

Guidance on Strategic Environmental Assessment - Environmental Impact Assessment Tiering

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ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

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- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

EPA RESEARCH PROGRAMME 2021–2030

**Guidance on Strategic Environmental
Assessment–Environmental Impact
Assessment Tiering**

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EPA Research Report

Prepared for the Environmental Protection Agency

by

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Contents

Acknowledgements	ii
Disclaimer	ii
Project Partners	iii
List of Figures	vii
List of Tables and Boxes	viii
Executive Summary	ix
1 Introduction	1
1.1 What Is Tiering?	1
1.2 What Are the Benefits of Tiering?	1
1.3 What Are the Barriers to Tiering?	2
1.4 What Are the Legal Requirements for Tiering?	2
2 Effective Tiering in Higher-tier Assessments: Undertaking the SEA with EIA in Mind	4
2.1 Context Setting	4
2.2 Baseline Environment	4
2.3 Alternatives	6
2.4 Impact Identification	7
2.5 Mitigation Measures	7
2.6 Scoping Issues for Future EIAs	10
2.7 Monitoring	11
2.8 Conclusion	12
3 Effective Tiering in Lower-tier Assessments: Undertaking the EIA with SEA in Mind	13
3.1 Context Setting	13
3.2 Baseline Environment and Scoping	13
3.3 Alternatives	14
3.4 Mitigation	15
3.5 Monitoring	15
3.6 Conclusion	15

4	Setting the Framework for Effective Tiering	16
4.1	Preventing Silo Assessment	16
4.2	Training	16
4.3	Front-loading the Assessment Process	16
4.4	Spatial Data and GIS Support	16
	Abbreviations	17

List of Figures

Figure ES.1.	Infographic summarising and illustrating key SEA and EIA tiering links	x
Figure 1.1.	Tiering within plans and projects, and within environmental assessments	1
Figure 2.1.	Flow chart showing how the plan fits with other plans and projects	5
Figure 2.2.	Map of risk to bird populations, divided into sub-areas	5
Figure 2.3.	Areas that are acceptable (blue and green) and not acceptable (red) for wind farms	8
Figure 2.4.	Mitigation designed around the constraints/sensitivities of the area	8
Figure 2.5.	Examples of project-specific mitigation measures	9
Figure 2.6.	Site-specific mitigation measures embedded in a GIS	10

List of Tables and Boxes

Table

Table 3.1.	Use of an SEA mitigation checklist in EIAR	15
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Boxes

Box 2.1.	Sequence for considering alternatives	6
Box 2.2.	Example of strategic versus local alternatives	6

Executive Summary

Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) aim to identify and mitigate environmental impacts resulting from plan, programme (the realm of SEAs) and project (EIA) implementation. The organised transfer of information and issues from one planning level and assessment level to the other (e.g. SEA to EIA) is known as tiering. This good practice guidance aims to support more effective tiering of environmental assessments, strengthening the links between SEA and EIA, with regards to both processes and outcomes.

The preparation of the guidance has been informed by a review of relevant national and international literature, 21 Irish SEA and EIA case studies and 28 interviews with international and national SEA and/or EIA experts.

Effective SEA–EIA tiering has the potential to streamline and strengthen not only the impact assessment processes, but also the associated plans and projects, particularly in the context of land-use planning where there is a clear existing planning hierarchy. Tiering can:

- provide data for lower-tier SEA/EIAs;
- identify data gaps at a time when they could still be easily filled by lower-tier SEA/EIAs;
- set terms of reference for lower-tier SEA/EIAs, making them more focused and saving time and money;
- consider cumulative impacts and provide information about standards/thresholds and mitigation measures for lower-tier SEA/EIAs;

- influence the development of projects, leading to a “trickle-down” of environmental protection;
- allow strategic decisions on large-scale developments to be made early on (e.g. protecting strategic development sites from inappropriate development), providing more certainty for developers;
- allow strategic-scale mitigation measures to be set, which may otherwise be harder to put in place;
- consider and aim to address public concerns at the strategic scale, obviating the need to revisit these issues for each subsequent project, and resolving challenges and reducing problems in the development of projects.

However, the fact that planning is not linear (e.g. projects and their EIAs may emerge before plans), and that there is often a substantial time lag between tiers, can limit the potential for effective tiering. Tiering is also held back by “silo” approaches to assessments, and by a general lack of communication between SEA and EIA practitioners.

