

IMPROVING DECISION-MAKING
FOR THE ENERGY TRANSITION

Guidance for using Strategic
Environmental Assessment

CHAPTER 1

BACKGROUND TO STRATEGIC ENVIRONMENTAL ASSESSMENT



Compiled by:
Barry Dalal-Clayton
Miles Scott-Brown

July 2024

Updated October 2024

Version 1

IAIA
International Association
for Impact Assessment

Links to the [complete guidance document](#) and to [individual chapters](#) are also available.

CHAPTER 1

BACKGROUND TO STRATEGIC ENVIRONMENTAL ASSESSMENT

1.1 WHY WE NEED SEA

Governments are responsible for setting the strategic direction of development in a country. They do this mainly through preparing policies, plans, and programs (PPPs). In the past, the development of such PPPs tended to give only limited attention to the impacts their implementation might have on environmental or social factors. The assessment of impacts was mainly left to when individual development projects were promoted during PPP implementation through project-level environmental and social impact assessments (EIAs/ESIAs). But such assessments focused mainly on the immediate and local impacts of those individual projects and did not focus on the big picture, and they rarely addressed the cumulative impacts likely to result from other development projects. As a result, PPPs sometimes led to unforeseen and significant, widespread environmental and social impacts that were very costly to address or, in some cases, led to critical social consequences and irreversible environmental damage.

In the late 1980s and 1990s, the need to assess the environmental and social risks and impacts of implementing policies, plans, and programs was recognized, and a number of countries began to introduce strategic environmental assessment (SEA) as a separate process from EIA (e.g., Australia, Canada, Denmark, Netherlands).

SEA is now globally recognized as one of the most useful processes to promote sustainable development. The preface to this guidance provides a rationale for why the energy transition needs SEA. Chapter 3 provides a discussion of the legal and institutional basis for SEA (see also Section 1.11).

1.2 WHAT IS SEA AND HOW DOES IT DIFFER FROM ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND CUMULATIVE IMPACT ASSESSMENT (CIA)

SEA is defined as a process for assessing the environmental and social risks and impacts of implementing policies, plans, and programs (PPPs), and providing information to decision-makers so that the implications of such impacts can be considered and responded to when formulating and implementing PPPs¹ (Box 1.1). But SEA can also be usefully applied in circumstances where no actual PPP has yet been prepared (e.g. to assess the impacts of options for renewable energy development). The basic stages and elements of SEA are elaborated in Chapter 2.

While the term SEA does not specifically incorporate the social dimension, this is nevertheless an integral focus of the process.² To indicate clearly that social considerations are fully included in SEA, some organizations (particularly multilateral development banks) prefer to use the synonymous term Strategic Environmental and Social Assessment (SESA). In this guidance, the term SEA is used, as this is overwhelmingly used in individual countries in legislation and regulations.

The scope of application of SEA collectively encompasses policy, legislation, plans, programs, and development-related strategies across a range of sectors (such as energy or transport), geographical areas (national, regional/provincial, or local/municipal), or issues (such as climate change or biodiversity). But SEA is most commonly, although not exclusively, applied to development-related PPPs with a particular focus on the energy, transport, waste, and water sectors, and spatial and land use zoning plans. Lead government agencies usually initiate the SEA process, but external financing organizations (e.g., multilateral development banks and bilateral donors) may also require an SEA to be undertaken to comply with their safeguard policies.

¹ OECD-DAC (2006)

² In the past, some statutory bodies required that SEA should focus only on environmental issues.

Box 1.1: The purpose of SEA

The purpose of SEA is to ensure that environmental and social considerations (and their relationship with economic concerns and drivers) inform and are integrated into strategic decision-making in support of environmentally and socially sound and sustainable development. Thus, SEA identifies the relevant environmental and social effects/impacts (both positive and negative) on receptors³ of implementing a PPP.

In particular, the SEA process assists authorities responsible for PPPs, as well as decision-makers, to consider:

- Key environmental and social trends, opportunities, and constraints that may affect or may be affected by the PPP;
- Environmental and social objectives and indicators that are relevant to the PPP;
- Likely significant environmental and social effects of available options and alternatives in the implementation of the PPP, including under different scenarios;
- Priority environmental and social receptors;
- Measures to avoid, reduce, or mitigate and manage adverse effects and to enhance positive effects, and
- Views and information from relevant authorities, the public, and — as and when relevant — in potentially affected neighboring countries (e.g., where cross-border initiatives or impacts are involved).

In the context of applying SEA to PPPs concerned with the energy transition, a core aim of SEA is to support spatial planning by identifying areas where renewable energy development and associated infrastructure (e.g., transmission lines, access roads, electricity storage facilities, and ports, harbors, and terminals) may pose a high risk. SEA especially can identify areas of high environmental and social sensitivity, and recommend how such risks can be mitigated and managed.

Generally, the application of SEA within a country depends on the types of PPPs being undertaken and the specific SEA provisions (laws and regulations) of that country.

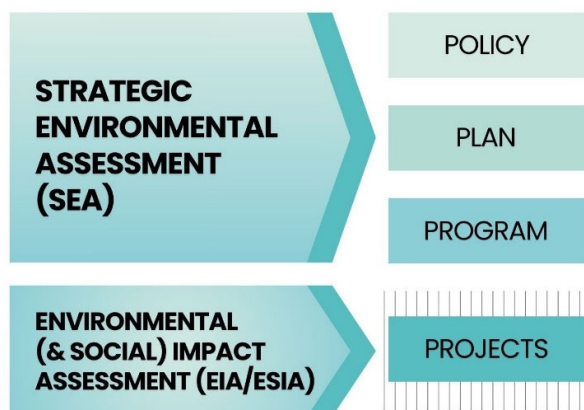
The SEA process is based on key principles (see also Section 1.4), including:

- Early proactive consideration of the environmental and social effects of strategic actions;
- Broad institutional and public engagement;
- Analysis and integration of qualitative and quantitative information;
- Early warning of potential cumulative effects and large-scale changes, and
- Identification of best practicable options for implementing the PPP, including projects that may be undertaken as a result of their implementation.

As noted by the OECD/DAC guidance for SEA (2006), there is a hierarchy of levels in decision-making comprising policies, plans, programs, and projects (Figure 1.1). Logically, policies shape the subsequent plans, programs, and projects that put those policies into practice. Policies are thus at the top of the decision-making hierarchy. Policies, plans, and programs (PPPs) are more “strategic” than projects as they determine the general direction or approach to be followed towards broad goals.

³ A receptor is a component of the environment or social fabric that could be adversely affected by causal factors (e.g., pollution, dust) due to implementing a PPP, e.g., habitats, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and landscape, communities, people, livelihoods, human health, rights, etc.

Figure 1.1: SEA, EIA and the decision-making hierarchy



SEA is applied to these “higher” strategic levels and deals with assessing broadly defined proposals with a wide range of options usually available for assessment. As one moves down the hierarchy from policies to projects, the nature of decision-making changes, as does the type of environmental assessment needed. Environmental Impact Assessment (EIA)⁴ is used to assess the impact of projects that put PPPs into tangible effect. It is done at the project level and deals with assessing well-defined proposals where a limited range of alternatives are usually available to assess.

SEA can provide the strategic framework for many projects likely to arise when a PPP is implemented. It identifies key environmental and socioeconomic issues that individual EIAs/ESIAs should address in more detail, providing site-specific or localized detail. Thus, SEA streamlines the EIA scoping requirements. It can also eliminate the need for EIAs/ESIAs for numerous small, similar types of projects that may be likely to address similar suites of issues, and enable such projects to require only an Environmental and Social Management Plan (ESMP).

