SEA methodology” (Noble and Storey, 2001; p. 487). Figure 3.1 illustrates the sequence of procedural steps to undertake SEA. The right-hand side of the same figure represents the Policy making process and the arrows portray the interactions between the two processes. The proposed figure in this essay is the result of the combination of two figures. The first was proposed by Thérivel and Partidário (1996) and the second by Sheate and colleagues (2001). The editing of the original figures was done to keep the same vocabulary throughout the essay and to assure coherence.

This section details the questions that have to be answered for each procedural stage of the SEA process.

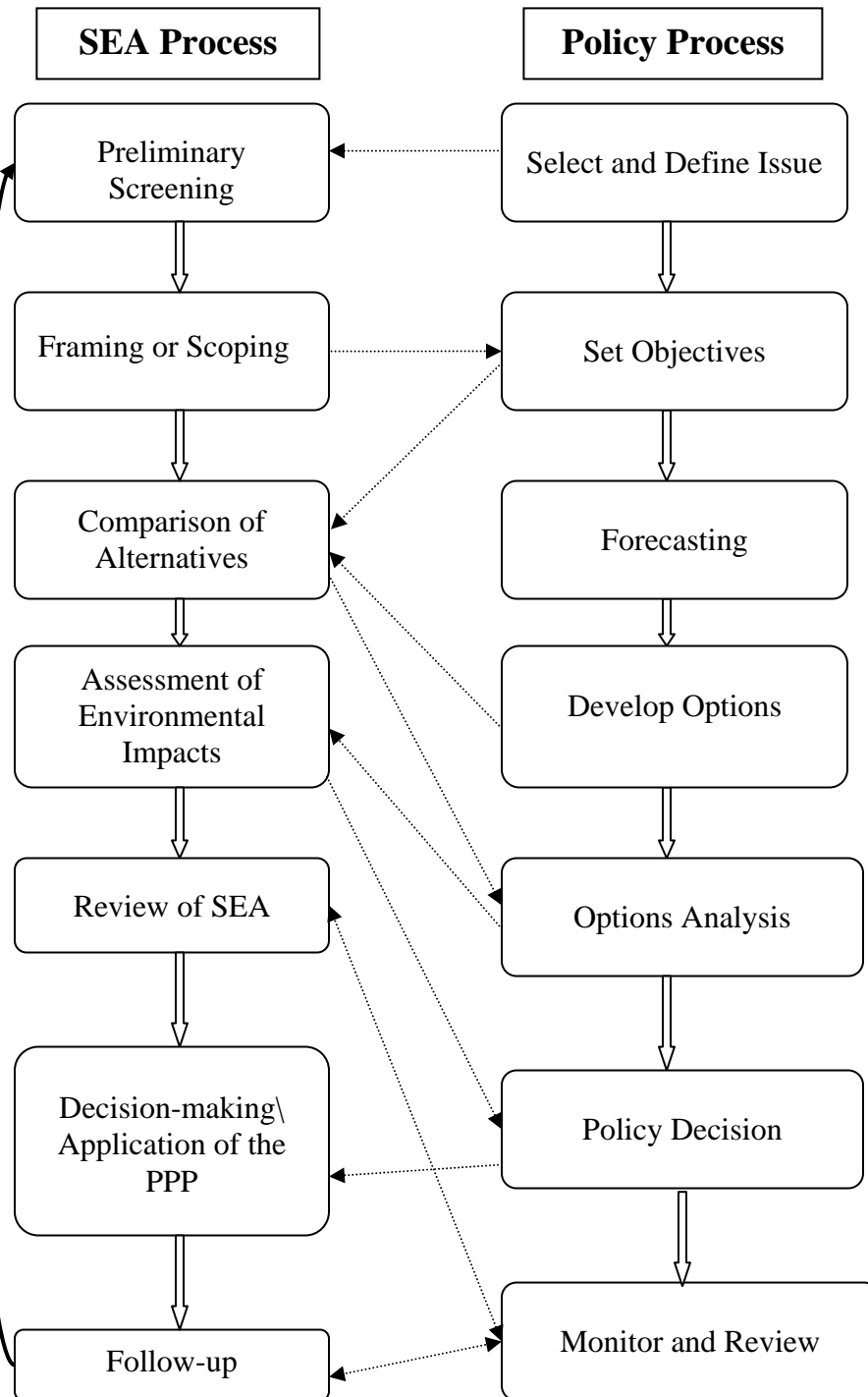


Figure 3.1 Flowcharts of the SEA and the Policy Processes and the interactions between the two processes.