This guidance note puts forward recommendations to address current practice shortcomings, ensure that plans and SEA Environmental Reports (SEA ERs) are written with projects and EIA in mind [and that EIA Reports (EIARs) are written with SEA in mind], and foster information-sharing and better integration of environmental considerations across tiers.

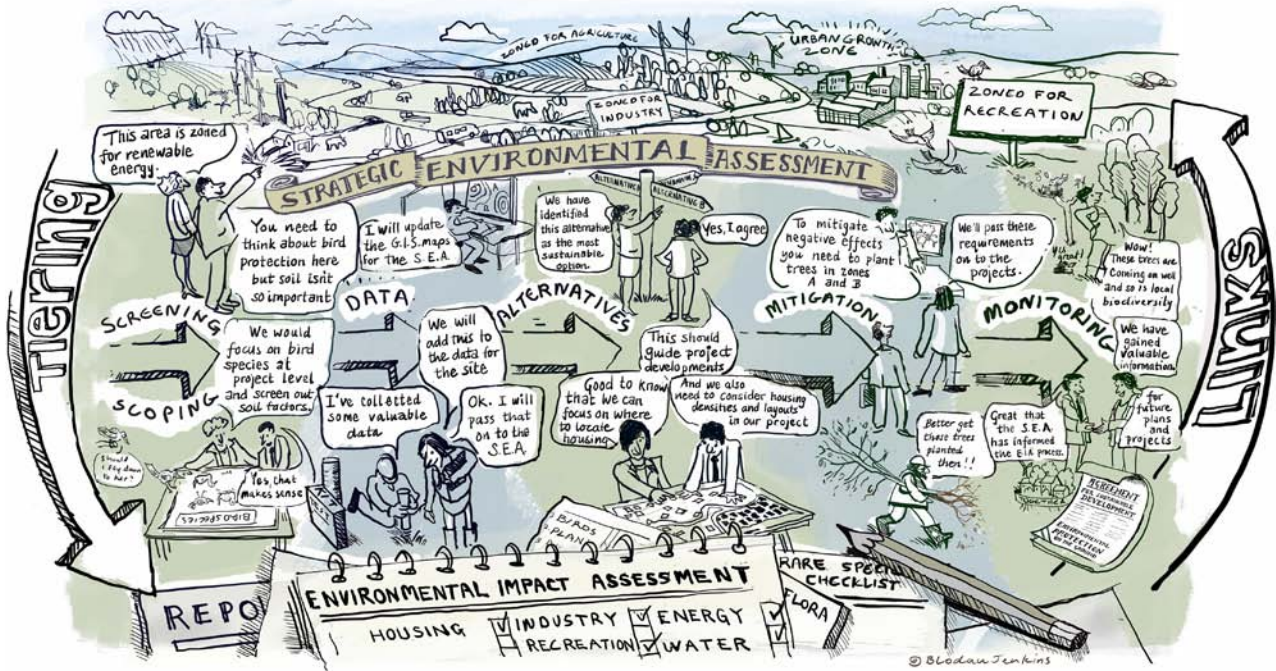


Figure ES.1. Infographic summarising and illustrating key SEA and EIA tiering links.

1 Introduction

This guidance note presents the key output of the project “Tiering of Environmental Assessment – The Influence of Strategic Environmental Assessment on Project-level Environmental Impact Assessment”, funded by the Environmental Protection Agency (EPA). It aims to strengthen links between Strategic Environmental Assessment (SEA)¹ and Environmental Impact Assessment (EIA),² to ensure that these processes “talk” to each other and foster environmental protection on the ground. It is aimed at plan-makers, competent authorities, project developers and environmental consultants. This guidance note has been informed by an extensive review of the international literature, detailed review of 16 Irish SEA and EIA case studies, and 28 interviews with international and national SEA and/or EIA practitioners and experts.

1.1 What Is Tiering?

Tiering is the organised transfer of information and issues from one planning level to another, supported by environmental assessments (Figure 1.1). Plans

can be for land use, but also for sectors such as transport, energy and waste management. For more strategic (higher-tier) plans, tiering means developing the SEA with lower-tier plans/projects and associated assessments in mind. For projects and their EIAs, and lower-tier plans and their SEAs, it means undertaking the EIA/lower-tier SEA with the higher-tier plan and SEA in mind. This guidance note specifically focuses on the transfer of information from the higher to the lower tier, also referred to as top-down tiering or SEA to EIA tiering, which is most common in practice, although bottom-up or EIA to SEA tiering also sometimes takes place. For simplicity, both lower-tier plans and their SEAs and projects and their EIAs are referred to as projects and their EIAs in this guidance.

