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Public Participation and Performance Criteria in Strategic Environmental Assessment: The Way Forward to Advancing Practice

Authors: Ainhoa González, Riki Therivel and Gloriana Vargas

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Rialtas na hÉireann
Government of Ireland

Environmental Protection Agency

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The work of the EPA can be divided into three main areas:

Regulation: Implementing regulation and environmental compliance systems to deliver good environmental outcomes and target those who don't comply.

Knowledge: Providing high quality, targeted and timely environmental data, information and assessment to inform decision making.

Advocacy: Working with others to advocate for a clean, productive and well protected environment and for sustainable environmental practices.

Our Responsibilities Include:

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> Large-scale industrial, waste and petrol storage activities;
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> The contained use and controlled release of Genetically Modified Organisms;
> Sources of ionising radiation;
> Greenhouse gas emissions from industry and aviation through the EU Emissions Trading Scheme.

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> Assess and report on public and private drinking water quality;
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> Publish Ireland's greenhouse gas emission inventories and projections;

> Provide the Secretariat to the Climate Change Advisory Council and support to the National Dialogue on Climate Action;
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> Design and implement national environmental monitoring systems: technology, data management, analysis and forecasting;
> Produce the State of Ireland's Environment and Indicator Reports;
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> Oversee the implementation of the Environmental Noise Directive;
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> Coordinate and fund national environmental research activity to identify pressures, inform policy and provide solutions;
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> Monitoring radiation levels and assess public exposure to ionising radiation and electromagnetic fields;
> Assist in developing national plans for emergencies arising from nuclear accidents;
> Monitor developments abroad relating to nuclear installations and radiological safety;
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> Provide independent evidence-based reporting, advice and guidance to Government, industry and the public on environmental and radiological protection topics;
> Promote the link between health and wellbeing, the economy and a clean environment;
> Promote environmental awareness including supporting behaviours for resource efficiency and climate transition;
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> Work with international and national agencies, regional and local authorities, non-governmental organisations, representative bodies and government departments to deliver environmental and radiological protection, research coordination and science-based decision making.

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The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

1. Office of Environmental Sustainability
2. Office of Environmental Enforcement
3. Office of Evidence and Assessment
4. Office of Radiation Protection and Environmental Monitoring
5. Office of Communications and Corporate Services

The EPA is assisted by advisory committees who meet regularly to discuss issues of concern and provide advice to the Board.

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Lead organisation: University College Dublin, Levett-Therivel

Identifying pressures

The SEAWAY project aims to address two practical challenges in the implementation of strategic environmental assessments (SEAs): the need for effective public participation in SEA, and the need for strong key performance indicators (KPIs) to measure overall SEA effectiveness.

Public participation is mandatory under Directive 2001/42/EC on SEA and should be viewed as an opportunity for knowledge co-creation. It provides a platform to facilitate stakeholders' learning, to co-design sustainability solutions and to inform decision-making. Public participation in SEA can also help reduce stakeholder opposition to development. Despite its widely acknowledged benefits, SEA public participation is generally limited worldwide. This project aims to improve public engagement in SEA across Ireland for optimised assessment outcomes.

KPIs are measurable values that demonstrate how effective SEAs are in achieving their objectives. Previous research on SEA KPIs in Ireland has focused on procedural issues. SEA practice has significantly advanced since, and there is growing attention worldwide on other effectiveness dimensions, such as stakeholder involvement and achievement of sustainability goals. This research component aims to develop a KPI framework that covers all dimensions of SEA effectiveness.

Informing policy

A guidance note on good practices was developed by SEAWAY to capture key principles for effective public participation and a defined participative process, with recommendations for preparing for public participation, informing and engaging the public, and integrating public feedback. The guidance note aims to support the work of planners within local/regional authorities and government departments, and private consultants who undertake SEA on behalf of public bodies.

The KPI framework identifies suitable and measurable KPIs to evaluate SEA outputs and outcomes to ensure the full range of dimensions for SEA effectiveness is covered. It enables a self-check for practitioners and will help to inform and structure the next review of effectiveness of SEA in Ireland.

Developing solutions

This project responds to shortcomings identified in the Second Review of SEA Effectiveness in Ireland undertaken by the EPA (2020). The findings of the research highlight that effective SEA public participation involves a two-way process of communication and requires an inclusive and collaborative approach. Moreover, a willingness to learn from the public among planning and SEA teams, and institutional commitment to address current barriers to public participation, such as the allocation of adequate resources and time, are required.

Populating the 10 KPIs that were developed identified enduring shortcomings in current SEA practice, in particular with regard to public consultation, mitigation and monitoring. These KPIs provide a robust framework to measure and benchmark the effectiveness of SEA going forward.

The resulting public participation guidance note, supporting video for the public with information on how to get involved in the process, and KPI framework will continue to advance the effective implementation of the SEA Directive towards best practice.

Public Participation and Performance Criteria in Strategic Environmental Assessment: The Way Forward to Advancing Practice

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by

University College Dublin, Levett-Therivel

Authors:

Ainhoa González, Riki Therivel and Gloriana Vargas

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DISCLAIMER

Project Partners

Associate Professor Ainhoa González
School of Geography
University College Dublin
Belfield
Dublin 4
Ireland
Tel.: 01716 8698
Email: ainhoa.gonzalez@ucd.ie

Gloriana Vargas
School of Geography
University College Dublin
Belfield
Dublin 4
Ireland
Email: Gloriana.vargascastro@ucd.ie

Dr Riki Therivel
Levett-Therivel
Oxford
OX2 0LX
United Kingdom
Tel.: +44 (0)7759 135811
Email: riki@levett-therivel.co.uk

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Executive Summary

This research promotes improved public participation in strategic environmental assessment (SEA) and develops key performance indicators (KPIs) of SEA effectiveness. Its outputs include a comprehensive guidance note on good practice for public participation, a video on public participation in SEA, a set of 10 KPIs and associated baseline data, a guidance note on how the KPIs can be applied and an online training course. Table ES1 provides an overview of the key aspects of the research project.

In summary, this research underscores the critical role of effective public participation in SEA processes, offering practical insights and recommendations to improve current practice. In addition, the KPIs for SEA effectiveness provide a structured approach to evaluating and enhancing the quality of SEA practice in Ireland, thereby fostering better assessment outcomes.

Table ES1. Key aspects of the research project

Public participation	KPIs
Objectives	
To review the extent and effectiveness of public participation in SEA, to develop a guidance note on good practices and to create a video to actively engage the public.	To review preliminary KPIs and to develop a robust performance framework and associated KPIs for monitoring SEA effectiveness.
Methodology	
A blend of qualitative research methods, including (1) a literature review, (2) interviews with and surveys of experts in public participation, (3) case study analyses of international good public participation examples and (4) a real-life public participation SEA pilot using novel participatory techniques.	A systematic approach, including (1) a literature review to identify a range of SEA performance indicators for each of the SEA effectiveness dimensions, (2) strengths–weaknesses–opportunities–threats (SWOT) analysis to filter these, (3) expert interviews and (4) surveys of international SEA academics and practitioners to inform the final selection.
Key findings	
Effective SEA public participation involves a two-way process of communication: from the public as well as to the public.	Ten developed KPIs can be used to measure and benchmark the effectiveness of SEA.
It requires an inclusive and collaborative approach and a willingness to learn from the public from the planning and SEA teams.	The application of the KPIs to 22 completed SEA case studies demonstrated their applicability and robustness.
Institutional commitment from designated authorities is needed to address current barriers to public participation, such as the allocation of adequate resources and time.	Shortcomings in current SEA practice were identified in areas related to public consultation, mitigation and monitoring.
Main outcomes	
Guidance note: This document outlines principles and recommendations to enhance public engagement in Irish SEA and planning practices.	Guidance note: This document explains each of the KPIs and provides guidance on how to use them.
Informational video: A concise video explaining SEA consultation and encouraging public participation in SEA. It complements the guidance note.	One-page guide: This concise document explains the KPIs, their importance and what to look for when using them. It complements the guidance note.
Training course: Explains key features of the guidance note.	Training course: Introduces the KPIs and discusses their applicability to SEA practice.