Sources : Théritel and Partidário, 1996; Figure 1.1, p. 6 and Sheate *et al.*, 2001; Figure 5.2 p. 81.

3.3.1 Preliminary Screening

The preliminary screening answers the following question: “Is a SEA likely to be necessary?” (Fischer, 2007; p. 4). It is at this step that it is decided if a PPP is subject to an environmental assessment or not (Sheate *et al.*, 2001). The Cabinet Directive states that SEA should be applied to policy and programme proposals submitted for consideration (Dalal-Clayton and Sadler, 1999). In this step, all agencies and departments should carry out an appropriate assessment of all decisions that could have environmental impacts either positive or negative (Dalal-Clayton and Sadler, 2005).

3.3.2 Framing or scoping

The frame and scope of an assessment is important as it sets the limits and the focus of the assessment “on significant issues, rather than all issues” (Dalal-Clayton and Sadler, 2005; p. 127). What are the issues that need to be considered? What is the baseline information? What are the objectives and the targets? (Fischer, 2007). While scoping, Dalal-Clayton and Sadler (2005; p. 15) write the importance of providing “all relevant information [...] to judge whether: (i) an initiative should proceed; and (ii) objectives could be achieved in a more environmental friendly way (i.e. through alternative initiatives or approaches).”

3.3.3 Comparison of Alternatives

The comparison of alternatives is the main difference between EIAs and SEAs. The SEA approach promotes and assists alternative considerations (Sheate *et al.*, 2001). “To be most effective SEA must be initiated proactively before decisions have been made and when alternatives are still available” (DFID, 2003; p. 24). In the report, the alternatives need to be identified, described and evaluated (Jiliberto, 2004). The nature of the alternatives used is critical (Noble, 2000). It is important to differentiate ‘alternative options’ from ‘option alternatives’ (Noble, 2000; Sheate *et al.*, 2001). The former allows a strategic consideration of alternatives “i.e. alternatives

for meeting the objectives set” (Sheate *et al.*, 2001; p. 10). In the case of the latter, the option has often already been chosen. By comparing the alternatives, an informed choice of the most environmentally sustainable option is possible (Sheate *et al.*, 2001).

3.3.4 Impact Assessment

The impact assessment step predicts, describes, avoids, minimises, mitigates, and compensates significant impacts on the environment (Fischer, 2007; Sheate *et al.*, 2001). This stage is the core of the assessment. Sustainable development, one of the main objectives of SEA, can be integrated by studying social, economical and environmental impacts of PPPs. It is important to highlight that there is a difference between impacts and effects. An effect is the consequence of a given PPP or project in the case of EIAs, whereas an impact is the value judgment or the qualification of the effect. In the SEA context, it is often hard to qualify the effect; therefore the assessments can limit themselves to effects.

3.3.5 Review of SEA

At the review step, “The quality of the process and information is safeguarded by an effective review mechanism” (Dalal-Clayton and Sadler, 2005; p. 15). This stage, also called the audit of the assessment, is the most efficient if done by an independent body. It determines the accountability of the SEA (Sheate *et al.*, 2001). In the Canadian context, a committee should be put together by the CEAA. This committee could include independent experts, consultants, public servants, university professors. Such a committee would assure an independent audit of the assessment.

3.3.6 Decision-Making/Application of the PPP

At this stage, the SEA is approved. All involved stakeholders have to be informed on “how the results were taken into account in decision-making” (Dalal-Clayton and Sadler, 2005; p. 15). The PPP is applied.