There is no one approach to SEA. Rather, it embraces a family of approaches (on a continuum of increasing integration of environmental, social, and economic considerations) and uses a variety of tools. This contrasts with EIA, which tends to follow a single, fixed, prescriptive approach. SEA extends the aims and principles of EIA further upstream in the decision-making process, beyond the project level, when major alternatives to a project are still possible. It fills a critical gap left by the relatively codified procedures and process of project-level EIA in that SEA uses much more flexible, adaptive, and diversified approaches to inform strategic decision-making at the PPP level. In other words, there is no single recipe for an SEA. Every SEA needs to be tailor-made, designed, and undertaken in a manner that suits the specific context and needs. Indeed, the process design may even need to change during execution of the SEA, e.g., if political circumstances change (elections), unexpected events happen (economic recession, pandemic), or new insights arise that may require different choices (climate projections). Such events may provide a reason to reconsider the process and redo a number of SEA steps. Good SEA needs to adjust to such apparently erratic but unavoidable occurrences, either when the SEA is a parallel process or is fully integrated into the PPP process (see Figure 1.4).

SEA can complement and strengthen EIA at the project level by:

- (a) Identifying prior information needs and potential impacts and providing the planning context and parameters for subsequent EIAs of projects designed to implement a PPP.

⁴ As with SEA, EIA should address both the environmental and the social dimensions of projects. Some organizations prefer to use the term Environmental and Social Impact Assessment (ESIA) to emphasize this point. However, sometimes, stand-alone social impact assessments (SIA) are undertaken as well as other more focused (spin-off) forms of impact assessment such as biodiversity impact assessment and health impact assessment. Good practice EIA should cover all these aspects.

(b) Providing guidance on the “type” of projects that would be appropriate to be undertaken when implementing the PPP given the environmental and socioeconomic risks and potential impacts identified by the SEA. In contrast, an EIA assesses the potential impacts of a project on the receiving environment and social setting.

(c) Making EIA and the project review process more streamlined and efficient by addressing many issues at a higher strategic level, including concerns that may relate to project justification so that EIAs can be designed to focus on local and site, or project-specific concerns.

Table 1.1 compares and contrasts SEA and EIA and summarizes their roles in decision-making.

Table 1.1: SEA and EIA compared

SEA	EIA
Applied to PPPs and sometimes legislation, with a broad and long-term strategic perspective.	Applied to specific and relatively short-term (life-cycle) projects and their specifications.
Ideally takes place at an early stage in strategic planning.	Takes place at early stage of project planning once parameters are set.
Considers a broad range of alternatives to the PPP or alternative scenarios for a PPP, taking into account environmental and socioeconomic objectives.	Considers limited range and types of alternatives - those for achieving the objectives of the individual project.
Conducted independently of any specific project proponent.	Usually prepared and/or funded by the project proponent.
Assesses the environmental and socioeconomic opportunities and benefits, and the risks and potential impacts of implementing a PPP, and provides guidance on the types of downstream projects that would therefore be suitable/not suitable.	Assesses the potential impacts of a particular project on the receiving environment and social setting.
Focus on policy, plan, and program implications for future lower-level decisions.	Focus on obtaining project approval, and rarely with feedback to policy, plan, or program consideration.
Multi-stage, iterative process with feedback loops.	Well-defined, linear process with clear beginning and end (e.g., from feasibility to project approval).
May not require an SEA report in a formally prescribed format (as there is no single approach to SEA). Sometimes may require that a draft PPP include an environmental statement.	Preparation of an EIA document with prescribed format and contents is usually mandatory (EIA usually follows a standardised approach). This document provides a baseline reference for monitoring.
Emphasis on avoiding environmental and social impacts and meeting sustainability objectives in policies, plans, and programs. Includes identifying macro-level development outcomes.	Emphasis on mitigating environmental and social impacts of a specific project, but with identification of some project opportunities, off-sets, etc.
Should incorporate consideration of cumulative impacts relating to implementation of PPPs.	Considers cumulative impacts of a particular project in combination with all other projects and activities in a given time and space.

1.3 SEA AND CUMULATIVE IMPACT ASSESSMENT (CIA)

Cumulative impact assessment (CIA) is typically applied at the individual project level as part of the environmental impact assessment process (EIA). It is often used to assess how the specific (and possibly limited) impacts of an individual project (pressures/stressors), when combined with other projects and activities (including, for example, in the same geographical area or acting on the same receptor), might combine to generate significant cumulative impacts on selected valued environmental and social components (VEC)⁵ (receptors) in a given time and space.

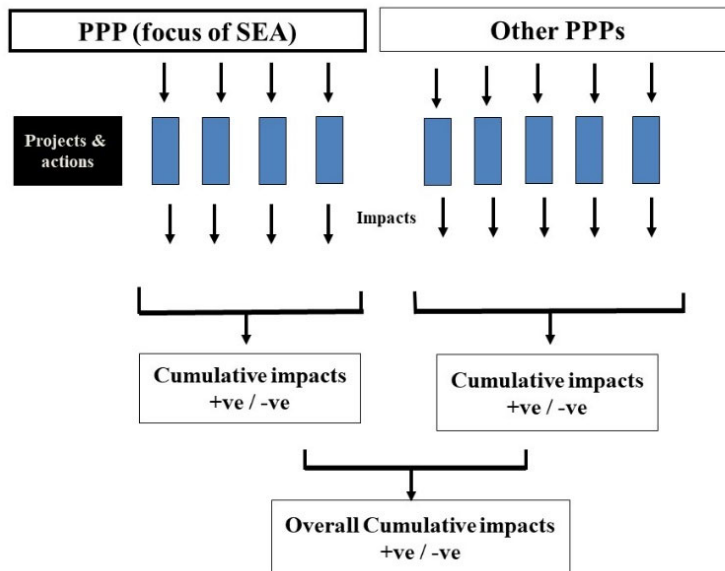
Sometimes, regional impact assessments are needed to identify the cumulative effects that various projects or actions can produce at a regional level beyond the individual project level. The identification, evaluation, and management of such impacts is normally done under an SEA process.

Any pressures or stressors on a receptor will contribute to its state at the time of assessment. But when developing and implementing a PPP (through multiple projects), it is critical to have a perspective on how receptors will be affected in the future. This is why CIA is a core, fundamental component, and a key principle of SEA by setting thresholds for future projects for environmental and social factors. These thresholds can then be used by project-level EIAs in a much more effective and robust way than can be achieved by “traditional” project-level CIA.

Guidance is being prepared by The Biodiversity Consultancy and IUCN plus a range of industry and NGO partners to address this gap between current and future pressures/stressors on receptors in the context of the renewable energy transition. If CIA is done well at the strategic level, developers can integrate the identified thresholds directly into ESIA in a much more robust way than can be achieved via 'traditional' project-level CIA-in-ESIA.

SEA seeks to identify and recommend management measures for the impacts on selected VEC that are likely to arise from implementing PPPs or their alternatives. Figure 1.2 indicates how a particular PPP (being subjected to an SEA) will lead to a range of projects and development actions (to develop renewable energy and associated infrastructure), each of which may give rise to impacts (environmental and/or socioeconomic, and positive or negative).

Figure 1.2: The cascade of cumulative impacts



⁵ See Annex 19 for definition of VEC

Projects and actions resulting from implementing other renewable energy PPPs as well as PPPs for other non-energy sectors may also give rise to such impacts. The overall cumulative effective of all such impacts may be considerable.