1　Introduction

This report presents an overview of the research project "Public Participation and Performance Criteria in Strategic Environmental Assessment: The Way Forward to Advancing Practice", co-funded by the Environmental Protection Agency and the Office of the Planning Regulator. It was developed between March 2022 and March 2024. The main aim of this project is to improve the practice of strategic environmental assessment (SEA) in Ireland by focusing on two critical aspects: public participation and key performance indicators (KPIs) for SEA effectiveness. The project goals were:

- to review the extent and effectiveness of public participation in SEA, to develop a guidance note on good practices and to create a video to actively engage the public;

- to review preliminary KPIs and to develop a robust performance framework and associated KPIs for monitoring SEA effectiveness.

The project was completed in two parts in line with the project goals above. This report details the two parts of the research project separately, including the methodology, main conclusions and results for each. Chapter 2 discusses public participation in SEA and Chapter 3 discusses the KPIs for SEA effectiveness.

2 Public Participation

2.1 Introduction

The first part of the research focused on understanding current national and international approaches to public participation in SEA, and developing a comprehensive guidance note on good practice for public participation based on this knowledge.

Public participation is a cornerstone of good plan-making and a mandatory requirement under Directive 2001/42/EC on Strategic Environmental Assessment (hereafter "SEA Directive"). It facilitates the collection of local information and concerns, engages interested and affected parties in assessment and planning processes, and can minimise conflict and opposition to plan implementation. Despite its benefits, public participation and influence in SEAs and plans is currently limited, and is commonly focused on providing information rather than facilitating two-way communication. The guidance note developed as part of the research (as a separate document) provides principles and recommendations for enhancing current SEA public participation practices.

2.2 Methodology

A mix of qualitative research methods was used to determine the levels and types of public participation in different sectors and at different levels of planning, identify good practice in public participation, and gather additional insights from practitioners and academics. This included a review of international literature, surveys of and interviews with SEA practitioners and public participation experts worldwide, and case study reviews. In addition, a real-life pilot was conducted to test novel participative approaches at a local area plan level as part of an ongoing SEA process. The following sections provide an overview of the methods used and their main inputs.

2.2.1 Findings of the literature

A review of peer-reviewed literature was carried out between February and August 2022 using Web of Science and the SciELO Citation Index. A total of 94 articles were selected and reviewed. Half of the

reviewed papers addressed national governance and legal aspects of implementing public participation in SEA, and focused on territorial development and land use planning processes. The case studies discussed in the reviewed papers covered different sectors, including energy, transport and waste.

The literature review aimed to identify the benefits and limitations of public participation and examples of good practice. The key findings of the review were as follows:

- Benefits of public participation: It enhances awareness and education regarding the environment and sustainable development, allows for community input into plans and programmes, promotes shared environmental responsibility, and enhances decision-making accountability and governance.
- Limitations of public participation: Limited organisational experience, unclear participatory processes and a focus on providing information rather than eliciting public feedback can weaken community information, restrict time for citizen input and foster mistrust. Such constraints may lead to the rejection of participatory processes and diminish the credibility of involved institutions. Practical limitations, including financial and knowledge barriers, may also hinder effective participation.
- Legal requirements and governance: Approaches to public participation vary globally, particularly regarding engagement methods and involved actors. In Ireland, the SEA Directive and associated national legislation set mandatory timings and requirements for public participation, but these are limited and relate to the later stages of SEA rather than promoting early and more proactive participation.
- Good practice in public participation: Enhancing public participation in SEA involves adapting governance structures and allocating resources to facilitate increased citizen collaboration and empowerment. Different participation techniques should be considered to advance SEA practice, including the promotion of collaborative and

empowerment approaches such as "technical tables", "neighbourhood walking", "citizen advisory councils/committees", "citizen labs" or "binding queries". These techniques can facilitate the co-design of alternatives, improve mitigation strategies and encourage local participation in monitoring efforts.

2.2.2 Expert perceptions

Twenty semi-structured interviews were conducted: 10 with national experts (five consultants and five planners) and 10 with international experts (seven SEA professionals and three academic researchers). An online survey was also sent to 284 SEA public participation experts, selected on the basis of their authorship of the reviewed papers, and to the wider International Association for Impact Assessment community, with 41 responses in total. The interviews and online survey aimed to gather insights into public participation in SEA, including its current limitations, characteristics of effective participatory processes and effective public participation techniques. The main findings of these activities were as follows:

- Current barriers to effective public participation include administrative and behavioural challenges. These encompass limited time and resources allocated to engagement efforts, shortages of plan-making staff and consultants with SEA experience, a lack of public interest in SEA, a lack of trust in the process, low engagement in strategic plans and environmental issues due to their technical complexity, and a lack of consensus on its legitimacy among decision-makers. Additional barriers related to the SEA process include delays in plan timelines, exclusion of SEA consultants from pre-planning stages, and a lack of consensus on documenting public impact in the plan and SEA environmental report (ER).
- The key principles of effective participatory processes identified by interviewees include setting the desired outcome of the public consultation; managing expectations by clarifying decisions that the public can influence; engaging with the public early in the process, especially in the development of alternatives and mitigation measures; using various techniques to capture public opinion; ensuring two-way communication and actively considering the public's views;

ensuring that public input is incorporated into the plan; and ensuring that adequate resources are allocated to facilitate the participatory process.
- The techniques interviewees identified as the most effective include public meetings, workshops, focus groups, citizen labs, web portals, participatory mapping, citizen juries, debates and polls, and one-to-one consultations.

2.2.3 Good practice case studies

Irish SEA documents (i.e. SEA ERs, scoping reports, non-technical summaries, and SEA statements and monitoring reports) were examined to identify best practice in public participation and extract key characteristics of good practice. Initially, 11 potential case studies were selected for in-depth analysis. Following consultation with the project steering committee, five cases were chosen based on perceived good practice and representative planning hierarchies and sectors:

1. Galway Public Realm Strategy 2019–2023 (local; land use planning);

2. Clare County Development Plan 2017–2023 (county; land use planning);

3. Fingal County Development Plan 2017–2023 (county; land use planning);

4. National River Basin Management Plan 2018–2021 (national; water management);

5. National Marine Planning Framework 2021–2040 (national; marine planning).

Key characteristics of good public participation practice identified in the case studies were:

- using a hybrid (online/in-person) approach;
- developing a communications strategy;
- scheduling a range of dates and times for consultation events;
- identifying optimum locations for consultation events;
- theming consultation events;
- harnessing stakeholder networks;
- engaging schools.

As part of this task, interviews were conducted with practitioners involved in these SEA consultations to better understand the methods and impact of

public participation. The interviews resulted in recommendations for enhancing public participation in the SEA process (Table 2.1).

2.2.4   *Real-life pilot*

A pilot to test innovative participatory techniques was conducted as part of a real-life plan development process. The public participation event was part of the SEA process for the Dundalk Local Area Plan 2024–2030, for the county town of Louth. It took place early in the decision-making process, at a stage when the plan had not yet been drafted. However, the land use zoning of the former county development plan established a framework for reviewing the plan, and therefore future development in Dundalk.

The event involved a neighbourhood walk and a community mapping workshop based on the guidance note on public participation in SEA. These participatory activities aimed to enable the public to share their knowledge and views on which environmental considerations should be included when developing the plan.

The event was planned collaboratively by the project team and Louth County Council (LCC) planners and SEA consultants. A key aspect of the event was that LCC planners were open to trying a pilot approach to SEA public participation. This demonstrated a positive and proactive attitude towards involving the public in environmental issues. One planner stated: "I'm seeing this as a real opportunity to get early engagement with communities … It is particularly exciting to see the consultation focus on the environmental aspects

of the Local Plan and see at a high level what sort of environmental impacts people are concerned about".