3.3.7 Follow-Up and SEA Monitoring

The follow-up and the monitoring stages establish the cause and effect relationships. The SEA follow-up is an important step in the SEA process although little attention has been given to this step.

At this stage, the anticipated environmental consequences have to be compared to the actual impacts of the PPP, therefore sufficient details on the actual impacts of the implementation of the decision have to be available (Dalal-Clayton and Sadler, 2005).

The arrow that links the ‘follow-up’ step back to the ‘preliminary screening’ underlines the iterative process of SEA, meaning the repetitive characteristic of the approach. The lessons learned from the analysis and monitoring of SEA, and the recommendations refine the model and influence future SEAs.

It is important to point out that SEA is a cyclic and an iterative process. “L'étude d'impact [EIA] ne constitue qu'une étape d'un système d'évaluation environnementale plus complet: elle doit s'articuler avec une évaluation environnementale stratégique [SEA], et devrait en être un complément logique” (Lerond *et al.*, 2003; p. 20). In other words, after undertaking a SEA, a project-EIA integrates the most important findings of the SEA. Following the EIA, a follow-up takes place. This follow-up can be used as an indicator to assess the EIA and SEA. The assessment will serve as a foundation for future SEAs.

Partidário and Fischer (2004) state that there is no SEA follow-up considered in the Canadian Directive for SEA. A follow-up is an essential aspect of SEA, because of the iterative component of this type of assessment.

3.3.8 Public Participation

There are eight levels of public participation that range from manipulation to citizen control (Arnstein, 1969). Consultation is one of the public participation level and one of the most commonly used in environmental assessments. At which stage should the public participation be held? Public participation is not a step in itself, but an ongoing process that needs to take place all through the SEA (Sheate *et al.*, 2001). It has to take place as early as possible.

In a democratic society, the general population's environmental concerns should be integrated into the assessment of PPPs (Sheate *et al.*, 2001). In order to have a complete understanding of the analysed PPP:

Sufficient information on the views of all legitimate stakeholders (including the public affected) [should be] available early enough to be used effectively in the preparation of the strategic decision (Dalal-Clayton and Sadler, 2005; p. 15).

This citation stresses that information should be gathered as early as possible in order to assure the integration of the public's concerns into the decision-making process.

The *Convention on access to information, public participation in decision-making and access to justice in environmental matters* also called the Aarhus Convention, signed in Aarhus, Denmark, on June 25, 1998, was not ratified by Canada (UNECE, 1998). This convention enhances public participation (Sheate *et al.*, 2001).

The Convention uses terms such as 'early' and 'effective' to describe the desirable public participation, but these concepts remain undefined (Hartley and

Wood, 2005). It strengthens participation processes in public decision-making (Fischer, 2007).

Needless to say that the convention should be ratified by Canada, in order to empower citizens in the environmental assessment process. The Aarhus Convention principles should be included in the SEA framework. Article 7 of the Convention relates to the public participation concerning plans, programmes and policies relating to the environment.

The Aarhus convention states various principles which could easily be integrated to a SEA framework even without ratifying the convention:

- Early participation;
- Access to documentation;
- Discussions with public;
- Submission of public's opinions;
- Consideration of participation outcome in decision-making;
- Effective participation.

3.3.9 SEA and Policy-Making Process

For a long time, the environment was considered as a field disconnected from policy making (Sheate *et al.*, 2001). Policy making was using a reactive approach to environmental damage (Sheate *et al.*, 2001). The role of SEA as policy formulation tool should be emphasized (Brown and Thérivel, 2000). SEA is, therefore, the most effective at the formulation stage of a PPP. Bailey and Renton's research (1997) support this. The authors asked various Australian agencies to state where environmental impacts should be considered in the decision-making process. Sixty-three percent of the agencies answered the integration of environmental effects would be most efficient during policy formulation.

Since a SEA of policy is closely linked to policy-making, the two processes should merge or at least be integrated to one another. According to Fischer (2007), the procedural integration of PPP making and of SEA processes is desirable. Thérivel and Partidário (1996) are in favour of a full integration of the two processes.