Thus, as an example, if the implementation of a renewable energy PPP (through a future suite of projects and associated infrastructure) is assessed to have significant potential cumulative impacts in a particular geographical area or nationally (e.g., by destroying habitat for endangered wildlife species), these impacts may be even more significant (and may even threaten extinction of a species in an area or nationally) when the cumulative impacts arising from developments in other, non-energy sectors, are also taken into account. Thus, an SEA must look beyond the specific energy transition PPP it is concerned with and consider whether implementing other energy PPPs, as well as non-energy PPPs, may compound potential cumulative impacts. Done well and early enough, SEA can avoid the cumulative impacts of multiple individual renewable energy projects by providing siting criteria before individual project-level decisions are made.

Through addressing potential cumulative impacts, an SEA can recommend overall mitigation requirements, including acceptable thresholds of impacts that should apply to individual projects. However, managing and mitigating impacts at the project level so that they remain below a threshold is the responsibility of the individual project developer(s) (which should be monitored via the appropriate regulatory process). Managing cumulative impacts beyond the project level requires collaborative actions between multiple parties and coordination by a responsible agency or regulator to be successful.

1.4 BASIC OBJECTIVES AND PRINCIPLES FOR SEA

SEA aims to systematically integrate environmental and social considerations (and their relationship with economic concerns and drivers) into policy-making, planning, and decision-making processes to better ensure that a proposed PPP is compatible with sustainable environmental and social management. It aims to support time-efficient and cost-effective development planning by avoiding the need to reassess some issues and impacts at the project level at a time when changes to the overarching policy and planning framework is more difficult (e.g., when an issue or impact was effectively dealt with at a strategic level).

Early suggestions for SEA principles have been made⁶ and performance criteria for SEA were developed by IAIA in 2002.⁷ The latter concentrate primarily on procedural aspects of an effective or good quality SEA. Building on these, SEA Guidance developed by the OECD Development Assistance Committee provides a set of SEA principles which have broad support.⁸ They recommend that to be influential and help improve policy-making, planning, and decision-taking, an SEA should:

- Establish clear goals;
- Be integrated with existing policy and planning structures. Ideally the SEA process/steps should be aligned closely with the planning process so that key information is provided at the critical stages of policy-making and planning, in the right (usable) manner and delivered to the appropriate decision-makers to support them in their roles/tasks (see Box 1.2);
- Be flexible, iterative, and customized to context;
- Analyze the potential effects and risks of the proposed PPP and its alternatives (including the “do-nothing” option) against a framework of environmental and social quality (sustainability) objectives, principles, and criteria at an early stage when all options are still being considered;
- Evaluate environmental and socioeconomic impacts (positive and negative; direct, indirect, and cumulative; trans-boundary and other unintended consequences) and propose mitigation measures for negative potential impacts and to enhance environmental and social

⁶ Sadler and Verheem (1996) and Dalal-Clayton and Sadler (1998)

⁷ International Association for Impact Assessment (2002)

⁸ OECD DAC (2006)

management. It should identify how to achieve the best environmental and/or social benefits while minimizing damaging environmental and/or social risks and impacts;

Box 1.2: SEA integrated with land use planning in Namibia

A **parallel but integrated SEA model** has been applied several times in Namibia over the past 10 years. In all cases, the SEA was commissioned to run in parallel with the development of an Integrated Rural Land Use Plan (IRLUP) for five different regions of the country. Whilst the SEA teams had their own terms of reference, they worked closely with the IRLUP teams. Combined meetings involving both teams (each comprising consultants) and the client (the Ministry of Lands and Resettlement) were held at the inception stage. These meetings enabled the teams to plan their respective activities and ensure appropriate coordination between them. Examples of combined activities included:

- Joint stakeholder consultations with rural communities (typically villages);
- Focus group meetings with government agencies and private sector interest groups;
- Baseline data gathering and sharing; and
- GIS outputs (mostly maps).

Draft IRLUP reports were shared with the SEA team, and SEA analysis was provided back to the IRLUP teams. The cross-fertilisation of evolving ideas, analyses and outcomes resulted in IRLUPs that generally incorporated sustainability thinking. It also meant that environmentally inappropriate development ideas could be 'red flagged' or, in some cases, scrapped altogether before the final IRLUP was compiled.

Source: Peter Tarr, SAIEA, Namibia (2024)

- Identify environmental and socioeconomic opportunities and constraints;
- Address the linkages and trade-offs between environmental, social, and economic considerations (and their relationship with economic concerns and drivers);
- Provide explicit justification for the selection of preferred options (alternatives) and for the acceptance of significant trade-offs (e.g., between different sectoral policy objectives);
- Involve key stakeholders and encourage public consultation;
- Include an effective, preferably independent, quality assurance system during the SEA process; and propose an effective, formal, independent, quality-assurance review and performance-evaluation mechanism for after SEA completion; and for monitoring of PPP outputs and environmental and social indicators;
- Be transparent throughout the process, and clearly communicate the results;
- Be cost-effective, encourage synergies, and avoid duplication of efforts; and
- Provide opportunities to build capacity to conduct SEA and to use the SEA results.

In designing effective SEA approaches, practitioners need to be aware of the following:

- Strategic planning is not linear, but rather a complex and iterative process influenced by interest groups with often conflicting interests and different agendas; it is therefore important to look for "windows of opportunity" to initiate SEA during cycles of the decision-making process and to

influence and inform PPP development and decision-making. SEA needs to be flexible and responsive to these opportunities;

- Relationships between alternative options and environmental and socioeconomic effects are often indirect, so they need to be framed in terms relevant to all stakeholders (e.g., politicians, government agencies, and interest groups). One way of doing this is by linking environmental and social effects to policy priorities and the UN Sustainable Development Goals;
- Strategic issues cannot be tackled by a one-off analysis; they need an adaptive and sustained approach as strategies and policy-making take shape and are implemented;
- The value of SEA in strategic planning depends greatly on the capacity within the responsible authorities to maintain the process and act on the results, and willingness to engage with the process, and
- The success of an SEA depends upon its effective implementation which will require preparation of a strategic environmental and social management plan (SESMP – see Chapter 2, Section 2.7.2).

In practice, governments will usually need to commission a team of experts to carry out the SEA process. The team should have the right to express its professional views in the SEA Report. While the government officials developing the PPP in question should make the decisions on what to present in the final PPP, the latter should provide reference to the findings of the SEA, and it should explain how the results of the SEA were used in the development of the PPP and explain/justify why recommendations from the SEA are not accepted/incorporated, emphasizing the importance of transparency.

1.5 IMPACTS-LED VERSUS OBJECTIVES-LED SEA

Most SEAs conducted in the world are “*impacts-led*.” Like EIA, they start from an existing baseline of environmental and social conditions and make predictions about how a proposed or revised PPP will change this baseline over time. They have a strong focus on assessing impacts and recommending mitigating measures to remedy the negative impacts.

Some SEAs elect to follow an “*objectives-led*” approach; they predict whether the PPP will help or hinder achieving a range of Environmental and Social Quality Objectives (ESQOs) (discussed in Section 2.5.1). Although the ESQOs may overlap with the PPP’s objectives, they essentially act as an independent sustainability/environmental/socioeconomic benchmark against which implementation of the PPP can be tested. In situations where critical baseline data may be lacking, inadequate, outdated, or unreliable, and/or where environmental aspects are less tangible “on the ground” for spatial mapping purposes (e.g., greenhouse gas emissions), an objectives-led approach to the SEA is preferable. An objectives-led approach may also be more suitable for those PPPs that specify desired outcomes or endpoints. For such PPPs, the SEA can help evaluate whether these PPP outcomes will be impeded or aided by pursuing the ESQOs.

Impacts-led SEA is more re-active and less influential, while objectives-led SEA is more proactive and more influential.