The event was carried out in three stages. The first stage involved determining a date, time frame and activities for the event. The activities were designed around key elements of Dundalk's sustainable development, including climate action, flooding, active transport and green infrastructure, as outlined in the Dundalk Local Area Plan 2024–2030 Pre-draft Issues Paper. The team focused on areas of the city that were vulnerable or that were critical to the development of the plan.

The chosen activities, a neighbourhood walk and community mapping workshop, facilitated proactive public engagement. The neighbourhood walk aimed to allow participants to identify existing strengths and weaknesses of the selected areas, whereas community mapping focused on addressing future development and potential environmental issues. Both activities enabled the public to provide local information and give their views and ideas for environmental considerations to be included in the Dundalk Local Area Plan.

The second stage involved inviting the public to participate in the event. To achieve this, several communication channels were utilised, including a flyer distributed in key locations in the town and on official social media accounts (e.g. LCC and Office of the Planning Regulator); an ArcGIS StoryMap providing information about the event's purpose, programme and activities; surveys linked to the StoryMap to gauge public interest in joining the neighbourhood walk and to offer a virtual platform for sharing local knowledge;

Table 2.1. Summary of key recommendations for enhancing good public participation in SEA

Challenge	Recommendation
SEA responsibilities: Consultancies often handle much of the SEA work, but tenders often overlook public participation.	Integrate public participation strategies into consultancy contracts at tendering.
Technical nature of SEA documents: SEA documents, such as the non-technical summary, are too complex for public understanding and hinder public consultation due to the use of technical terminology.	Create targeted SEA infographics to prompt greater interest and engagement in SEA and translate scientific concepts into plain language.
Accessibility of SEA documentation: SEA documents can be difficult to find because there is no standard protocol for their storage, leaving it to the discretion of designated authorities.	Present SEA information on official websites as part of the plan information, along with clear links to all of the SEA and plan documents.
Reactive SEA: Late public participation leads to reactive SEA processes.	Initiate proactive consultation during the scoping stage to inform policy formulation.
Limited public involvement: Public participation is often restricted to formal submissions.	Establish an online portal for submissions and reporting on SEA progress, and expand consultation throughout all stages of SEA.

and an informational video to raise awareness about SEA. The event was also advertised on LCC's online consultation portal "Louth Public Participation Network Portal" and in a local Louth newspaper.

The third stage was facilitating the event and participatory activities. Participants were given materials to use to record their opinions during the activities (e.g. maps of the selected areas, stickers and tables to annotate their views), and a project team was present to guide the activities and address any concerns. The participatory activities provided an opportunity for informal public interaction with planners and the SEA team, and allowed the public to provide ideas related to the environment and future development of the town. Feedback from participants of the event was very positive and the public input gathered was valuable.

The key finding of the pilot was that willingness from planners and collaboration between them and the SEA team is essential for conducting effective and fit-for-purpose public participation events. The event invitation had a total of 7116 views from social media and StoryMap visits, and it is likely that there were unrecorded views through the other communication channels. However, only seven people participated in the event. This may have been due to a combination of factors, such as the County Development Plan having been reviewed recently, a lack of interest or the unusually good weather on the day on which the event was held. This highlights that extensive outreach may not always lead to increased participation. Despite the low participation rate, valuable public input about existing and future environmental considerations was gathered to inform the SEA and plan-making.

2.3 Key Findings and Outcomes

The key finding of the research was that effective SEA public participation involves a two-way process of communication: from the public as well as to the public. It requires an inclusive and collaborative approach, a willingness from planners and consultants to learn from the public, and clear documentation of public comments/views and what has been done to respond to them. The two outcomes of the first part of the research – a guidance note on public participation

in SEA and an informational video[1] – highlight these findings.

The guidance note aims to enhance public engagement in Irish SEA and planning practices. It outlines principles and makes recommendations to ensure that the public is meaningfully informed and consulted during SEA processes, and that any feedback is appropriately integrated into the SEA ER and the associated plan/programme. The guidance note includes the legal framework for public participation, a definition of "the public", benefits of and current barriers to public participation, key principles of effective public participation, an overview of the public participation process, an effective public participation checklist, and national and international good practice examples of public participation. Table 2.2 details the key takeaways of each section of the guidance note.

The short (1 min 11 sec) informational video[2] *Have Your Say in the Assessment of Your Environment* is relevant to most SEAs. It explains what SEA is and encourages the public to participate in SEA consultations. The video, along with the guidance note, can be used by planners and consultants to prepare and conduct public participation activities and encourage public engagement.

2.4 Recommendations

Current barriers to public participation include starting too late, resource and time constraints, interference with planning agendas, limited public input and a lack of integration of public feedback.

Designated authorities of the SEA process play a crucial role in addressing these barriers and ensuring the effectiveness of public participation. It is essential that they demonstrate a strong commitment to facilitating early and continuous public participation, promote agreement on the legitimacy of public input and how to document it in the SEA process, define specific responsibilities for public participation, and ensure that sufficient resources and time are allocated.

Particular attention should be given to addressing barriers to public participation. The research showed that thorough planning and dissemination of public participation events do not necessarily lead to high

1   Available at: https://www.youtube.com/watch?v=4unFmQVyzQk (accessed 4 July 2024).

2   Available at: https://www.youtube.com/watch?v=4unFmQVyzQk (accessed 4 July 2024).

Table 2.2. Key takeaways of the guidance note on public participation in SEA

Section of the guidance	Key takeaway(s)
Benefits of public participation	Public participation in SEA expands the knowledge and information available, increases the learning of the plan-making team and the public, and supports more democratic decision-making processes.
Current barriers to public participation	Barriers to effective public participation in SEA include starting too late, a lack of resources, the technical nature of SEA, and a lack of integration of public input, which erodes trust and the willingness to participate in future.
Key principles of effective public participation	Effective SEA public participation entails processes that are comprehensively planned to ensure meaningful, inclusive, open, collaborative and transparent participation.
The public participation process	The ultimate goal of SEA public participation is to collect and integrate public feedback into the SEA and the associated plan.
Preparing for public participation	Preparing for public participation involves collaborative planning among stakeholders to define the purpose and scope of the consultation, engage a diverse cross section of the public and address potential barriers to participation.
Informing the public	SEA documents and findings must be easily accessible (online), written in plain language and highlight key relatable issues, so that people can understand them and thus meaningfully engage in the participation process.
Engaging the public	The precise method of public participation is less important than the reasons for participation and the approach taken by the SEA and plan-making teams (i.e. the reasons for engaging the public, the questions to be asked and the strategy for integrating public feedback).
Integrating public feedback	The ultimate measure of the effectiveness of SEA public participation is the impact of public feedback on the SEA and the plan.

participation rates. While the guidance note offers recommendations for enhancing public awareness of upcoming participation opportunities, further research is necessary to understand potential barriers to public involvement and effective strategies to overcome them. Future studies should focus on identifying methods to increase public participation without compromising input quality.

3   Key Performance Indicators

3.1   Introduction

The second part of the research was the development of KPIs of SEA effectiveness. SEA effectiveness can be defined as "how well [SEA] works or whether it works as intended and meets the purposes for which it is designed" (Sadler, 1996). KPIs are critical quantifiable metrics used to evaluate performance or effectiveness. In the context of SEA, they provide a framework for examining and comparing the effectiveness of SEA practices across planning hierarchies, sectors and jurisdictions. They can be used:

- during the SEA process by planners/consultants as a self-check;
- during the SEA document review process by consultees/the public to check on the SEA process and resulting documentation, and associated plan content;
- during periodic national SEA performance reviews to check whether or not SEA is achieving its objectives efficiently and effectively;
- in international studies to compare the effectiveness of different approaches to SEA or different countries' SEA systems.

The international literature on SEA distinguishes between seven dimensions of SEA effectiveness (Therivel and González, 2019):

1. Context effectiveness: SEA legislation, guidance/training/capacity, resources for carrying out SEA, power relations between stakeholders, and the wider political and institutional culture.