1.2 What Are the Benefits of Tiering?

The benefits of top-down tiering can be grouped according to the contributions tiering can make to plans and projects, or to the impact assessment processes themselves. The benefits are particularly

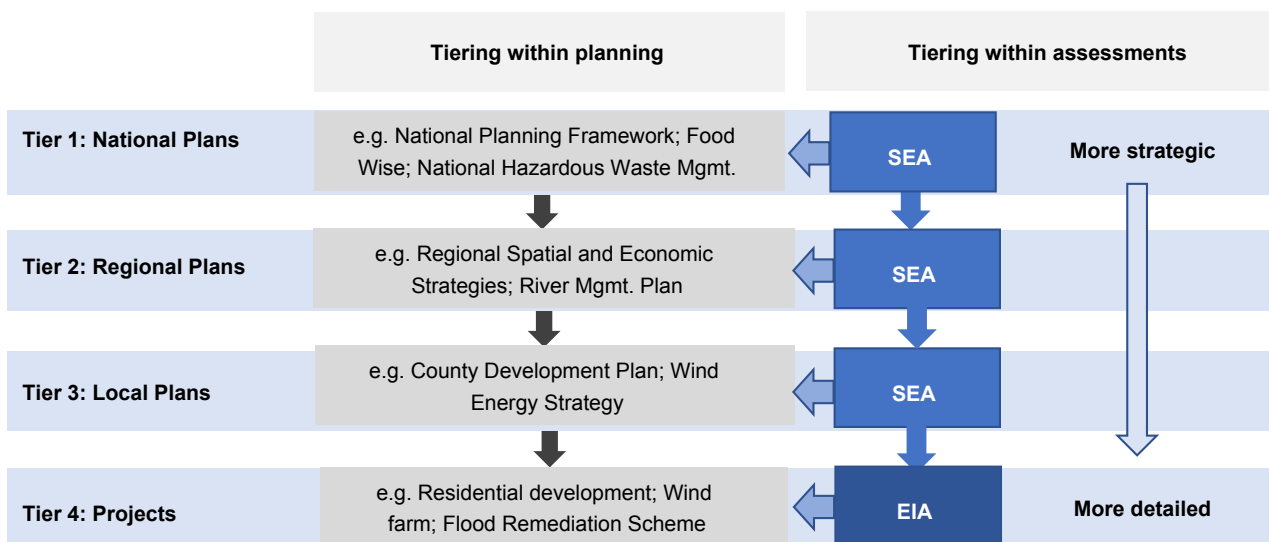


Figure 1.1. Tiering within plans and projects, and within environmental assessments.

1 As per the requirements of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment.

2 As per the requirements of Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment.

applicable to land-use planning, where there is a clear existing hierarchy of plans and projects.

Tiering within plans and projects – a higher-tier SEA can:

- **Inform and influence the development of lower-tier plans and projects**, leading to a “trickle-down” of environmental integration, protection and, ultimately, sustainability.
- **Resolve challenges and reduce problems in the development of projects**. For example, SEA can help to identify sites where development would have particularly significant environmental effects and should not be permitted.
- **Allow strategic decisions on large-scale development to be made early on**, for instance, protecting strategic development sites from inappropriate development. This also provides more certainty for developers.
- **Allow strategic-scale mitigation measures to be set**, which may otherwise be harder to put in place. This is forward-looking, precautionary and fair.
- **Consider and deal with public concerns at the strategic scale**, obviating the need to revisit these issues for each subsequent project.

Tiering within environmental assessment – a higher-tier SEA can:

- **Provide data for lower-tier SEAs and EIAs**, if there is not much of a time lag between the assessments, and the data from the SEA are of a scale that work for the lower-tier SEA/EIA.
- **Identify data gaps at a time when they could still be easily filled** for lower-tier SEA/EIAs. This includes identifying opportunities of where “boots on the ground”-type data collection and monitoring would improve implementation of the plan at a project level.
- **Provide an overall structure and information about common issues** and set terms of reference for subsequent lower-tier SEAs/EIAs. This may include EIA screening, and scoping environmental issues in and out for EIAs. The EIAs can then be more focused, saving time and resources.
- **Consider cumulative impacts**, and provide information about standards, thresholds and mitigation measures for EIAs.