A key consideration in deciding which of these approaches to use will be the nature of the PPP, including the level of detail and specificity. A high-level policy is likely to require an objectives-led approach as it will be impossible to assess change in the baseline and attribute impacts to the PPP. Whereas for a more geographically specific program of potential projects it is more likely that a baseline/impact approach would be possible/appropriate.

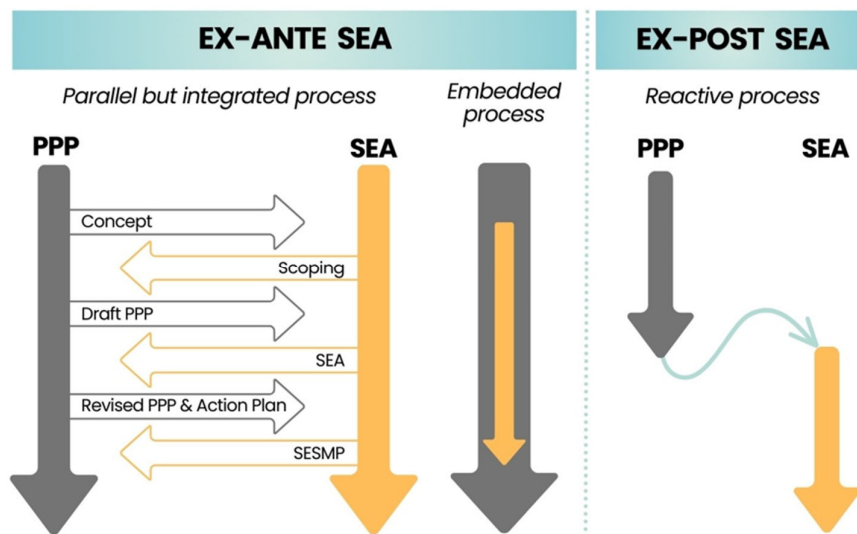
1.6 THE RELATIONSHIP BETWEEN SEA AND THE PPP PROCESS

PPPs include a range of instruments, e.g., national and sectoral policies, spatial development frameworks, environmental and social management frameworks, integrated development plans, master plans, and land use plans. Frequently, SEA is formally required for such PPPs (see Chapter 3). But it can also be applied where multiple similar projects are concentrated in time and space and for very large developments or “mega projects” (e.g., transnational pipelines), which can give rise to extensive and cumulative impacts (direct and indirect) over large geographical areas. In this guidance, the latter are included under the umbrella of PPPs. In many ways, such SEAs are like regional assessments. A critical question is: when should SEA be carried out? There are two options: *ex-ante* and *ex-post*.

- Ex-ante SEA:** Ideally, an SEA is most beneficial when undertaken prior to or during the preparation of a PPP (Figure 1.4). The processes of developing a PPP and undertaking an SEA should be mutually reinforcing to promote more sustainable development (as described in Box 1.2). The environmental and socioeconomic information and analysis provided by the SEA can optimally inform the preparation of the PPP, can help focus decisions on the most sustainable options, and can assist in clarifying (restructuring, rewording) PPP drafts to promote effective implementation. The SEA can identify new opportunities, particularly to maximize benefits and avoid, minimize, or mitigate negative impacts and promote positive outcomes, and can highlight where there may be potential risks, conflicts, or inconsistencies between PPPs. This can prevent the cost of rectifying mistakes.
- Ex-post SEA:** An SEA can also be undertaken on a PPP that has already been drafted or on an existing PPP that is already being implemented. This is a reactive process (Figure 1.4). Such SEAs are less influential on a PPP than those carried out in parallel to PPP development because there is usually less uptake of the SEA’s recommendations. However, it can still be beneficial to identify environmental and social problems that have arisen and identify where modification of the PPP may be required. This is particularly useful where revision of a PPP is being considered.

No matter which “model” of SEA is followed, the desired outcome is a better PPP rather than the production of an SEA report, as well as better environmental and socioeconomic outcomes.

Figure 1.4: How SEA can relate to the PPP process



The government officials involved in developing the PPP and the team undertaking the SEA should work together, as closely as possible, be fully aware of what each other is doing, and seek opportunities to organize common events, e.g., stakeholder meetings and workshops to achieve the best possible PPP and SEA outcomes (see example from Namibia in Box 1.2). However, in many situations, SEAs are still undertaken in isolation from the process of developing the PPP to which they relate, thus reducing their utility and influence. Undertaking an SEA in isolation from the PPP process should be avoided.

Development of the PPP normally enables public authorities to analyze development trends, opportunities, and threats, and to propose development interventions and implementation arrangements. The SEA process should ideally examine individual outputs of the PPP-making process and it may propose necessary amendments to maximize their environmental and social benefits and to minimize their negative environmental and social impacts and risks. As such, the development of PPPs and the SEA process follow a very similar logic, and this is the basis for the approach recommended in this guidance.

An SEA process should be designed to fit into the logic and steps of this PPP-making process so that it delivers critical information to aid better decisions at the most appropriate points. Furthermore, the SEA process will need to be flexible and iterative so that it can be modified and adjusted as necessary, e.g., when there are changes in the process, timeline, or focus of the PPP, or even unexpected events that disturb the PPP process (e.g., sudden elections, pandemics). At the outset, it can be hard to predict how the SEA will unfold. In practice, every SEA is a learning process and needs to be capable of modification if it is found that a particular approach is working less well than expected.

Planning procedures tend to be well codified with a linear sequence of steps as suggested by the arrows in Figure 1.4. Thus, it is important to design an SEA process so that it fits with these PPP steps, which provide “windows of opportunity” for critical information generated by an SEA to support better decisions and to meaningfully influence the focus and content of the PPP. Ideally, to have maximum utility, an SEA process should be fully embedded within the PPP process so that its outcomes immediately and directly can influence PPP development without having to seek opportunities to do so. In effect, they would be a single intertwined process. But there are few, if any, examples where this is yet the case. Thus, as indicated above, SEA is currently better carried out in parallel with PPP development, with their steps aligned and integrated.

Policies are often general and directional and rarely include specified activities. So, from a procedural perspective, an SEA at the policy level will have little in common with the simple, linear, technical nature of a project-level EIA. It is also argued that SEA at the policy level also requires a particularly strong focus on institutional factors and facilitating constituency-building and strengthening of stakeholders in the policy process.⁹

There may be situations where multiple development activities in a particular sector or across a particular geographical area are reported to be giving rise to environmental and social impacts but are not currently being addressed, controlled, or regulated because a PPP has not yet been developed or is not yet proposed. In these circumstances, an SEA can be very helpful to assess and establish the nature and extent of environmental and social issues arising and to provide recommendations on policy/planning measures that could be taken to address such concerns. It can also set the stage for the project-level environmental and social impact assessments that may follow.

1.7 SCALE AND TIME REQUIRED FOR AN SEA

There is no one-size-fits-all approach to SEA. Options can vary along a spectrum from rapid to full (more detailed) assessment (compared in Table 1.2). These options are not tightly delineated and can be stand-alone exercises or undertaken in sequence. Thus, a full SEA could build on and deepen a rapid SEA. But a rapid SEA is not a required prior step to a full SEA.

There is an urgent need for the energy transition to combat climate change. In response, all around the world, we are seeing an increasing rush of project proposals for renewable energy generation. In

⁹ OECD/DAC (2006) and World Bank (2011)

these circumstances, it is argued that we simply cannot wait for full-scale impact assessments to be undertaken and that a still credible but leaner process is needed.¹⁰ Equally, for similar reasons, there is a convincing case for applying rapid SEAs to energy PPPs in the first instance to provide early, but robust, assessment information and guidance to support PPP decision-making, particularly by identifying where there are high risks of significant environmental and socioeconomic impacts. Such rapid SEAs would contribute to, and shorten, the scoping stage for subsequent full assessments.