2. Procedural effectiveness: How, and how well, the SEA process is undertaken, e.g. data used, appropriate scoping, consideration of alternatives.

3. Pluralist effectiveness: Level of engagement from and satisfaction of different stakeholders, and how stakeholders' values and perspectives are integrated into the SEA process.

4. Substantive effectiveness: Changes to the plan in response to the SEA and the extent to which the plan conforms with the SEA's recommendations.

5. Normative effectiveness: Compliance with the planning organisation's mandate and the achievement of objectives such as sustainable development, environmental justice and/or resilience.

6. Knowledge and learning effectiveness: Improvement in stakeholders' understanding of environmental issues, changes to stakeholders' views, and build-up of practitioners' know-how and environmental governance capacity.

7. Transactive effectiveness: The costs and benefits of SEA, its efficiency and its cost-effectiveness.

These effectiveness dimensions are interrelated: for instance, procedural effectiveness and pluralist effectiveness are difficult to achieve without a supportive context, and substantive effectiveness and normative effectiveness rely on good procedures and public engagement (Figure 3.1).

The KPIs of SEA effectiveness developed as part of this research aim to encompass all seven dimensions.

3.2   Methodology

3.2.1   Development of draft key performance indicators

The identification and selection of KPIs for SEA effectiveness followed a systematic and comprehensive approach to capture good current international practices on SEA effectiveness criteria, prioritise these based on a review of current good practice and expert input, and tailor them to Irish SEA practices. The approach involved two parallel processes: (1) a bottom-up identification and sifting of KPIs (based on strengths and weaknesses of current Irish SEA practices) from a long list of international SEA effectiveness indicators, and (2) a top-down consideration of the themes that the KPIs should represent, extracted from the literature reviews and expert input. Figure 3.2 illustrates the sieving approach.
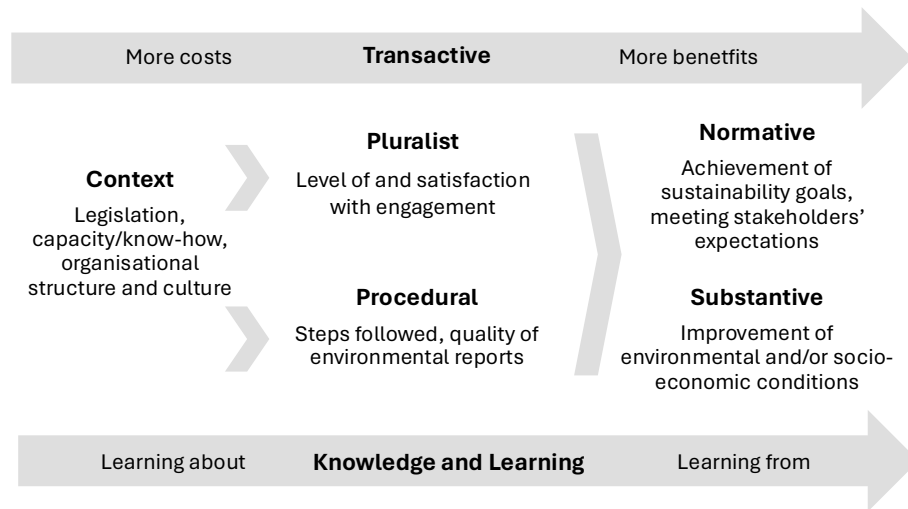
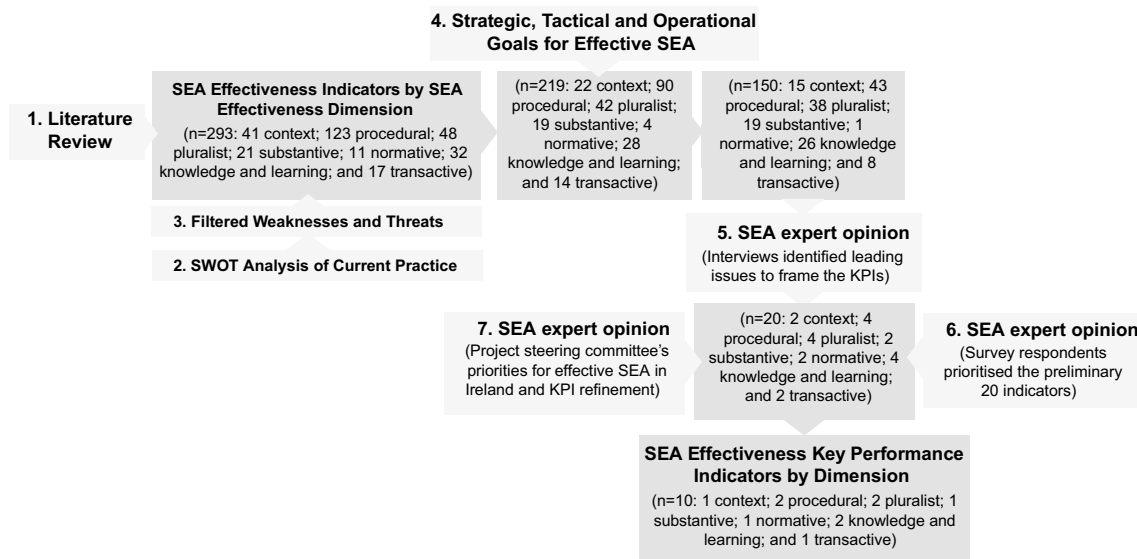**Figure 3.1. Links between dimensions of SEA effectiveness.**

Figure 3.2. Methodological bottom-up (1 to 3) and top-down (4 to 7) steps for sieving international SEA effectiveness indicators to select KPIs for Ireland.

Step 1: Literature review

The basis of the research was a thorough international literature review, using the Web of Science and Scopus databases and the Google Scholar academic index, to identify indicators of SEA effectiveness. The resulting 1115 articles were sieved to eliminate repetitions, articles that did not relate to SEA and articles that focused on SEA indicators rather than indicators of SEA effectiveness. The remaining 148 articles were reviewed. Overlaps between the indicators were then eliminated to create a list of 293 distinct indicators.

The results showed a preponderance of procedural indicators (123 out of 293 distinct indicators; 42%), reflecting the focus of past SEA effectiveness studies. Context was also a major focus of SEA effectiveness research, primarily considering whether or not appropriate SEA legislation and organisational structures were in place. The review suggested that the substantive, normative, knowledge and learning, and transactive dimensions have been historically under-represented in studies.

Steps 2 and 3: Bottom-up filtering of indicators – strengths–weaknesses–opportunities– threats analysis

The distinct indicators were then filtered on the basis of current key weaknesses and threats in Irish practice. These were derived from a strengths–weaknesses–opportunities–threats (SWOT) analysis based on the most recent SEA effectiveness review for Ireland (EPA, 2019): Table 3.1 summarises the key findings. Sieving eliminated some KPIs, notably context and procedural indicators, areas in which Irish practice is already strong. Examples of good practice include the existence of a national SEA review mechanism, SEAs targeting the right plan-making level and clarity of screening documentation.

Step 4: Top-down review of indicators – strategic environmental assessment effectiveness goals

A second sieve of indicators focused on indicators that align most closely with the goals of SEA. As there is no SEA literature on these topics, they were identified

through brainstorming by the research team, based on the team members' practical experience of carrying out SEAs and reviewing ERs, and their research experience on SEA effectiveness.

This process identified some indicators that should be considered for inclusion as KPIs (e.g. public engagement, achievement of environmental targets/ standards) and some that could be excluded (e.g. clarity of SEA scoping documentation, as this is already covered in SEA ERs in Ireland). This analysis also highlighted the importance of lessons learned by plan-makers (knowledge and learning) and the costs and benefits of SEA (transactive). Indicators related to these were consequently reviewed and developed further, resulting in some new indicators not previously considered in the literature.