1.3 What Are the Barriers to Tiering?

Planning is not a linear, hierarchical process.

Projects (and their EIAs) may emerge before plans (and their SEAs); lower-tier plans may emerge before higher-tier plans. There may be a **substantial time lag between tiers**, which restricts the usefulness of the higher-tier SEA over time and, therefore, restricts the potential for effective tiering.

There is **no agreement on what environmental issues are strategic and which are local**, nor on the level of detail needed at each scale of assessment. For instance, noise and visual impacts are normally local issues, and waste management is normally a more regional issue, but in practice all of these are dealt with at all levels of planning. There is also a continual conflict between plans and SEAs being comprehensive and detailed, versus focusing on key issues and leaving the details for lower-tier plans and projects.

In practice, SEA Environmental Reports (SEA ERs) and EIA Reports (EIARs) are often prepared by different groups of experts, with little communication and data-sharing; several interviewees mentioned this **“silo” approach to assessment** as a limitation to tiering. Moreover, few planning authorities (land use or otherwise), developers and environmental assessment consultants are aware of the concept, and benefits, of tiering.

1.4 What Are the Legal Requirements for Tiering?

Neither the SEA Directive nor the EIA Directive uses the word “tiering”, but both include tiering-related requirements. Annex II of the **SEA Directive** (Directive 2001/42/EC) includes the following screening criteria to determine whether or not a plan requires SEA:

The characteristics of plans and programmes, having regard, in particular, to:

- The degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources;

- The degree to which the plan or programme influences other plans and programmes including those in a hierarchy...

The SEA Directive also gives general guidance on how to reduce duplication through tiering:

4.3 Where plans and programmes form part of a hierarchy, Member States shall, with a view to avoiding duplication of the assessment, take into account the fact that the assessment will be carried out, in accordance with this Directive, at different levels of the hierarchy.

5.2 The environmental report... shall include the information that may reasonably be required taking into account ... the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

5.3 Relevant information available on environmental effects of the plans and programmes and obtained at other levels of decision-making or through other Community legislation may be used for providing the information referred to in Annex I.

Annex I requirements include:

(a) an outline of the contents and main objectives of the plan or programme and relationship with other relevant plans and programmes.

(f) the likely significant (1) effects on the environment... These effects should include secondary, cumulative, synergistic...

The preamble to the **EIA Directive** (Directive 2014/52/EU) notes that:

- With a view to avoiding duplication of assessments, the results of other assessments under Union legislation such as [the SEA Directive] should, where relevant and available, be taken into account.
- Where the obligation to carry out assessments related to environmental issues arise simultaneously from this Directive and [the SEA Directive], Member States should be able to provide for coordinated and joint procedures fulfilling the requirements of the relevant Union legislation.

Article 4 of the EIA Directive, concerning screening, states:

4. Where Member States decide to require a determination for projects listed in Annex II, ... [t]he developer shall take into account, where relevant, the available results of other relevant assessments of the effects on the environment carried out pursuant to Union legislation other than this Directive...

5. The competent authority shall make its determination, on the basis of the information provided by the developer in accordance with paragraph 4 taking into account, where relevant, the results of preliminary verifications or assessments of the effects on the environment carried out pursuant to Union legislation other than this Directive.

Article 5.1 of the EIA Directive, which lists the minimum information to be provided in an EIAR, notes that:

The developer shall, with a view to avoiding duplication of assessments, take into account the available results of other relevant assessments under Union or national legislation, in preparing the environmental impact assessment report.

2 Effective Tiering in Higher-tier Assessments: Undertaking the SEA with EIA in Mind

This chapter is mostly oriented at SEA practitioners, and Chapter 3 is mostly oriented at EIA practitioners, although both chapters inform each other. Both chapters go through the environmental assessment process in chronological order.

2.1 Context Setting

The policy context section of the SEA ER should show how the plan fits with other plans and with future projects, possibly including a flow chart such as Figure 2.1.