SEA should be a flexible tool which is used throughout PPP-making, and affects the many small, incremental decisions taken throughout PPP-making, not just the final authorisation decision (Thérivel and Partidário, 1996; p. 182).

Fischer (2003) supports that the merge would be problematic as SEA and PPP making have different objectives.

Fischer (2007) states that there are four possible types of integration:

1. Full integration of SEA to PPP, the SEA process does not exist by itself;
2. The SEA and PPP processes are parallel, but join at different important stages, also called the ‘Concurrent model’;
3. The two processes are independent, but “SEA feeds into the PPP making process at one stage only, for example, before PPP consent is given” (Fischer, 2007; p. 36). This type of integration is also called the ‘stapled model’;
4. The SEA and PPP processes are independent and SEA is applied *ex-post*. In this integration, SEA does not directly impact the PPP.

The forth option has been used in the past, but the SEA process is of no use if it takes place after the PPP preparation (Fischer, 2007). The third option limits the influence of SEAs to choose the alternatives, objectives, and aspects (Fischer, 2007). The question that needs to be answered is which of the first two options should be applied.

The flowchart (Fig. 3.1) compares the SEA process to the policy making process as the two conceptual models are intertwined. Instead of using an EIA-based approach to SEA, the procedural steps of SEA should be in parallel to the policy-making approach. A general understanding of the policy process is essential. The conceptual model should therefore include the steps of both approaches.

In sum, the grafting of the SEA approach to the policy making process would increase the effectiveness and the efficiency of the integration of environmental concerns into decision making processes (Sheate *et al.*, 2001).

4 Case study : Le Saint-Laurent source de richesse : Programme d'évaluations environnementales stratégiques sur la mise en valeur des hydrocarbures en milieu marin¹

4.1 Context

The chosen case study is *Le Saint-Laurent source de richesse: Programme d'évaluations environnementales stratégiques sur la mise en valeur des hydrocarbures en milieu marin* (AECOM, 2010). It is one of the first SEAs, if not the first, undertaken in the province of Quebec. It should be noted that the analysis of the case study is solely based on the SEA report and that the report is only a fraction of the SEA process. The preliminary SEA report used in this case study was submitted to the Quebec government in July 2010.

This case study is a sectoral SEA, meaning it is an assessment of a series of similar projects. The report assesses the programme of the exploration and of the exploitation of gas and oil in a specific section of the St. Lawrence River. It was the first phase of two planned SEA in the same field. The second phase should cover a different geographical location in Quebec.

The private consulting firms AECOM Tecresult Inc., LGL Limitée et Transfert Environnement were given the mandate to prepare the SEA report for the ministère des *Ressources naturelles et de la Faune*. The final report was scheduled for June 2011.

¹ http://www.ees.gouv.qc.ca/documents/ees_preliminaire_pour_consultation.pdf

4.2 Analysis

The conceptual model proposed in section 3.3 of the essay will be used to analyse the case study. The case study will therefore be divided into the different steps of the SEA process illustrated in figure 3.1.

4.2.1 Preliminary Screening

Although the report defines the concept of SEA, it does not justify the *raison d'être* or the necessity to undertake an SEA in this situation. As this step is important in the SEA process, it would be crucial to find a section in the report to set the context of the assessment.

4.2.2 Framing and Scoping

The sixth section of the SEA report presents the scope of the assessment. As mentioned in section 3.3.2, this is an important step as it frames the limits of the assessment. The report defines the geographical limits of the study zone and the main environmental issues. The main issues are sensitive areas, socio-economic uses, and first nations' communities.

The baseline information is presented in the seventh section of the report. This information sets the base for comparison for the impact assessment step of the report.

4.2.3 Comparison of Alternatives

The report states that the different possible scenarios could not be compared as they were not formulated. It is important to note that scenarios and alternatives are not synonyms. It is true that comparing the different scenarios bring an understanding to the assessment. Various alternatives to reach the objectives should also be compared. In other words, different ways to reach the objective of energy requirements for example should be put forward.