Table 1.2: Full and rapid SEA compared

(Source: Adapted from a graphic by R. Verheem)

Stage/component	Full SEA	Rapid SEA
Overall nature and aim	<ul style="list-style-type: none"> • A comprehensive assessment following international principles/standards of good practice • Usually undertaken when required by law/regulation or by safeguard policies/framework of funding agencies 	<ul style="list-style-type: none"> • Light dive aiming to provide critical information on key issues and the main likely impacts • Particularly useful where there are budget or time limitations • May point to the need for a subsequent full SEA
Timeframe and budget	<ul style="list-style-type: none"> • Generally, 6-12 months (sometime longer depending on complexity) • Considerably more than for a rapid SEA. Varies according to the length of the process and the complexity. Comprehensive SEAs typically average US \$500,000 to US \$700,000 	<ul style="list-style-type: none"> • 1-2 months, depending on complexity • Usually a small budget (US\$40-60K) to cover professional fees and venue hire
Steering/Advisory committee	<ul style="list-style-type: none"> • Very useful to have in the case of a complex and large SEA that spans many sectors and government agencies, and possibly also representation from the private sector and NGOs 	<ul style="list-style-type: none"> • Not needed
Baseline studies	<ul style="list-style-type: none"> • Required. May be a combination of existing and new studies 	<ul style="list-style-type: none"> • Not required, primarily desktop review
Specialist studies/research	<ul style="list-style-type: none"> • Additional specialist studies may be required, especially where critical data is lacking or out of date, or where seasonal issues require to be addressed 	<ul style="list-style-type: none"> • Not required
Stakeholder consultation	<ul style="list-style-type: none"> • Required. This is a basic principle of SEA and should be extensive; at least two rounds during the SEA process: once during scoping to help identify key issues and enable stakeholders to present their perspectives, and again toward the end to present/discuss the findings and recommendations 	<ul style="list-style-type: none"> • Generally, not required, except if there are directly affected parties and the impacts on them are likely to be significant • Focus group meeting(s) of key involved players
Team and resources required	<ul style="list-style-type: none"> • Usually a larger multidisciplinary team, with a senior team leader and other members clustered thematically 	<ul style="list-style-type: none"> • Usually, a small team of experts from key disciplines will suffice
Process	<ul style="list-style-type: none"> • Starts with initial literature review, baseline study/report if literature 	<ul style="list-style-type: none"> • Usually some initial literature review • Interactive brainstorming/workshopping within the team and possibly including a

¹⁰ Alan Ehrlich. Presidential address to the conference of the International Association for Impact Assessment, Dublin, 27 April 2024)

Stage/component	Full SEA	Rapid SEA
	<p>readily available. May require specialist studies (see above)</p> <ul style="list-style-type: none"> • Stakeholder engagement (see above), and carefully-planned focus group meetings • Review of the legal and regulatory framework and institutional roles and capacities, interactive brainstorming/ workshoping within the team, and including key stakeholders • Can be impacts-led or objectives-led, or both. For objectives-led SEA, development of Environmental and Socioeconomic Quality Objectives (ESQOs) as basis for assessment • Consideration of alternatives and scenarios • Use of linkage diagrams to indicate impact flows and routes to cumulative impacts • Impact identification and assessment of likely impacts and significance (e.g., scoring) of alternatives/scenarios, possibly with a deeper drive for the preferred alternative/scenario • Preparation of an environmental and social management plan (SESMP) 	<p>few “outside” subject experts to add information and value</p> <ul style="list-style-type: none"> • Identification of key environmental and socioeconomic issues • Development of linkage diagrams to indicate impact flows and routes to cumulative impacts • Assessment of likely impacts and significance (scoring) etc., to enable the team to quickly identify key issues, alternatives, assess likely impacts and identify measures for mitigation/impact management • Generalized management actions and road map of key actions and next steps
Report	<ul style="list-style-type: none"> • Usually, a substantial and well-illustrated report and SESMP with many appendices depending on the subject and context • In some cases, the key outcome is the revised PPP, rather than a comprehensive SEA report 	<ul style="list-style-type: none"> • Usually a very brief report (10-30 pages, plus annexes) • Should include narrative and tables • Unlikely for there to be a detailed Strategic Environmental and Socioeconomic Management Plan (SESMP) but a road map of key management actions could be prepared
Formal review and approval	<ul style="list-style-type: none"> • Depends on the jurisdiction. In only a few countries is a formal technical review of an SEA required (e.g. Bhutan), prior to an approval • In some countries it is required to provide the final draft to stakeholders for review. In any case, it is good practice to make this available on an SEA website • Often the SESMP requires some monitoring and evaluation, possibly for decades into the future 	<ul style="list-style-type: none"> • Depends on the jurisdiction, but unlikely to be required • Usually, a rapid SEA would serve the purpose of an “advisory memorandum” that is similar to an executive summary

In all circumstances, the timeline of an SEA will need to be carefully thought through and designed according to a range of possible background factors:

- **The particular focus of the SEA**, e.g., whether a PPP or other instrument such as a strategy, or a spatially extensive development such as a large regional infrastructure initiative, or a cross-border initiative such as a proposed railway, pipeline, or transnational protected area. In some circumstances, there may be a complex, larger-scale environmental challenge that does not fit into

existing or proposed PPPs (e.g., climate change), a common situation in lower- and middle-income countries that lack a strong tradition of strategic planning. In such cases, an SEA may be commissioned to feed into a decision-making framework developed on a case-by-case basis;

- **The PPP preparation and decision-making process** (key steps, who involved, timescales, etc.), as this will dictate the SEA design;
- **Key factors influencing the SEA** like geographic and/or jurisdictional scope, existing data, and timeframe for rolling out renewable energy to meet a country's climate targets;
- **The context**, including geographical factors that may limit access (e.g., in particular seasons), or requirements to gather new data including seasonal or multi-year data;
- **The availability of existing information** and any gaps which may require additional time and cost to address;
- **The capacity of the requesting institution** – sometimes this can prolong the process until there is internal understanding of the role and modalities of SEA and consensus is reached on the aims and requirements of the SEA;
- **Available time and budget** (it is important to understand that time and budget constraints imposed on an SEA will limit what can be done and its utility), and
- **Political and security considerations.**

A study on the first year of application of the European SEA Directive in the United Kingdom surveyed 201 authorities that had conducted SEAs of plans.¹¹ It concluded that most of these SEAs required approximately 70–80 person days to complete (roughly half for scoping and half for the SEA report). According to the Netherlands Commission for Environmental Assessment, experience shows that small municipal SEAs can be carried out in as little as 30 working days, medium-scale SEAs require 50 - 100 working days, and more complex large-scale SEAs require between 150 - 300 working days, depending on the amount of information to be processed.¹²

A complex SEA, especially one covering multiple sectors, may take over a year to undertake, sometimes much longer, and require a large team of experts (Section 1.6). A longer pre-SEA period may be necessary to collect data that may be required, particularly when time series information or data covering several seasons is deemed necessary. At the other end of the spectrum, in some circumstances, it is possible to conduct SEA as a rapid exercise. For example, a rapid, desk-based SEA of Namibia's Fourth National Development Plan was undertaken over a month. It was led by two SEA experts working with invited subject-expert focus groups.¹³

1.8 COSTS OF SEA

Undertaking a full SEA usually involves the costs for the following inputs and steps:

- Fees and operational costs (e.g., travel/accommodation, workshops/meetings and administration) for the practitioners engaged to undertake the SEA;
- Designing the approach and methodology and testing tools, usually during the initial stages of SEA application. Costs may be reduced by using commonly applied methods which have proved to work well in SEA¹⁴;
- Gathering basic data sets and analysing the baseline. In many SEAs, field work is often limited to ground-truthing visits, especially where there is good available information. Where there is limited

¹¹ Therivel and Walsh (2005)

¹² NCEA (2020)

¹³ Dalal-Clayton and Tarr (2015)

¹⁴ e.g., impact matrices, modelling, scenario analysis

basic data, field work may be necessary, and this can add significant costs (and time). However, most of this work occurs during the first SEAs undertaken in a particular region/sector. Subsequent SEAs (e.g., when a PPP is revised) can build upon the data gathered by previous SEAs and the additional costs will be limited to obtaining specific new data that may be required;

- Carrying out analyses and providing inputs to support the elaboration of the PPP concerned (always needed);
- Implementation and monitoring frameworks for SEA recommendations;
- Training in circumstances where capacity and understanding of SEA are low, and
- Consulting stakeholders and managing the entire SEA process (always needed).