To support tiering, this analysis can be extended to explain the level of detail of its assessment, and how more detailed assessments will be carried out at subsequent planning tiers. Two quite different examples are:

The plan is on a regional scale, it is strategic in nature, and it delivers over-arching policy recommendations. This SEA does not examine site-specific impacts due to development of water infrastructure associated with future development of particular sites, since that is outside the scope of this strategic level plan. As portions of the plan will be implemented within some local plans, or through the planning process in almost all cases, the local environmental concerns related to these will be examined through subsequent SEAs of these plans or environmental impact assessment (EIA) at the project level. (Shannon Strategic Integrated Framework Plan 2013-2020 SEA ER)

The route details will be the options assessed as alternatives to the strategy. More detailed assessments will be provided in subsequent environmental impact assessments of

individual routes. (Ulster Canal Restoration Plan 2016–2022 SEA ER)

The plan may simply be too strategic, and not location specific enough, to permit detailed assessment and mitigation. However, regardless of how high level the plan is, the context section of the SEA ER should explain how the plan will lead to and influence projects. For instance:

Development will be permitted in principle on Phase 1 lands during the period of the new plan and this includes residential zoned lands with existing permissions ... Phase 2 lands may be considered for development providing that development proposals satisfy a core strategy justification and where applicable satisfactorily demonstrate that where infrastructural deficiencies exist (e.g. sewers, roads) that these have been addressed to facilitate the development ... Residential developments will not be permitted on Phase 3 lands during the lifetime of the plan. (Waterford City Development Plan 2013–2019 SEA ER)

2.2 Baseline Environment

National and regional datasets used in SEA can serve as the basis for EIAs, highlighting aspects/issues that need to be further examined or additional data collated. Geographic Information Systems (GIS) or GIS-based maps can help to identify environmental sensitivities at both the strategic and local scales. The Environmental Sensitivity Mapping (ESM) Webtool (www.enviromap.ie) and the EPA SEA Search and Reporting Tool (<https://gis.epa.ie/EPAMaps/SEA>) are commonly used to support SEAs of plans in Ireland and can be used as a starting point for EIA. Similarly, the EIA Portal³ can point to sources of information

3 The EIA Portal – <https://www.gov.ie/en/publication/9f9e7-eia-portal/> (accessed 23 June 2021) – provides access to applications for development consent accompanied by an EIAR made since 16 May 2017.

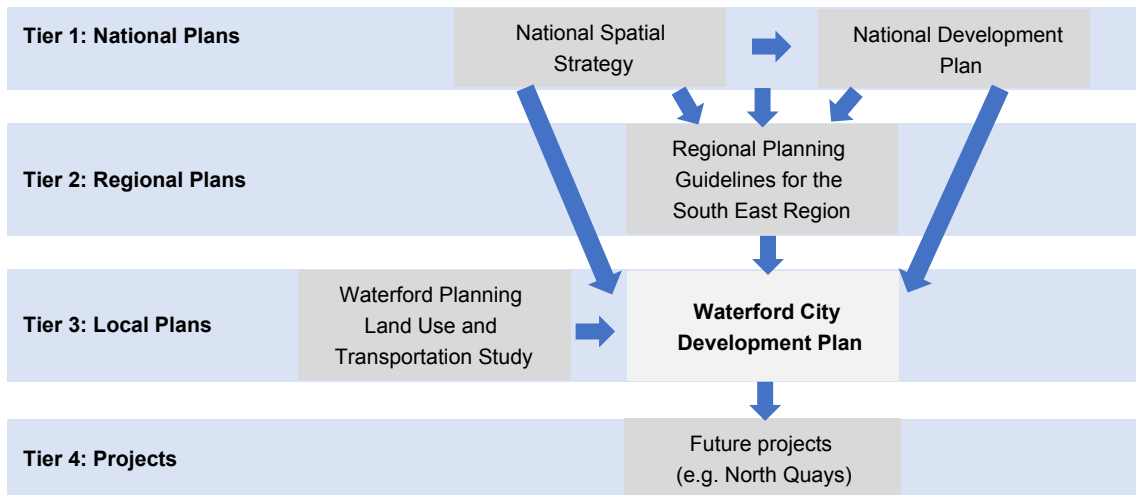


Figure 2.1. Flow chart showing how the plan fits with other plans and projects.

for both SEAs and EIAs by enabling access to site-specific issues and information from previous EIAs.

SEA can also generate information that is relevant for lower-tier plan and project assessments. Figure 2.2

is an example of SEA data that can also be useful at the EIA scale. An SEA could include separate, searchable GIS maps that could subsequently be used in EIAs.