4.2.4 Assessment of Environmental Impacts

It is stated that the SEA's aim is to preserve the integrity of marine and wildlife habitat. The sixth section of the report details the environmental and socio-economic impacts. The predicted impacts are presented in multiple tables. This section is presented the same way an EIA would be, which highlights the tendency of using EIA methodology and tools to undertake SEAs.

4.2.5 Review of SEA

The thirteenth section of the SEA report presents various findings. This section could be seen as the review step as it puts forwards the limitations of the SEA.

4.2.6 Decision-making/Application of the PPP

On September 27, 2010, Nathalie Normandeau, the *Ressources naturelles et de la Faune* minister and minister responsible for the Gaspésie-Iles-de-la-Madeleine and the Bas-Saint-Laurent region, announced that following the results of the SEA, the government of Quebec has chosen not allow gas or oil exploitation and exploration in the basin of the maritime estuary and north-western Gulf of St. Lawrence.

This case study is an example where the results of the SEA actually stopped the application of a given PPP. It therefore highlights the possibility of an environmental assessment to influence the decision-making process. One might question if the technical point made in the report or the political issues was the determinant factor that led to this decision.

4.2.7 Follow-up

The follow-up stage is not mentioned in the report. This could be explained by the fact that the SEA process did not reach this stage.

4.2.8 Public Participation

Some consultations were planned to be held in the fall of 2010. The intention of AECOM was to submit the preliminary report for consultation. This step would have allowed the public to express their concerns. There were four aims to the public consultations (AECOM, 2010; p. 2-3):

- « Compléter l'information figurant dans l'EES;
- Confirmer et identifier les zones sensibles et zones d'usages;
- Recueillir, analyser et prendre en considération les préoccupations et les attentes des participants;
- Valider les constats du rapport d'EES (effets, mesures d'atténuation, recommandations) et recueillir les commentaires ».

Various mechanisms were planned for the consultations. The first and second mechanisms were the consultation of first nations and of local and regional communities. The first two mechanisms would have been on invitation only. The last mechanism was an online public consultation that would have been open to all.

As mentioned earlier, the SEA did not reach this step, since the series of projects were aborted as a result of the SEA report.

4.3 Summary

In a few words, from the analysis of the case study, we notice that the report does not follow all the procedural steps proposed in the previous section. It also serves as evidence of the deficiency of the private sector in the SEA domain. We could think that it is a simple EIA, since the environmental assessment assessed a series of projects and not a PPP. The report defines SEA as a "Processus d'évaluation et d'examen des impacts appliqué aux politiques, aux plans et aux programmes *ou à*

toute autre initiative localisée en amont des projets” (AECOM, 2010; p. 24 ; emphasis added). Nowhere else in the literature can we find a similar definition for SEA.

5 SEA Critiques and Constraints: From Concept to Practice

Beyond using an EIA approach for SEAs, there are various critiques to SEAs. Brown and Thérivel (2000) highlight that it is difficult to go from a concept towards an “enduring practice”. Although SEA is a “(...) methodologically difficult form of assessment to apply, [...] it is an increasingly essential form of impact assessment” (Hanna, 2009; p. 14).

Critiques of SEA originate from the lack of understanding of the concept and its purposes (Desmond, 2007). Dalal-Clayton and Sadler (2005) write that not all planners and policy makers understand the value-added and the benefits of SEAs. “Adapting SEA to the background political and policy-making context can be difficult” (Sheate *et al.*, 2001; p. 80). Therefore, political will to undertake SEAs may be absent (Jones *et al.*, 2005).

With respect to this, Noble (2000) highlighted the lack of a standardised SEA terminology. Another source of critique is the lack of consensus on a given methodology to undertake SEAs (Dalal-Clayton and Sadler, 2005; Verheem and Tonk, 2000). Predicting environmental impacts and effective public participation are harder at the most strategic level (Sheate *et al.*, 2001).

Since SEA is a flexible assessment, decision makers can easily manipulate the course of action (Stinchcombe and Gibson, 2001). “It cannot, therefore, be assumed that SEA reports are always unbiased, as they might, in reality, be manipulated to achieve desired political goals” (Jones *et al.*, 2005; p. 23). This constraint should be taken into consideration when applying the PPPs after a SEA.