Step 5: Top-down review of indicators – interviews with experts

Semi-structured interviews were carried out with 20 SEA and planning experts (10 Irish,

Table 3.1. SWOT summary of the findings of the second Irish SEA review (EPA, 2019)

Strengths	Weaknesses
• Effective transposition of legislative requirements, appropriate guidance, the prominent role of the EPA, profound input by statutory consultants and a SEA forum provide a robust context. • SEA perceived as helping to promote sustainable development. • Improving procedural practice over time. • ERs generally meet legal requirements. • Availability of SEA-relevant information databases and tools (e.g. the Environmental Sensitivity Mapping Webtool)[a]. • SEA benefits perceived as outweighing costs.	• Limited (efforts for) public participation in SEA. • Limited consideration of alternatives. • Shortcomings in mitigation and monitoring measures. • Poor reporting of SEA influence/changes in the SEA statement. • Data gaps for some environmental themes. • Poor consideration of health and social issues in SEA. • Difficult to tell if plan changes are due to SEA or other reasons. • Some lack of resources/training.
Opportunities	**Threats**
• Future rounds of cyclical land use plans and non-land use plans (e.g. forestry, tourism) give opportunities for improved SEA practice. • Application of good practice guidance (e.g. alternatives, monitoring). • SEA research and SEA forums for knowledge exchange. • Increasing public and decision-makers' awareness of environmental problems (e.g. climate change, integrity of Natura 2000 sites).	• Personnel changes within SEA and plan-making teams and loss of institutional memory. • Strategic/technical nature of some plans not conducive to SEA. • Limited public access to (online) SEA documentation affects knowledge and learning from SEA. • Non-engagement by the public even when consultation opportunities are available. • Level of openness of plan-makers and decision-makers to integrating environmental information and recommendations. • Difficulty of quantifying the benefits of SEA reduces understanding of these benefits.

[a]**www.enviromap.ie (accessed 10 July 2024).**

10 international). The interviews sought, among other things, to establish the leading issues and priority areas for improving SEA practices, and thus help to focus on key effectiveness indicators. The interviews included the open question "What are key elements of good/best practice in SEA?".

The most frequent response was SEA's contribution to integrating environmental improvements into the plan and informing decision-making (nine responses). The next most frequently highlighted considerations were a robust, up-to-date baseline (seven responses); early engagement and iterative communication between the planning and SEA teams (five responses); and various elements of good process, such as good screening, scoping, impact assessment and mitigation (five responses). Respondents noted that collaborative working between the SEA and planning teams, with the SEA team "telling the planning team what they need to hear and not what they want to hear", was important, particularly in the Irish context. Effective monitoring that actively influences the next cycle of plan-making (four responses) was felt to be essential for learning what has and has not worked, and for improving future assessments and plans. Overall, elements related to the procedural effectiveness and substantive effectiveness dimensions were listed most frequently, with much less focus on the other SEA effectiveness dimensions, and none on the transactive effectiveness dimension. The interviewees unanimously indicated that there should be no more than 10 KPIs to ensure that they are manageable, facilitating their adoption/implementation.

Step 6: Top-down review of indicators – online survey

An online questionnaire was also sent to 284 SEA experts and posted on the website of the International Association for Impact Assessment for 3 weeks, with 41 responses in total. The survey presented a list of 20 possible indicators, from which respondents could choose which they considered were most relevant for measuring effectiveness. The most frequently chosen indicators related to consideration of alternatives (10%), a proposed monitoring framework (9%), actual monitoring carried out (9%) and SEA's impact on the plan (8%). Again, procedural indicators garnered the most votes, then those related to the substantive

effectiveness, pluralist effectiveness, and knowledge and learning effectiveness dimensions. Consistent with the interview findings, the transactive effectiveness dimension (SEA benefits and costs) had the lowest take-up (2%). Also consistent was that 52% of the survey respondents recommended having between 1 and 10 KPIs, with nobody opting for more than 30 KPIs.

Step 7: Expert review

The final step involved an additional expert review by the project steering group and the research team's two international SEA experts. They commented on a preliminary set of KPIs, and further refined their scope and definition to ensure that the KPIs were clearly defined, understandable, representative and all-encompassing of the issue/theme at hand. For example, in this step, several indicators on monitoring were amalgamated and reframed, and a new KPI 7 on normative SEA effectiveness was added. An online training course was held in March 2024, near the conclusion of the work, and additional changes to the last two KPIs were suggested.

3.2.2 *Applicability and current baseline of draft key performance indicators*

The applicability of the draft KPIs was tested on 22 SEA case studies. This also allowed a baseline of the current status of SEA effectiveness in Ireland to be determined. The project steering committee put forward potential SEA case studies, and 20 were selected on the basis of them being recent plans covering a range of sectors and planning hierarchies, thus representing contemporary Irish SEA practice (Table 3.2). Of the 20 SEAs reviewed by the research team, six were reviewed and scored by two members of the research team to ensure consistency, and one researcher scored the remaining 14.

Two further SEAs were each reviewed by one environmental consultant who had contributed to them. Both consultants have extensive experience with SEAs in Ireland. The aim of this part of the review was to determine how well the KPIs worked as a "self-check" and gain SEA practitioners' insights on their clarity and consistency.

Table 3.2. SEAs reviewed

Plan/programme	Sector	Year
National		
1. Agri-Food Strategy to 2030	Agriculture	2021
2. Common Agricultural Policy Strategic Plan 2023–2027 (Agricultural Policy Strategic Plan)	Agriculture	2023
3. EirGrid Grid Implementation Plan 2017–2022	Energy	2018
4. Ireland's 5th Nitrates Action Programme	Agriculture	2022
5. National Hazardous Waste Management Plan 2021–2027	Waste	2021
Regional		
6. Limerick Shannon Metropolitan Area Transport Strategy	Transport	2022
7. Regional Tourism Strategy 2023–2027 – Wild Atlantic Way	Tourism	2022
8. Regional Water Resources Plan – Eastern and Midlands	Water management	2022
9. Southern, Eastern & Midland Regional Programme 2021–2027	Land use planning	2022
County		
10. Cavan County Development Plan 2022–2028	Land use planning	2022
11. Kilkenny City and County Development Plan 2021–2027	Land use planning	2021
12. Meath County Development Plan 2021–2027	Land use planning	2021
13. Roscommon County Development Plan 2022–2028	Land use planning	2022
14. South Dublin County Development Plan 2022–2028	Land use planning	2022
15. Tipperary County Development Plan 2022–2028	Land use planning	2022
16. Waterford City and County Development Plan 2022–2028	Land use planning	2022
Local		
17. Ballinasloe Local Area Plan 2022–2028	Land use planning	2022
18. Dublin City Development Plan 2022–2028	Land use planning	2022
19. Galway City Development Plan 2023–2029	Land use planning	2022
20. Naas Local Area Plan 2021–2027	Land use planning	2021

3.3 Key Findings and Outcomes

3.3.1 *Development of draft key performance indicators*

Table 3.3 shows the final 10 KPIs of SEA effectiveness in Ireland. The status of the KPIs can be determined and scored simply using the SEA documentation: the SEA ER, SEA statement, and any monitoring data from the previous round of SEA (most plans in Ireland are cyclical, and so should have monitoring data from the previous plan cycle). Where the SEAs were for local/county plans but the information on consultation findings was not included in the SEA documents, the relevant Chief Executive's Report (a planning document) was reviewed. Chief Executive's Reports are not SEA specific, but document all stakeholder and public consultation comments and plan-makers' responses to those comments.

KPI 1 (public availability of SEA documents) represents a necessary precursor to effective public participation and subsequent monitoring of the plan's impacts. KPI 2 ("within-plan" alternatives) is a key component of the effective development of a plan that has minimal significant environmental impacts. This criterion was developed in response to Irish SEA practices, in which SEA alternatives are typically variants of "no plan, versus business as usual, versus the sustainable new plan". Irish guidance (EPA, 2013) has stressed the importance of alternative components of the plan, as opposed to broad-brush alternatives to the plan. The ability to have a strategic overview of, and suggest overarching mitigation measures for, cumulative impacts (KPI 3) is a key differentiator between SEA and project environmental impact assessment; it is where SEA provides significant "added value" to the assessment process.