There can also be costs associated with a legal challenge to a PPP, which can delay an SEA and downstream mitigation measures recommended by the SESMP.

There is very limited information on the actual costs of SEAs, as it tends to be a confidential matter, but the cost will vary due to the length of the process and the complexity of the chosen design.

A recent study based on a literature review¹⁵ examined SEA costs over the entire lifespan of the process and compared costs against benefits. It notes that available data is commonly derived from SEA procurement budgets, which largely reflect consultancy costs. In Europe, SEA costs range up to US\$ 1 million with significant variations. The cost of SEAs for typical local development (or land-use) plans, which account for a large proportion of SEAs in Europe, was found generally to be up to US\$100,000. In other regions of the world, costs were generally higher, from less than \$350,000 to over US\$ 1 million. It is noted that alternative approaches are also being explored, particularly in emerging nations, that cost much less. Rapid SEAs, for example, can cost less than 20% of the time and cost of conventional SEAs.¹⁶ The study concludes that for a national-scale, one-off policy like a national energy policy, the cost can be assumed to be roughly US\$100,000 to \$1 million, although this will depend on the approach and process followed and the complexity of the PPP concerned.

In rare cases, some complex SEAs might be expected to cost between \$1 and 2 million if they are particularly complex and will require longer than a year to undertake (e.g., when new research or seasonal studies are needed).

Contingency reserves are very important, as SEAs often require additional or unforeseen tasks to be undertaken; at least 10-15% of the total SEA budget should be allocated to them. Additional costs may be foreseen for any follow-up activity to the SEA to evaluate the effectiveness of its implementation. It is particularly important to ensure that costs for a fully inclusive and transparent stakeholder consultation process throughout the entire SEA process are included.

A study for the European Commission (EC) on the costs and benefits of EIA indicated that introducing SEA to regional and local land-use planning usually increased planning costs by 5 to 10%.¹⁷ However, these costs are marginal in comparison with the costs of the implementation of plans or programs (i.e., financing all activities and projects proposed by the planning document). The EC also found examples of good SEAs that increased planning costs by less than 5%, but the costs depend on the amount and detail of alternatives elaborated and the extent of their assessment.

A rapid SEA can be expected to cost US\$ 40,000 – 60,000.

1.9 WHO SHOULD CARRY OUT SEA?

The SEA process needs to be owned by the authority responsible for the PPP concerned. This will help to avoid the SEA report being ignored and shelved. Such “ownership” means that the authority concerned should “lead” the process (provide strategic direction, coordinate with other government

¹⁵ Therivel and Gonzalez (2020)

¹⁶ Dalal-Clayton and Tarr (2015)

¹⁷ European Commission (2006)

agencies, undertake necessary formalities, assist with access to information, etc.). However, in most situations, the responsible authorities lack SEA experience and skills, and a team of knowledgeable and experienced experts needs to be engaged to conduct the SEA. This team needs to coach the responsible authority on the role, benefits, and modalities of SEA to help increase its awareness and capacity regarding SEA. Such coaching will, in turn, enhance the authority's ability to lead and guide the team of SEA consultants on aspects of the SEA. It can also benefit the responsibility authority, other government agencies with an interest in the SEA, and key stakeholders if an awareness-raising workshop about the SEA (reason for SEA, modalities of process, how to engage, etc.) is organized early in the SEA process (preferably during the inception phase).

A group of knowledgeable and experienced experts should comprise the core SEA team with environmental and social knowledge and skills, and experience in conducting SEAs. One of these should take the role of team leader with responsibility for overall coordination, liaising with the SEA proponent, team management, quality control, etc. A range of other subject specialists may be required to make shorter specific inputs/studies on required subjects.¹⁸ Ideally, the team should be comprised of national experts with the relevant range of environmental and social expertise. In circumstances where national experience and skills in undertaking SEA are limited, it is advisable to engage a few experienced international consultants to work with the national team members (at least the lead environmental and social experts, one of whom should be the team leader to guide the process). The team should ensure that they have capacity in the local language.

The SEA team should be invited to all planning meetings regarding PPP development and other relevant activities and have full access to all relevant documents or other sources of information produced or referred to within the PPP process.

Wherever possible, the SEA team must be responsible for leading out and coordinating consultation efforts related to the SEA (see Section 1.10). This will ensure that stakeholders fully understand who is conducting the SEA, on whose behalf, and why it is important to obtain stakeholder support and buy-in to the SEA process (see below).

In some circumstances, the SEA proponent may elect to establish a broad-based, multi-stakeholder steering committee for the SEA to provide oversight, advice, support, and guidance (see Chapter 14). This is a form of collaborative governance that is crucial to tackle multi-sector challenges and to ensure inclusive stakeholder engagement throughout the SEA process. It also helps to ensure that the process and outcome are more influential.

1.10 ENGAGING WITH STAKEHOLDERS

For SEA to be successful and meaningful, and support progress towards sustainable development, it will need to engage with a wide range of stakeholders throughout the process. Broadly, stakeholders should include:

- All those organisations and individuals with a legitimate interest in the PPP and who may be affected by PPP outcomes;
- The Ministry of Energy (or equivalent) and other relevant government ministries/agencies and others involved in decision-making relevant to the PPP being assessed at all levels (from national to local). Where possible, officials from such ministries/agencies should be involved directly in undertaking key steps and analyses of the SEA process to build their ownership of the process and products;
- Civil society (who may be represented by CSOs and NGOs);
- The private sector, and
- Multi-lateral development banks, bilateral donors and aid agencies that may be funding the SEA or supporting the implementation of the PPP.

¹⁸ Examples of expertise that may be required include (note that this is not a comprehensive list): energy technologies, coal-fired power plants and coal-mining, health and safety, biodiversity and ecosystems, protected areas, climate change, transport, tourism, planning, urban issues, archaeology and cultural heritage, GIS, public consultation, governance, institutional and legal issues.

Many of these actors will have roles to play in developing and/or implementing the PPP or SESMP or will likely be affected by PPP implementation.

PPPs concerned with the energy transition are likely to affect all inhabitants in a country, but it is almost impossible to give all inhabitants the opportunity to be engaged in the process. Therefore, consultation via CSOs that are valid representatives of affected communities is a reasonable and acceptable approach. However, this decision will not be simple and will require engagement with a range of stakeholders to ensure that this representation of interests will be acceptable to all.

For the PPP to be well constructed, address the most important issues, and be successfully implemented, it will be necessary for stakeholders (including representatives of local communities and the public) to understand the process, be able to engage meaningfully with it, and influence its outcomes. In other words, stakeholder “buy-in” is vital to the SEA process.

Best practice public engagement in SEA should include the elements listed in Box 1.3.