Another important limitation to the application of SEA is linked to organisational context. This can be explained by the Peter’s Principle where employees tend to be promoted until they reach a position for which they do not have the experience nor the knowledge. These are often managers that have a limited

competency for that given position. Unfortunately, it is at that level that decisions are made, thus limiting the integration of new innovation, approaches or tools such as SEA.

Conclusion

We have seen that SEA is an interesting tool that integrates the environment into the assessment of policies, plans, programmes and strategies. It is recognized as a decision-making aid and the case study illustrated this characteristic. In few words, SEA has to be seen as a tool which formulates PPPs. It is at this stage that the SEA process is the most effective and efficient (Brown and Thérivel, 2000).

The purpose of this essay was to revisit SEA in the Canadian context and to study the possibility to propose a conceptual model to undertake SEAs in Canada. This essay denies the possibility to develop *one* model to undertake all SEAs in Canada, but it proved the importance of integrating the SEA process to the policy-making process.

This essay highlights that more guidance and legal requirements are needed to undertake SEA more efficiently in Canada (Noble, 2002). If led properly SEA will change the way the environment is integrated into public policy making, thus lead to sustainable decision making (Sheate *et al.*, 2001).

SEA is not an easy approach to implement. “Because of this complexity [multiple scale context of SEA], various authors have argued that in SEA what may be important is to use SEA to help thinking in formulating the right questions” (Partidário, 2007; p. 464). In other words, we should undertake SEAs with a strategic approach.

The findings in this essay suggest that the current federal directive on SEA has no coercive power and that a research agenda in SEA in Canada is needed. This research agenda should include the study of federally legislated requirements for SEAs in Canada, to move from a directive to a more complete legal framework, and the development of guiding principles that are not EIA-based.

Bibliography

- AECOM Tecsumt Inc. 2010. *Évaluation environnementale stratégique de la mise en valeur des hydrocarbures dans le bassin de l'estuaire maritime et du nord-ouest du golfe du Saint-Laurent*. 05-19255 - Rapport préliminaire en appui aux consultations - Juillet 2010. 101 p.
- Arnstein, S. R. 1969. "A Ladder of Citizen Participation". *Journal of the American Institute of Planners*, vol. 35, no. 4, p. 216-224.
- Bailey, J and S. Renton. 1997. "Redesigning EIA to Fit the Future: SEA and the Policy Process". *Impact Assessment*, vol. 15, no 4, p. 319-334.
- Berger, T. R. 1977. *Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry*. Vol 1. Ottawa: Minister of Supply and Services Canada.
- Berkes, F., J. Mathias, M. Kislalioglu, et al. 2001. "The Canadian Arctic and the Oceans Act: the development of participatory environmental research and management". *Ocean & Coastal Management*, vol. 44, no 7-8, p. 451-469.
- Bina, O. 2008. "Strategic Environmental Assessment", in *Innovation in Environmental Policy? Integrating environment for sustainability*, A. Jordan and A. Lenschow, Editors, p. 134-156. Cheltenham: Edward Elgar Publishing Ltd
- Brown, A.L. and R. Thérivel. 2000. "Principles to guide the development of strategic environmental assessment methodology". *Impact Assessment and Project Appraisal*, vol. 18, p. 183-189.
- Canadian Environmental Assessment and Research Council (CEARC). 1990. *The Environmental assessment process for policy, plan and program proposals*. Ottawa: Minister of Supply and Services Canada.