KPIs 4 and 5 (proportion of recommendations by environmental authorities and public taken on board) indicate how effectively the SEA's public consultation requirements have been met and how responsive

Table 3.3. Final KPIs of SEA effectiveness in Ireland

SEA effectiveness dimension	KPI	What the aim is (target)
Context	SEA documents **easily accessible** on a public website	All SEA documents are easily accessible on a public website
Procedural	Consideration of realistic and appropriate "within-plan" **alternatives**	SEA considers realistic alternatives to within-plan issues, not just one plan-wide set of alternatives (e.g. plan vs no plan)
	Assessment of **cumulative impacts** of the plan plus other plans, projects and external trends	SEA assesses the overall impacts of the plan, plus the cumulative impacts of other plans, trends and projects
Pluralist	**Environmental authority recommendations** taken on board	A clear list of consultation comments, with a high proportion of comments integrated into the plan or clear reasons given for not integrating them
	Public recommendations on SEA documents taken on board	
Substantive	**Changes made to the plan** in response to proposed SEA mitigation measures	A clear list of mitigation measures, with a high proportion of measures integrated into the plan or valid reasons given for measures not incorporated
Normative	SEA's contribution to **environmental improvement**	SEA focuses on key impacts of the plan, tests against environmental targets and leads to plan changes towards achieving environmental targets
Knowledge and learning	SEA **monitoring** carried out and monitoring findings referred to in the current SEA	SEA monitoring is carried out for all plans. For cyclical plans, SEA monitoring findings are referred to in the current SEA
	Planning team documentation of **lessons learned** from the SEA and **suggestions for improving** the next round of SEA	The planning team has learned lessons from this SEA and makes suggestions for improving the next round of SEA
Transactive	Planning team documentation of the **costs and benefits of the SEA**	The planning team understands the costs and benefits of this SEA, and has ideas for how to decrease costs and increase benefits for future SEAs

the plan-making team is to outside information about the plan's environmental impacts. Any significant differences between KPIs 4 and 5 could also indicate a willingness or unwillingness to give proper weight to the public's views, or the public's ability to provide useful comments, compared with the more formal and statutory views of environmental authorities. KPI 6 (changes to the plan in response to proposed SEA mitigation measures) is the indicator flagged most frequently as describing SEA effectiveness, as it indicates both that the SEA has been influential in ensuring that the plan has minimal negative impacts and the plan-making team has been responsive to outside information about the plan's environmental impacts.

The indicator of normative effectiveness, KPI 7 (level of SEA's contribution to environmental improvement), aims to capture the true environmental contribution of SEA. It is a qualitative judgement of whether (1) the SEA focuses on the key significant environmental impacts of the plan, (2) the SEA tests the plan's impacts against environmental targets and (3) the SEA leads to significant changes in the plan towards achieving the environmental targets. KPI 8 (monitoring and public availability of monitoring findings) focuses on an aspect of SEA that has traditionally been poorly carried out and poorly resourced in Ireland, but has the potential to significantly improve subsequent rounds of plan-making.

KPIs 9 (lessons learned by plan-makers) and 10 (costs and benefits of the SEA) are not currently legally

required. However, they will hopefully encourage plan-makers to reflect on the SEA process and its effectiveness, leading to improvements in future SEA processes, including the minimisation of costs and maximisation of benefits.

3.3.2   *Applicability of key performance indicators*

The experience of applying the KPIs to 22 case studies showed that the KPIs are implementable and robust. Broadly, it takes 1–1.25 days to review a SEA using the KPIs, with KPIs 4–6 taking the most time (environmental authority/public recommendations and SEA-proposed mitigation measures taken on board). For the six SEAs reviewed by two team members, the review findings were very similar. The two external consultants generally reviewed their own SEAs more positively than the researchers. Subsequently, a guidance document on how to use the KPIs of SEA effectiveness was prepared, which clarifies how SEAs should be reviewed using the KPIs.

Interviews were carried out with 14 planners to test draft KPIs 9 and 10, which were initially worded as:

- KPI 9 – "Statement by the planning team explaining lessons learned from this SEA and making suggestions for improving the next round of SEA";
- KPI 10 – "Statement by the planning team about whether they believe that the costs or the benefits of the SEA are greater, and what can be done to improve its benefits".

The interviews yielded useful data (see section 3.2.1, Step 5) but the KPIs themselves were found to be not "scoreable". These KPIs were re-framed in response to suggestions at the online training course.

3.3.3   *Current baseline of draft key performance indicators*

Table 3.4 shows the current status of SEA effectiveness in Ireland based on a review of 20 case studies.

KPI 1 on easy accessibility of SEA documents performed well, as all documents, except SEA scoping and monitoring reports, were easy to find online. Only one SEA monitoring report was available and was found only because the research team knew that it had been prepared and specifically looked for it. Consultation with the project steering committee and the research team's knowledge verified that no other monitoring reports had been prepared for the SEAs reviewed.

Despite existing national guidance on SEA alternatives (EPA, 2013), KPI 2 on alternatives was carried out well by about only half of the SEAs, with the other half considering only a set of plan-wide alternatives.

For KPI 3, on cumulative impacts, again, despite relevant guidance (EPA, 2020), only 11 of the 20 SEAs clearly summarised the impacts of the plan in question, and only four clearly appraised the cumulative impacts of other plans and projects. Three simply listed other relevant plans and projects without discussing their cumulative impacts, and eight provided a generic list of possible cumulative impacts.

Consultation with environmental authorities (KPI 4) was generally carried out more effectively than consultation with the public (KPI 5). For environmental authorities, 12 out of the 20 SEAs incorporated 25–75% of suggestions and three incorporated more than 75% of suggestions. For the public, none of the SEAs incorporated more than 75% of suggestions, and only six incorporated 25–75% of suggestions. This may be because environmental authorities are more familiar with the planning system and so their suggestions are less likely to involve things outside what plan-makers can do. Environmental authorities have also traditionally carried more decision-making weight than individuals or non-governmental organisations. The public suggestions were often more incisive and focused on the heart of the problem, such as unsustainable current practices, lack of monitoring and enforcement, and lack of clear environmental targets for the plans. However, the public's comments were often inconsistent with the higher-level policies and other constraints that plan-makers have to take into account.

In many cases, hundreds of public comments were received on the plan and SEA, making for lengthy consultation documents. Eleven of the 20 sets of SEA documents (ER plus SEA statement) provided only a brief list of the issues raised or no information at all about issues raised by the consultation. All but one SEA for the county- and local-level plans referred instead to the relevant Chief Executive's Report.

Table 3.4. Current status of SEA effectiveness in Ireland based on a review of 20 case studies in 2023[a]

SEA effectiveness dimension	KPI	Plan/programme level			
		National	Regional	County	Local
Context	1. SEA documents **easily accessible** on a public website				
Procedural	2. Consideration of realistic and appropriate "within-plan" **alternatives**				
	3. Assessment of **cumulative impacts**				
Pluralist	4. **Environmental authority recommendations** taken on board				
	5. **Public recommendations** on SEA documents taken on board				
Substantive	6. **Changes made to the plan** in response to proposed SEA mitigation measures				
Normative	7. SEA's contribution to **environmental improvement**				
Knowledge and learning	8. SEA **monitoring** carried out and monitoring findings referred to in the current SEA				
	9. Planning team documentation of **lessons learned** from the SEA and **suggestions for improving** the next round of SEA				
Transactive	10. Planning team documentation of the **costs and benefits of SEA**				

■ Good ■ Partial ■ Poor ■ No baseline available

[a]The sequence of SEAs in this table is different from the sequence in Table 3.3 and therefore no cross-analysis (identifying scores for individual SEAs) is possible. The aim of establishing a baseline was not to identify particularly good and bad SEAs; rather, it was to understand the current status of SEA effectiveness in Ireland.

