

IMPROVING DECISION-MAKING  
FOR THE ENERGY TRANSITION

Guidance for using Strategic  
Environmental Assessment

# EXECUTIVE SUMMARY

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

# SUSTAINING THE RENEWABLE ENERGY TRANSITION: The urgent need for Strategic Environmental Assessment

## Energy decisions must be made strategically.

The climate change threat demands that we urgently reduce greenhouse gas emissions. Authorities around the world have committed to transition to renewable energy. This is now happening at a rapid rate with new clean energy projects increasing exponentially.

However, many countries do not have protocols and guidelines to help them to make forward-thinking strategic decisions and apply best practice to ensure a sustainable transition. This creates its own crisis and is why the International Association for Impact Assessment (IAIA) has developed an important new resource: ***Improving Decision-Making for the Energy Transition: Guidance for Using Strategic Environmental Assessment (SEA Guidance)***.

## What is the energy transition?

A global effort to shift energy sources from fossil fuels to zero-carbon options (like wind, solar, and hydropower) to reduce carbon emissions and combat climate change.

## The risks of a poorly planned energy transition are significant.

Many players are looking at the energy transition from too limited a point of view—by assessing risks and benefits only at the individual project level. This is an issue because small-scale, individual initiatives can have unintended and cumulative consequences when multiple projects interact with one another.

Decision makers must make policy decisions strategically to prevent, for example:

- unforeseen environmental damage to habitats, loss of biodiversity, increased pollution, and depleted minerals.
- conflicts between development goals and environmental protection.
- economic and livelihood disruption, displacement of people, job loss, and public backlash—assuring a “just energy transition” where nobody is left out.
- grid instability, vulnerable supply chains, and energy price fluctuation.

## IAIA is the leading global body of experts on impact assessment.

- 40+ years of experience
- 5,000+ members and affiliates
- Partnered with ADB, IFC, IAAC, NCEA, NORAD, the renewable energy sector, international and UN organizations, bilateral donors, civil society representatives, and other organizations

## Strategic Environmental Assessment is a proven process to address risks and benefits.

Project-level assessment has a narrow focus. It considers the piece of infrastructure being built and its local environment. It does not usually look at alternatives to the project or consider the cumulative impacts of other developments. Strategic Environmental Assessment (SEA) focuses on a higher level—on policies, plans, and programs. It zooms out and looks at the bigger picture (like a province, region, or whole country), with a strong focus on alternative options and cumulative effects.

SEA provides an early warning system, so governments can identify and address potential issues before they become problems. The scale of the benefits is larger. The opportunity to reduce risk early is also high, helping to avoid later costly or permanent mistakes caused by poorly designed policy.

## What SEA can do



### Protect the environment and society from negative risks and impacts.

- Evaluate the effects of policies, plans, and programs on issues such as climate change or biodiversity.
- Recommend appropriate ways to avoid or manage potential risks.
- Understand impacts of multiple projects (existing and planned) and other developments interacting.
- Align with the just transition to ensure that Indigenous, marginalized, and vulnerable peoples suffer no harm and benefit from the energy transition.
- Identify how people and businesses could be made vulnerable by a shift towards renewables (for example, in the closure of coal mines).
- Recommend measures to manage changes to income distribution, social equity, cultural preservation, energy affordability and security, and more.



### Reduce costs and delays.

- Avoid costly mistakes by identifying unsustainable or risky development options early in the process.
- Eliminate repetitive assessment for multiple projects that likely address similar issues.
- Identify ideal locations and technical options for renewable energy development.
- Reduce financial risk.
- Combine economic development and environmental protection, highlighting opportunities for new industries, job creation, development of local economies, and innovation.



### Build credibility and alignment with international treaties.

- 100+ countries legally require SEA, including nearly all high-income countries.
- Multiple countries are covered by the European Union SEA Directive and other protocols.
- The aims of the Paris Agreement, UN Sustainable Development Goals, and Global Biodiversity Framework all require strategic planning.