- Dalal-Clayton, B and B. Sadler. 1999. "Strategic Environmental Assessment: a rapidly evolving approach". In: Donnelly, A, B. Dalal-Clayton, R. Hughes, Editors. *A Directory of Impact Assessment Guidelines*, p. 31–42. London: International Institute for Environment and Development
- Dalal-Clayton, B. and B. Sadler, Editors. 2005. *Strategic Environmental Assessment: A Sourcebook and Reference Guide to International Experience*. London: Earthscan, 338 p.
- Desmond, M. 2007. "Strategic environmental assessment (SEA): A tool for environmental decision-making". *Irish Geography*, Vol. 40, no 1, p. 63 - 78.
- Department for International Development (DFID). 2003. *Environment Guide –A Guide to Environmental Screening*. Department for International Development: Glasgow.
- European Commission (EC). 2000. *A Council Directive on Assessment of the Effects of Certain Plans and Programmes (2001/42/EC)*. European Commission, Brussels.
- Federal Environmental Assessment Review Office (FEARO). 1993. *The Environmental Assessment Process for Policy and Programme Proposals* (the 'Blue Book'). Ottawa: Federal Environmental Assessment Review Office.
- Federal Environmental Assessment Review Office (FEARO). 1983. *Environmental Assessment in Canada: 1983 Summary of Current Practice*. Ottawa: Supply and Services Canada.
- Fischer, T.B. 2003. "Strategic Environmental Assessment in Post-Modern Times". *Environmental Impact Assessment Review*, Vol. 23, no 2, p. 155-170.
- Fischer, T.B. 2007. *Theory and Practice of Strategic Environmental Assessment*. London: Earthscan, 186 p.

- Fischer, T.B. and P. Gazzola. 2006. "SEA good practice elements and performance criteria—equally valid in all countries? The case of Italy". *Environmental Impact Assessment Review*, Vol. 26, p. 396–409.
- Gibson, R. and K. Hanna. 2009. "Progress and uncertainty: the evolution of federal environmental assessment in Canada." Hanna K., Editor. In: *EIA Practice and Participation*, Second edition. p. 18-36. Oxford University Press: Don Mills.
- Government of Canada. 2010. *Strategic Environment Assessment: The Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals: Guideline for implementing the Cabinet Directive*. Ottawa: Privy Council Office and the Canadian Environmental Assessment Agency.
- Hanna, K. S. Editors. 2009. *Environmental Impact Assessment, Practice and Participation*. Second Edition. Toronto: Oxford University Press., 467 p.
- Hartley, N. and Wood, C. 2005. "Public participation in environmental impact assessment - implementing the Aarhus Convention". *Environmental Impact Assessment Review*, Vol. 25, p. 319-340.
- Hegmann G, Cocklin C, Creasey R, Dupuis S, Kennedy A, Kingsley L, et al. 1999. *Cumulative Effects Assessment Practitioners Guide*. Hull, QC: Canadian Environmental Assessment Agency.
- International Association for Impact Assessment. (IAIA) 2002. *Strategic Environmental Assessment: Performance Criteria, Special Publication Series No.1*. Available at: <http://www.iaia.org/publicdocuments/special-publications/sp1.pdf>
- Jiliberto, R. 2004. "Setting the ground for a new approach to SEA". In *Analysing Strategic Environmental Assessment: Towards Better Decision-Making*. Caratti, Dalkmann and Jiliberto, Editors. p. 16-25. Northampton: Edward Elgar Publishing, Inc.
- Jones, C. et al., Editors. 2005. *Strategic Environmental Assessment and Land Use Planning: An International Evaluation*. London: Earthscan, 300 p.

- Lerond et al. 2003. *L'Évaluation environnementale des politiques, plans et programme: Objectifs, méthodologies et cas pratiques*. Paris : Éd. Tec & Doc, 311 p.
- Marsden S. and Dovers S. 2002. "Conclusions: Prospects for SEA". In Marsden, S. and S. Dovers. (Editors) *Strategic Environmental Assessment in Australia*, p. 211-218. Leichhardt: The Federation Press.
- Noble, B. 2000. "Strategic Environmental Assessment: What Is It and What Makes It Strategic?" *Journal of Environmental Assessment Policy and Management*, Vol. 2, no 2, p. 203- 224.
- Noble, B. 2002. "The Canadian experience with SEA and sustainability". *Environmental Impact Assessment Review*, Vol. 22, no 1, p. 3-16.
- Noble, B. 2004. "State-of-practice survey of SEA in Canadian provinces". *Environmental Impact Assessment Review*, Vol. 24, no 3, p. 351-361.
- Noble, B. 2008. "Strategic approaches to regional cumulative effects assessment: a case study of the Great Sand Hills, Canada". *Impact Assessment and Project Appraisal*. Vol. 26, no 2, p. 78-90.
- Noble, B. 2009. "Promise and dismay: The state of strategic environmental assessment systems and practices in Canada". *Environmental Impact Assessment Review*, Vol. 29, no 1, p. 66-75.
- Noble, B.F. and J. Harriman Gunn. 2009. "Strategic Impact Assessment". In K. Hanna, Editor, *Environmental Impact Assessment - Practice and Participation*, Second Edition. Toronto: Oxford University Press.
- Noble, B. and K. Storey. 2001. "Towards a Structured Approach to Strategic Environmental Assessment". *Journal of Environmental Assessment Policy & Management*, Vol. 3, no 4, p. 483-508.
- Partidário, M.R. 2007. "Scales and Associated Data: What is enough for SEA Needs?" *Environmental Impact Assessment Review*, Vol. 27, no 5, p. 460-478.