In some cases, the response to the consultation comments in the SEA ER/SEA statement seemed to be only tangential to the issue raised by the consultation response, for instance referring to the safe storage of hazardous materials, rather than phasing them out as recommended by the consultee. At least two SEA statements said that something had been done in response to the consultation responses, but, on reading the plan, it turned out that there was no evidence for this.

KPI 6, on changes made to the plan in response to proposed SEA mitigation measures, was the KPI recommended most often in the expert surveys and interviews conducted as part of the development of the KPIs. A wide variety of approaches was found, with only two SEAs achieving a good score on this KPI. Ten SEAs had considered less than 25% of suggested mitigation measures in the plan, while eight SEA ERs considered 25–75% and only two considered more than 75%.

Problems with the SEA documents included providing no information on what changes were made to the plan in response to the SEA (even in the SEA statement) (14 documents); listing the plan's environmental policies as mitigation measures rather than proposing SEA-based measures (12 documents); not linking the proposed mitigation measures to the impacts of the plan (10 documents); phrasing the mitigation measures as suggestions rather than something that had been discussed and agreed with the plan-making team (even in the SEA statement) (six documents); proposing mostly or only project-level mitigation measures (four documents); relying on monitoring as the main form of mitigation (three documents) and claiming that the plan had no significant negative impacts and so no mitigation measures were necessary (two SEA ERs). In two cases, the SEA documents stated that mitigation measures had been integrated into the plan, but a check of the plan showed that this had not been done.

Fourteen of the 20 SEAs scored poorly on KPI 7, on the level of SEA's contribution to environmental improvement, and the rest received an average score. Only two SEAs clearly identified those parts of the plan with significant impacts on different environmental components and none clearly focused on key issues. Indeed, several SEAs carried out by the same consultancy used identical SEA frameworks to assess the plan's impacts, suggesting a lack of consideration of the baseline condition and sustainability issues/ problems in the different areas. Fifteen SEAs included environmental targets in their SEA framework, but none of the SEAs referred to these when discussing cumulative impacts. None of the SEAs seemed to lead to significant changes that made the plan specifically more sustainable.

KPI 8, on monitoring, scored consistently poorly for the case study SEAs, and only one case study had a monitoring report. Three of the SEAs reviewed were from the first iterations of plans/programmes. Of the remaining 17 SEAs, some monitoring of the environmental impacts of the previous plan cycle had been carried out in three cases. None of the SEAs referred to the SEA monitoring data from previous rounds of plan-making, although most of them were cyclical plans for which monitoring should have been happening. This is despite SEA monitoring having been required by the SEA Directive since 2004, and the presence of recent guidance on SEA monitoring (EPA, 2023).

The lessons learned (KPI 9) mentioned during interviews with planners (before this KPI was changed to its final form) included the need for starting the SEA early in plan-making and integrating it with the plan-making process; good communication and partnerships between the consultants carrying out the SEA; and knowledge of and expertise in SEA among the planning team. Problems related to lack of time and resources for the SEA process were raised, in addition to the advantages of linking SEA with

appropriate assessment under the Habitats Directive, because appropriate assessment is more likely to result in changes to the plan[3] and the need for care in developing monitoring indicators.

Perceived costs of SEA (KPI 10) mentioned by planners (before this KPI was changed to its final form) included consultant costs, cost in terms of planner time, legal costs (e.g. checking on the legal compliance of the SEA, responding to legal challenges to the SEA), cost of monitoring and cost of consultation. Benefits of SEA included legal compliance or reduced legal challenge, environmental protection, better consideration of alternatives, provision of monitoring/feedback information, and influence on subsequent plans and projects. Generally, the benefits of SEA were felt to outweigh its costs.

3.4   Recommendations

The analysis of SEA KPIs and the current status – the baseline – of SEA effectiveness in Ireland suggest that a range of measures could be taken to improve SEA effectiveness in Ireland.

First, although guidance on many aspects of SEA practices – including alternatives, cumulative impacts, SEA statements and monitoring – exists in Ireland, it does not seem to be trickling through to the plan-makers and SEA consultants who carry out SEAs. A short survey could help identify if the guidance is too long, too complex, too difficult to find and/or apply, etc., and provide opportunities to rectify where necessary.

SEA consultancies could also benefit from tailored advice about how to improve their SEA practices, to remediate some of the consistent problems caused by their "template environmental reports". When templates are used by consultancies they differ between consultancies, and generic guidance is unlikely to be as helpful as tailored advice.

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3   The European Habitats Directive requires that all plans and projects have an "appropriate assessment" of the plan's/project's impact on Special Protection Areas for birds, proposed Special Protection Areas, Special Areas of Conservation for habitats and species, and candidate Special Areas of Conservation, together referred to as "European sites". The appropriate assessment process has up to four stages, the second of which is confusingly also called "appropriate assessment". If, at the first screening stage, it cannot be shown that the plan/project will not have significant impacts on any European site, a second-stage "appropriate assessment" is required, which assesses the impact of the plan/project in view of the European sites' conservation objective (similar to the sites' integrity). Plans/projects that affect the integrity of any European site cannot be agreed unless they are able to show at stages three and four that there are no alternatives and that "compensatory measures" will be taken. This high hurdle means that significant mitigation measures are often put forward at stages one and two to prevent reaching stage three.

The post-adoption SEA statement is a particularly important document for recording and reviewing SEA effectiveness, given that it should provide information about how the plan has taken into account the findings and recommendations of the ER and consultation responses. However, SEA statements could, in general, be much clearer, with consultation comments and proposed mitigation measures clearly listed and related to the plan impacts, and the plan changes made in response clearly identified.

In particular, consultation comments – especially those from the public – are often not directly related to the SEA documents, but rather discuss environmental aspects of the plan. The research team and steering group felt that all environment-related comments from the public and environmental authorities should be discussed in the SEA statement, not just those directly related to the SEA documents.

The lack of adequate consideration and integration of mitigation measures, reflecting the influence of SEA on the plan, was a disappointing surprise for the research team, and could be much improved. The SEA ER should put forward mitigation measures that clearly respond to the significant negative impacts of the plan. The discussion of mitigation measures should distinguish between the environmental measures originally included in the plan and additional mitigation measures suggested by the SEA process to deal with the impacts of the plan. Mitigation measures should not be limited to project-level mitigation, and they should be agreed with the plan-making team by the time the SEA ER is made public (or the planning team should reject the proposed mitigation with an explanation of the reasons why). The SEA ER or SEA statement should provide clear information about whether or not the mitigation measures were integrated into the plan and, if not, the reasons why.

Finally, the process of assessing KPIs 9 (lessons learned) and 10 (costs and benefits) will hopefully act for plan-makers as a reflective stage that can improve future SEA practice. SEA is constantly evolving, but the long time between planning and SEA cycles, and frequent changes in plan-making personnel, can often lead to recurring institutional "memory loss", with plan-makers having to re-learn about SEA at each SEA cycle. Plan-makers assigning time at the end of the plan-making process to consider and document how the next round of plan-making and SEA can be improved should allow for transfer of knowledge, new ideas and experimentation, and, ultimately, a more effective SEA process.

References

EPA (Environmental Protection Agency), 2013. *Developing and Assessing Alternatives in Strategic Environmental Assessment*. EPA, Johnstown Castle, Ireland. https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/SEA-Alternatives-157-Published_web.pdf (accessed 18 December 2023).

EPA (Environmental Protection Agency), 2019. *Second Review of Strategic Environmental Assessment Effectiveness in Ireland*. EPA, Johnstown Castle, Ireland. https://www.epa.ie/publications/research/environmental-technologies/Research_Report_306.pdf (accessed 4 July 2024).

EPA (Environmental Protection Agency), 2020. *Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment*. EPA, Johnstown Castle, Ireland. https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/EPA-Good-Practice-Guidelines-SEA.pdf (accessed 4 July 2024).

EPA (Environmental Protection Agency), 2023. *Guidance on Strategic Environmental Assessment: Statements and Monitoring*. EPA, Johnstown Castle, Ireland. https://www.epa.ie/publications/monitoring--assessment/assessment/strategic-environmental-assessment/06695-EPA-SEA-Statements-and-Monitoring-Report.pdf (accessed 4 July 2024).