Box 1.3: Elements of best practice stakeholder engagement in SEA

Meaningful

- Ensure adequate time and resource for the engagement process (particularly when developing SEA terms of references and budget);
- Provide information/explanation about the SEA (e.g., need, focus, process) to stakeholders;
- Provide input that informs the SEA process and decision-making;
- Start early and continue throughout the process;
- Encourage two-way communication, and
- Allow the process to accommodate stakeholders’ own agendas, and where these are not directly relevant, direct them to the most appropriate agency or organization.

Planned

- Have consensus (through dialogue with decision-makers and stakeholders) on how stakeholder engagement is to be conducted, with clearly defined objectives, scope, and techniques/approaches for engagement, and
- Be tailored to support (and not disrupt or unduly delay) the PPP development schedule/process (sometimes joint/shared stakeholder engagement events can be organized).

Open and build trust

- Be accessible to all stakeholders;
- Explain the benefits of engaging and participating;
- Enable access to relevant information, and
- Provide for a free exchange of information, using a variety of communication channels (e.g., website, newspaper notices, newsletters, radio, etc.).

Inclusive

- Ensure different perspectives are addressed by the SEA.

Collaborative

- Encourage participants to work together on identifying issues and ways to address problems.

Transparent

- Communicate how stakeholder inputs will be used, and
- Provide feedback to stakeholders on SEA progress, outcomes, and recommendations, particularly through user-friendly materials (including in local languages).

In Chapter 2, guidance is provided on how stakeholders should be involved in the different stages of the SEA process.

1.10.1 Roles and responsibilities of key stakeholders

Table 1.3 sets out the roles and responsibilities of stakeholders, including government agencies, communities and individuals, private organizations, non-governmental organizations, and others having an interest or stake in the SEA process and outcomes of the PPP.

Table 1.3: Roles and responsibilities of key stakeholders

Stakeholder	Role and responsibilities
Lead agencies	<p>PPPs are mainly developed by sector ministries and implemented by their respective line agencies. The responsibility for instigating an SEA of a PPP, therefore, should lie with the relevant sector ministry. The lead agency is responsible for managing the SEA process, usually through the commissioning of a team of expert consultants to undertake the technical process. Where SEA is formalized by legislation and a government agency is designated to be responsible for the system, the lead agency will usually also be required to submit an SEA report (and accompanying SESMP) to that designated body to be reviewed and approved. The lead agency will likely be involved in implementing the SEA recommendations together with other responsible agencies and institutions.</p> <p>Increasingly, influential SEAs are the responsibility of an inter-agency steering committee where the sharing of responsibility and decision-making is a starting point.</p> <p>Where international organizations (e.g., multilateral development banks or bilateral donors) are involved in supporting the SEA or in funding PPP implementation, the lead agency will usually be required to submit the SEA report to such organizations for review and approval (particularly where such organizations are required to satisfy their own environmental and social safeguard requirements) and to meet funding requirements.</p>
Statutory bodies with designated responsibility regarding SEA	<p>Legislation covering SEA usually will assign formal responsibility for overseeing the national SEA system, developing regulations, providing guidance, and reviewing SEA reports to a particular government agency (often the Ministry/Department of Environment or Environmental Protection Agency). Where there is no statutory body or legislated process, responsibility for reviewing reports would need to be assumed by the lead agency (possibly through commissioning independent experts to help).</p>
Civil society (including communities, individuals, marginalized groups)	<p>All those members of civil society (either individually or through representative bodies) who have an interest in or might be affected by a PPP should be provided with opportunities to be informed about the PPP. They should be able to engage in the SEA process (expressing their concerns and perspectives on issues and proposals), comment on draft SEA reports, and be informed of its results, etc. To foster engagement, information should be available and communicated in ways that different stakeholders (e.g., indigenous people) can access and understand (e.g., summarized in local language).</p>
Indigenous Peoples	<p>Sometimes, Indigenous Peoples' organizations are erroneously lumped into civil society organizations (CSOs). But Indigenous Peoples (IPs) form distinct societies with their own laws, languages, epistemologies, ontologies, and methodologies, including in the area of renewable energy. They can often be adversely affected by renewable energy developments. Strong efforts are required to ensure that indigenous peoples are engaged in an SEA, fully informed, and enabled to present their perspectives and concerns.</p> <p>Legislation and/or the environmental and social safeguards policies of financing organizations may expect or require Indigenous communities to give their prior and informed consent to certain projects and activities arising when implementing a PPP.</p>
Environmental assessment practitioners, academics, and researchers	<p>Lead agencies will usually depend on environmental assessment practitioners (national and international) to undertake an SEA. There may be a need for specialized research or case studies to provide key data for an SEA, which would usually be undertaken by national experts, academics, and researchers.</p>
Development finance organizations and donors	<p>It is common practice for international development finance organizations (e.g., MDBs) or donors to require SEA for sectoral support and large development</p>

Stakeholder	Role and responsibilities
	programs. They may provide funding for individual SEAs. They will usually be required to approve the terms of reference (TOR) for the SEA and to review SEA reports. National finance organizations, including banks and trust funds, may also require SEA if they are funding part of PPP implementation.
Private sector	The private sector is likely to be involved in implementing many aspects of PPPs (particularly in the energy sector) by investing in the business opportunities that they create. It is important that their views on the PPP are considered. The private sector can also be responsible for an SEA of a PPP where a sector has been privatized (as in some countries, e.g., the rail sector in the UK).
NGOs/CSOs and other independent organizations (e.g. trade unions, religious organizations)	NGOs and independent organizations should be involved as stakeholders in SEA where appropriate. Often, they hold important information and can make expert contributions to the assessment process and analyses.

1.10.2 Methods to engage with stakeholders

Stakeholder participation should be a continuing process that runs throughout all stages of the SEA (as described in detail in Section 3.3.6 and Annex 1).

The SEA process should be ideally conducted in conjunction with consultation organized for the preparation of the PPP itself. Also, existing communication channels can offer efficient means for conducting consultations for the SEA. However, additional methods will be required at times. Participation processes should be used that provide the best means to ensure that stakeholders can engage effectively and that their viewpoints are given proper consideration.

The method of engagement should be to a large extent dictated by the purpose, i.e., information giving, information gathering, consultation, participation, collaboration, or delegated authority. Different methods lend themselves to these different purposes. Annex 1 describes various approaches that can be used to engage with stakeholders, including:

- Printed material inviting comments;
- Displays and exhibits;
- Information hotline/staffed telephone lines;
- Internet/web-based consultations;
- Questionnaires and response sheets;
- Surveys;
- Public hearings and meetings;
- Workshops and focus group sessions;
- Advisory committees;
- Social media, and
- A dedicated and interactive website.

It is important to note that public hearings or questionnaires, which are often used for consulting the public during EIA processes, may not deliver the most effective consultations within the SEA process. Instead, problem-solving workshops, roundtables, an advisory panel, focus groups, online exchanges, or structured interviews with key informants may provide more efficient and user-friendly means for obtaining inputs from the relevant stakeholders during the SEA. It will be important to organize targeted meetings/sessions with women (facilitated by a woman) in communities or with women's or other vulnerable groups as, in many societies, they are often reluctant (or even restricted) to express their views in mixed gender events.

Similar approaches can be applied to consultation with Indigenous Peoples including the use of an indigenous facilitator.

Usually, the following analyses benefit from stakeholder input (particularly as a consequence of their local knowledge):

- Determination of key environmental and socioeconomic issues related to the PPP;
- Identification of knowledge or data gaps;
- Analysis of environmental and socioeconomic trends without the PPP and under different development scenarios, and assessment of alternatives;
- Assessment of future environmental and social trends as influenced by the actions proposed in the PPP;
- Identification of appropriate mitigation and enhancement measures, and
- Suggestions for monitoring and follow-up for SEA implementation.