- Partidário, M.R. 1996. “Strategic Environmental Assessment: Key Issues Emerging from Recent Practice”. *Environmental Impact Assessment Review*, Vol. 16, no 1, p. 31-55.
- Partidário, M.R. & T.B. Fischer (2004), “Follow-up in current SEA understanding”, in: A. Morrison-Saunders & J. Arts, Editors. *Assessing Impact: Handbook of EIA and SEA Follow-up*, p. 224-247. London: Earthscan.
- Sadar, M.H. and W.J. Stolte. 1994. “Canadian experience in environmental impact assessment.” In *Priority Environmental Issues in Asia: The Need and Importance of Developing Cooperative Approaches*, M.H. Sadar and Z. Si, Editors. p. 215-228. Ottawa: Impact Assessment Centre, Carleton University.
- Sadler, B. 2005, “Canada” in Jones, C. E., et al. Editors. *Strategic Environmental Assessment and Land Use Planning: An International Evaluation*. p. 44-62. London: Earthscan.
- Sheate et al. 2001. *SEA and Integration of the Environment into Strategic Decision-making*. Volumes 1-3, final report to the European Commission, DG XI, Contract No B4-3040/99/136634/MAR/B4, Office for Official Publications of the European Communities, Luxembourg (available at http://ec.europa.eu/environment/eia/sea-studies-and-reports/sea_integration_main.pdf).
- Stinchcombe, K. and Gibson, R. 2001. “Strategic Environmental Assessment as a means of pursuing sustainability: Ten Advantages and Ten Challenges”. *Journal of Environmental Assessment Policy and Management*. Vol. 3, no 3, p. 343–372.
- Thérivel, R and M. Partidário, Editors. 1996. *The Practice of Strategic Environmental Assessment*, London: Earthscan.
- UNECE. United Nations Economic Commission for Europe. 1998. *Convention on Access to Information, Public Participation in Decision-Making And Access to Justice in Environmental Matters*, 25 June 1998 (Aarhus Convention). Geneva: UNECE.

- UNECE-United Nations Economic Commission for Europe. 1992. *Application of Environmental Impact Assessment Principles to Policies, Plans and Programmes, Environmental Series 5*, Geneva: UNECE.
- Verheem, R. and J. Tonk. 2000. "Strategic Environmental Assessment: One Concept, Multiple Forms". *Impact Assessment & Project Appraisal*, Vol. 19, no 3, p. 177-182.
- Waub, J.-P. April 11, 2011. Conference *L'évaluation environnementale stratégique: concepts, définitions, approche*. Université du Québec à Montréal.
- World Commission on Environment and Development. (WCED). 1987. *Our Common Future*. Oxford: Oxford University Press.
- Weston, J., Editor. 1997. *Planning and EIA in Practice*. Harlow : Adison Wesley Longman.
- World Bank, University of Gothenburg, Swedish University of Agricultural Sciences, Netherlands Commission for Environmental Assessment 2011. *Strategic Environmental Assessment in Policy and Sector Reform: Conceptual Model and Operational Guidance*. Washington: World Bank.