Sadler B., 1996. *Environmental Assessment in a Changing World: Evaluating Practice to Improve Performance*. International Study of the Effectiveness of Environmental Assessment. Minister of Supply and Services Canada, Ottawa, ON. https://publications.gc.ca/collections/collection_2017/acee-ceaa/En106-37-1996-eng.pdf (accessed 4 July 2024).

Therivel, R. and González, A., 2019. Introducing SEA effectiveness. *Impact Assessment and Project Appraisal* 37: 181–187. https://doi.org/10.1080/14615517.2019.1601432.

Abbreviations

ER   Environmental report
KPI   Key performance indicator
LCC   Louth County Council
SEA   Strategic environmental assessment
SWOT   Strengths–weaknesses–opportunities–threats

An Ghníomhaireacht Um Chaomhnú Comhshaoil

Tá an GCC freagrach as an gcomhshaol a chosaint agus a fheabhsú, mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ar thionchar díobhálach na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialáil: Rialáil agus córais chomhlíonta comhshaoil éifeachtacha a chur i bhfeidhm, chun dea-thorthaí comhshaoil a bhaint amach agus díriú orthu siúd nach mbíonn ag cloí leo.

Eolas: Sonraí, eolas agus measúnú ardchaighdeáin, spriocdhírithe agus tráthúil a chur ar fáil i leith an chomhshaoil chun bonn eolais a chur faoin gcinnteoireacht.

Abhcóideacht: Ag obair le daoine eile ar son timpeallachta glaine, táirgiúla agus dea-chosanta agus ar son cleachtas inbhuanaithe i dtaobh an chomhshaoil.

I measc ár gcuid freagrachtaí tá:

Ceadúnú

> Gníomhaíochtaí tionscail, dramhaíola agus stórála peitril ar scála mór;
> Sceitheadh fuíolluisce uirbigh;
> Úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe;
> Foinsí radaíochta ianúcháin;
> Astaíochtaí gás ceaptha teasa ó thionscal agus ón eitlíocht trí Scéim an AE um Thrádáil Astaíochtaí.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

> Iniúchadh agus cigireacht ar shaoráidí a bhfuil ceadúnas acu ón GCC;
> Cur i bhfeidhm an dea-chleachtais a stiúradh i ngníomhaíochtaí agus i saoráidí rialáilte;
> Maoirseacht a dhéanamh ar fhreagrachtaí an údaráis áitiúil as cosaint an chomhshaoil;
> Caighdeán an uisce óil phoiblí a rialáil agus údaruithe um sceitheadh fuíolluisce uirbigh a fhorfheidhmiú
> Caighdeán an uisce óil phoiblí agus phríobháidigh a mheasúnú agus tuairisciú air;
> Comhordú a dhéanamh ar líonra d'eagraíochtaí seirbhíse poiblí chun tacú le gníomhú i gcoinne coireachta comhshaoil;
> An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Dramhaíola agus Ceimiceáin sa Chomhshaol

> Rialacháin dramhaíola a chur i bhfeidhm agus a fhorfheidhmiú lena n-áirítear saincheisteanna forfheidhmithe náisiúnta;
> Staitisticí dramhaíola náisiúnta a ullmhú agus a fhoilsiú chomh maith leis an bPlean Náisiúnta um Bainistíocht Dramhaíola Guaisí;
> An Clár Náisiúnta um Chosc Dramhaíola a fhorbairt agus a chur i bhfeidhm;
> Reachtaíocht ar rialú ceimiceán sa timpeallacht a chur i bhfeidhm agus tuairisciú ar an reachtaíocht sin.

Bainistíocht Uisce

> Plé le struchtúir náisiúnta agus réigiúnacha rialachais agus oibriúcháin chun an Chreat-treoir Uisce a chur i bhfeidhm;
> Monatóireacht, measúnú agus tuairisciú a dhéanamh ar chaighdeán aibhneacha, lochanna, uiscí idirchreasa agus cósta, uiscí snámha agus screamhuisce chomh maith le tomhas ar leibhéil uisce agus sreabhadh abhann.

Eolaíocht Aeráide & Athrú Aeráide

> Fardail agus réamh-mheastacháin a fhoilsiú um astaíochtaí gás ceaptha teasa na hÉireann;
> Rúnaíocht a chur ar fáil don Chomhairle Chomhairleach ar Athrú Aeráide agus tacaíocht a thabhairt don Idirphlé Náisiúnta ar Ghníomhú ar son na hAeráide;

> Tacú le gníomhaíochtaí forbartha Náisiúnta, AE agus NA um Eolaíocht agus Beartas Aeráide.

Monatóireacht & Measúnú ar an gComhshaol

> Córais náisiúnta um monatóireacht an chomhshaoil a cheapadh agus a chur i bhfeidhm: teicneolaíocht, bainistíocht sonraí, anailís agus réamhaisnéisiú;
> Tuairiscí ar Staid Thimpeallacht na hÉireann agus ar Tháscairí a chur ar fáil;
> Monatóireacht a dhéanamh ar chaighdeán an aeir agus Treoir an AE i leith Aeir Ghlain don Eoraip a chur i bhfeidhm chomh maith leis an gCoinbhinsiún ar Aerthruailliú Fadraoin Trasteorann, agus an Treoir i leith na Teorann Náisiúnta Astaíochtaí;
> Maoirseacht a dhéanamh ar chur i bhfeidhm na Treorach i leith Torainn Timpeallachta;
> Measúnú a dhéanamh ar thionchar pleananna agus clár beartaithe ar chomhshaol na hÉireann.

Taighde agus Forbairt Comhshaoil

> Comhordú a dhéanamh ar ghníomhaíochtaí taighde comhshaoil agus iad a mhaoiniú chun brú a aithint, bonn eolais a chur faoin mbeartas agus réitigh a chur ar fáil;
> Comhoibriú le gníomhaíocht náisiúnta agus AE um thaighde comhshaoil.

Cosaint Raideolaíoch

> Monatóireacht a dhéanamh ar leibhéil radaíochta agus nochtadh an phobail do radaíocht ianúcháin agus do réimsí leictreamaighnéadacha a mheas;
> Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha;
> Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta;
> Sainseirbhísí um chosaint ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Ardú Feasachta agus Faisnéis Inrochtana

> Tuairisciú, comhairle agus treoir neamhspleách, fianaise-bhunaithe a chur ar fáil don Rialtas, don tionscal agus don phobal ar ábhair maidir le cosaint comhshaoil agus raideolaíoch;
> An nasc idir sláinte agus folláine, an geilleagar agus timpeallacht ghlan a chur chun cinn;
> Feasacht comhshaoil a chur chun cinn lena n-áirítear tacú le hiompraíocht um éifeachtúlacht acmhainní agus aistriú aeráide;
> Tástáil radóin a chur chun cinn i dtithe agus in ionaid oibre agus feabhsúchán a mholadh áit is gá.

Comhpháirtíocht agus Líonrú

> Oibriú le gníomhaireachtaí idirnáisiúnta agus náisiúnta, údaráis réigiúnacha agus áitiúla, eagraíochtaí neamhrialtais, comhlachtaí ionadaíocha agus ranna rialtais chun cosaint chomhshaoil agus raideolaíoch a chur ar fáil, chomh maith le taighde, comhordú agus cinnteoireacht bunaithe ar an eolaíocht.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

Tá an GCC á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóir. Déantar an obair ar fud cúig cinn d'Oifigí:

1. An Oifig um Inbhunaitheacht i leith Cúrsaí Comhshaoil
2. An Oifig Forfheidhmithe i leith Cúrsaí Comhshaoil
3. An Oifig um Fhianaise agus Measúnú
4. An Oifig um Chosaint ar Radaíocht agus Monatóireacht Comhshaoil
5. An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tugann coistí comhairleacha cabhair don Ghníomhaireacht agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.