### Attract investors and donors by incorporating environmental and social safeguards.

- Multilateral development banks and donor countries now require SEA for renewable energy policies, plans, and programs they are supporting (e.g., through loans) in countries. This requirement is likely to become more frequent.
- SEA can offer more certainty for projects by providing an early planning context prior to individual project approvals.
- SEA improves public trust, allowing for participation in the decision-making process on policies, programs, plans, and projects that might affect them, their communities, and the environment.

#### How long does SEA take?

SEA typically takes between 6 and 12 months to complete, or longer in certain cases.

#### How much does it cost?

From US\$20,000 to 50,000 for a rapid, two-to-three-month, desk-based SEA.

US\$100,000+ and up to US\$1 to 2 million for a full, 12–18-month SEA of a complex PPP.

#### When to start?

Initiate SEA early in the renewable energy policy planning process. This avoids missed opportunities for addressing environmental and social concerns which can snowball into bigger problems.

## Apply SEA with support from experts around the world

### IAIA publishes an SEA roadmap on the energy transition for decision makers.

IAIA partnered with international experts in many disciplines and major multi-lateral development organizations to develop the SEA Guidance. This document is a practical guide on how SEA can and must be applied to the global shift to renewables. It is framed in sections as follows.



#### Preliminaries

*This section describes the structure of the SEA Guidance and how to use it. It also provides background information on its contributors, origins, and importance.*

#### Part A: The why, what and how of SEA

*These chapters provide expert advice and information common to all SEAs in the renewable energy sector. They will be particularly useful for practitioners with limited SEA experience.*

**Chapter 1:** A background to SEA, its benefits, objectives, costs, and how it differs from other forms of impact assessment

**Chapter 2:** The key stages and tasks in the SEA process and methodologies

**Chapter 3:** The legal requirements and commitments for applying SEA

#### Part B: Applying SEA to specific energy sectors

*Chapter 4 discusses how to apply SEA to overall energy planning. The other chapters cover specific renewable energy sub-sectors to:*

- *present the benefits of applying SEA*
- *identify key environmental and social issues to consider*
- *list best practices for planning and implementation*
- *identify specific technologies and their unique considerations*
- *include case studies or examples of successful SEA application*
- *consider infrastructure needs*
- *give decision makers practical steps to implement these technologies successfully.*

**Chapter 4:** How to apply SEA in energy planning at national and sub-national levels—from theory to application

**Chapter 5:** Hydropower

**Chapter 6:** Wind power

**Chapter 7:** Solar power

**Chapter 8:** Bioenergy

**Chapter 9:** Geothermal power

**Chapter 10:** Tidal power

**Chapter 11:** Green hydrogen and ammonia

**Chapter 12:** Retirement of coal-fired power stations and associated mine closures

**Chapter 13:** Infrastructure for renewable energy

**Chapter 14:** Guidance for institutions

#### Annexes

*Each of the 36 annexes provides additional information and details pertinent to SEA, including Annex 19 which defines the technical terms used throughout the guidance.*

## Let's work together to ensure long-term sustainability! What happens next?

Publishing guidance is an important first step. But what follows is even more critical.



### We want to hear from you.

For SEA to deliver on its potential in sustaining the energy transition, IAIA wants to hear from authorities, planners, and policymakers about their experiences on implementation. What is working? Do you have feedback on the steps outlined in the guidance? How do we make it stronger and more useful? Please contact us to provide feedback.



### We support training and pilot projects.

IAIA wants to find opportunities to share this guidance with interested parties. We would like to offer staging workshops and support pilot projects, particularly in countries and regions with less developed policy infrastructure or experience in undertaking SEAs (e.g., in Asia, Latin America, and Africa). Please contact us to discuss opportunities.



### Recommend next-steps projects to us.

IAIA wants to engage in extension opportunities arising from the *SEA Guidance*. For example, how we can best share data and learnings from SEAs? How can technology be harnessed in facilitating both the process and the leverage gained from conducting SEA initiatives? Please contact us to provide suggestions.



### We encourage feedback from everyone involved.

IAIA is committed to work with all stakeholders from the renewable energy sector, international organizations, financial institutions, and civil society to provide broad input and updates—it is crucial that we work together towards a collective aim to ensure the long-term sustainability of the energy transition. We very much look forward to hearing from you—send us your comments!



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