Stakeholder input in each of these stages can be facilitated by formulating clear questions to help them in submitting or making their comments.

A grievance mechanism should be established to enable stakeholders to complain if they feel that their opinions have not been sufficiently addressed or responded to.

1.11 BUILDING CAPACITY FOR SEA

As indicated in Section 1.3, one of the basic principles of SEA is to provide opportunities to build capacity to conduct SEA and use the SEA results.

The full and effective engagement of stakeholders (Section 1.9) provides a means to increase understanding of the benefits and modalities of SEA amongst a wide range of interested parties. But more planned and targeted capacity-building efforts for SEA may be warranted.

In some countries, previous experience of commissioning and conducting SEA, or in implementing recommendations set out in a SESMP, may be absent or limited, particularly within government. Indeed, experience shows that in many countries, government officials with responsibilities for preparing and implementing PPPs have very little understanding of SEA and how it can help to improve PPPs and their implementation.

In such circumstances, various actions might be considered, and could usefully be included within TORs for an SEA, e.g.:

- One or more government officers (e.g., from the government department/agency responsible for environmental assessment) could be **seconded as members of the SEA expert team** (either full- or part-time) to enable them to be embedded in the process, gain operational experience of undertaking an SEA, and thus help increase government “ownership” of the recommendations;
- Provision of SEA **guidance documents and case studies** of similar SEAs;
- An SEA **awareness-raising event** (as suggested in Section 1.9) at the earliest possible stage in the SEA (preferably during the inception stage to provide key actors with information about what SEA is, its role and benefits, and how it is planned to conduct it). This will be particularly beneficial for government officials (particularly from the proponent ministry and others likely to be later involved in implementing the SESMP) as well as other key stakeholders;
- **SEA workshops** that are undertaken to present various phases of the SEA process offer an opportunity for stakeholder participation and capacity-building and also help guide the SEA process;
- **Training courses/exercises** could be conducted (for particular government agencies and other interested stakeholders) on SEA (in general), on specific steps/stages of an SEA, and/or on particular methodologies used, and
- An SEA does not end once the SEA and SESMP reports are submitted. Implementation of the recommendations follows and will likely continue over years. In some countries, those government agencies with roles and responsibilities to implement the actions recommended

in an SESMP will require a degree of guidance and support to interpret the findings of an SEA and to both understand and carry out the tasks and roles assigned to them. This could be provided by a dedicated SEA implementing agency, which may be an independent consultancy with experience in SEA. Thus, it might be advisable that, when preparing TOR for an SEA, time and budget are included to enable the provision of “**follow-up**” **support** to assist the government agencies involved to prepare for and undertake their responsibilities for the recommended management actions.

1.12 EFFECTIVENESS OF SEA

Almost 30 years ago, an international study of the effectiveness of SEA¹⁹ suggested four ingredients for an SEA to be effective:

- Appropriate timing in initiating the assessment so that the proposal is reviewed early enough to scope for the development of reasonable alternatives;
- Clear, specific directions in the form of terms of reference or guidelines covering priority issues, timelines, and opportunities for information and input at key decision-making stages;
- Quality information and products fostered by compliance with procedural guidelines and use of “good practices” and
- Receptivity of decision makers and proponents to the results of the SEA, founded on good communication and accountability.

A recent follow-up study by the same authors based on expert opinions has highlighted the status of SEA today regarding its effectiveness.²⁰ Key points include:

- Major extensions and improvements have occurred in SEA systems and institutions, knowledge and expert capability, guidance, tools, and data availability;
- Shortfalls and deficiencies in current practice are also evident in the uneven quality of SEA reports, overly legalistic and bureaucratic approaches, insufficient public participation, limited influence on decisions, and, by extension, on levels of environmental and social protection, and superficial consideration of sustainability matters, and
- Recommended steps to move SEA forward include strengthening applicable laws, regulations, and participative methods; identifying new modalities and web-based and digital tools to advance practice; furthering research and in-depth case analysis of SEA effectiveness, particularly the impact on decision-making; and facilitating more innovative applications to sustainability purpose.

Extending from the above, an SEA can be judged to be effective if

- Quality information is delivered that is relevant and appropriate and can be seen to inform or influence the content of a PPP and related decision-making, and it does so in a timely manner for key decision-making stages;
- Decision-making is made more effective and efficient, improves governance, and sets a direction for sustainable development;
- The SEA builds awareness and understanding of environmental and socioeconomic issues and how they interact among all key stakeholders;
- The SEA builds technical capacity for undertaking future SEAs;
- The SEA identifies environmental and socioeconomic opportunities and risks (potentially significant negative impacts and their likely consequences);
- Recommendations, usually presented in an SESMP, are acted on meaningfully and effectively by government or other agencies to implement measures that (a) boost opportunities to enhance achieving environmental and socioeconomic quality objectives, or

¹⁹ Sadler (1996); Sadler and Verheem (1996)

²⁰ Sadler and Verheem (2024)

(b) to avoid and mitigate risks and negative potential impacts that would impede achieving such objectives.

Of course, it may not be easy to determine if some changes are directly, or even partially a consequence of the findings and recommendations of an SEA, as so many other factors are likely to also have an influence, e.g., political, economic, and security considerations. Furthermore, change may not be immediate; it may take place over time and incrementally, and it may vary spatially.

Overall, performance and delivery provide the essence of SEA effectiveness, "measured" in terms of decisions, outcomes, and achievement of policy aims – i.e., what SEA contributed in a given process or over a series of applications.

In a recent paper, a set of 10 key performance indicators (KPI) for strategic environmental assessment effectiveness have been suggested for Ireland (Table 1.4).²¹ The KPIs are related to the requirements of the EU SEA Directive and are unlikely to be pertinent for all jurisdictions.

An SEA will have a greater chance of being effective if it is undertaken following internationally accepted principles for good practice (discussed in Section 1.4), including meaningfully engaging with all key stakeholders, being conducted in a transparent manner, and integrated as much as possible with existing policy and planning structures.

²¹ Therivel and Gonzales (2024)

Table 1.4: Key performance indicators of SEA effectiveness in Ireland*Source: Therivel and Gonzales (2024)*

SEA effectiveness dimension	Key performance indicators		Data source				
			SEA report	SEA statement*	Monitoring report	Plan	Planner interviews
Context	1	SEA documents are easy availability on a public website.	√	√	√		
Procedural	2	Consideration of realistic and appropriate “within plan” alternatives.	√				
	3	Assessment of cumulative impacts of the plan plus other plans, projects, and external trends.	√				
Pluralist	4	Environmental authority recommendations taken on board (either integrated into the plan or a reason given that directly responds to the concerns, where the concerns are within the ambit of the plan).	√	√		√	
	5	Public recommendations on SEA documents taken on board (either integrated into the plan or a reason given that directly responds to the concerns, where the concerns are within the ambit of the plan).	√	√		√	
Substantive	6	Changes made to the plan in response to proposed SEA mitigation measures.	√	√		√	
Normative	7	SEA contribution to environmental improvement (focus on key impacts of the plan, tests against relevant environmental targets, leads to plan changes towards achieving environmental targets).	√	√			√
Knowledge & learning	8	For cyclical plans, SEA monitoring carried out for the previous cycle of the plan, and monitoring findings referred to in the current SEA.			√		
	9	Planning team documentation of lessons learned from this SEA and suggestions for improving the next round of SEA.	√	√			√
Transactive	10	Planning team documentation of the costs and benefits of SEA, and what can be done to improve its benefits.		√			√

*: Article 9.1b of the European SEA Directive requires the preparation, after plan adoption, of an ‘SEA Statement’ that describes the influence of the SEA process on the plan.