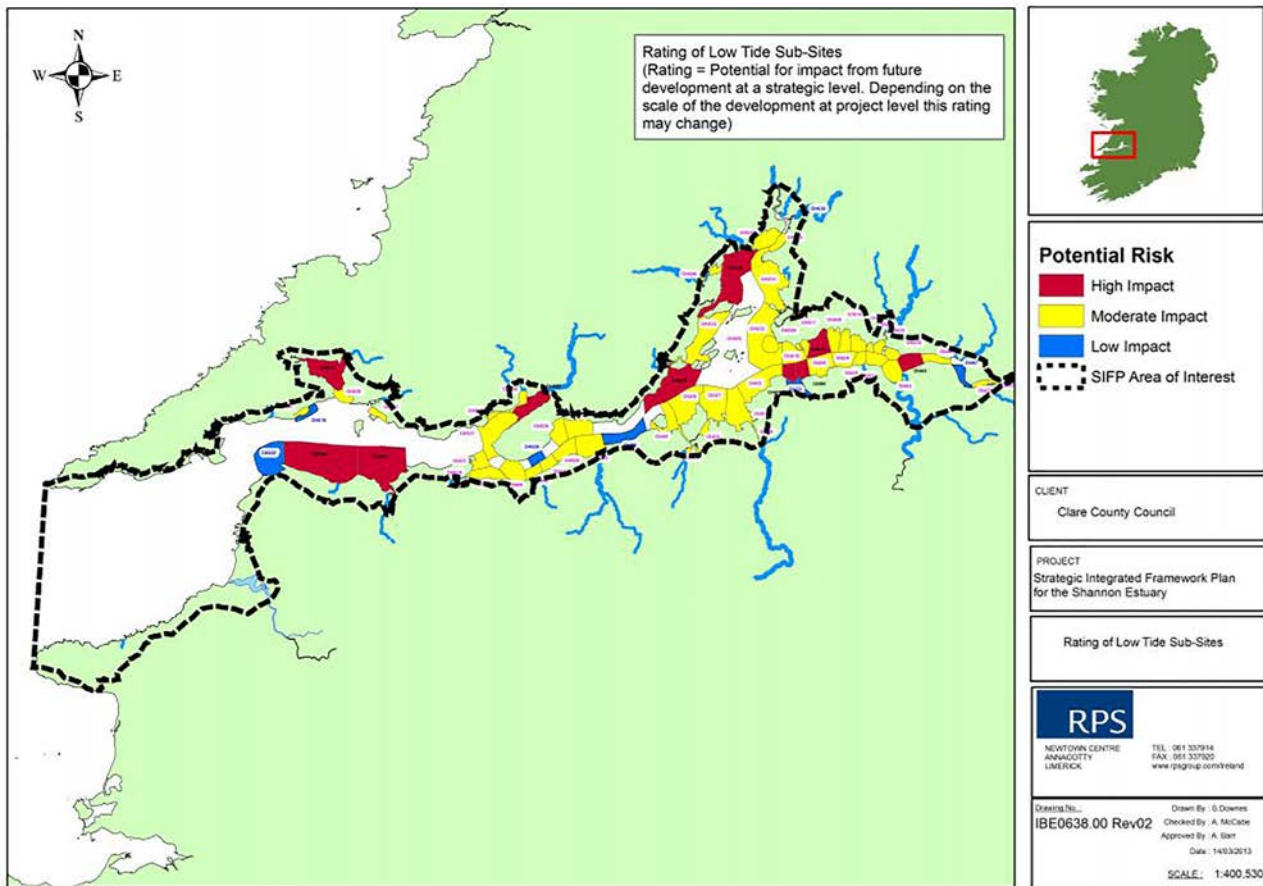


Figure 2.2. Map of risk to bird populations, divided into sub-areas; also useful for EIAs if the information is shared digitally (Shannon Strategic Integrated Framework Plan 2013–2020 SEA ER).

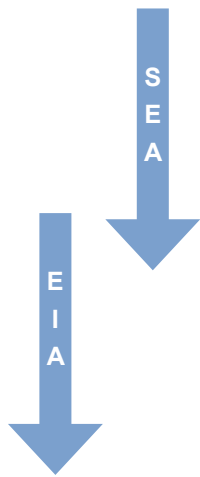
2.3 Alternatives

Alternatives can be considered in a sequence, from the most strategic to the most specific (see Box 2.1).⁴

Higher-tier plans and their SEAs should focus on strategic-level issues, such as whether an intervention is needed at all and, if so, what kind of intervention is needed. Lower-tier assessments should then take the

preferred alternatives of higher-tier assessments as givens, and explore those alternatives that are relevant to their level (e.g. where, how and when the project should be developed). Box 2.2 gives an example of alternatives that are relevant at the plan versus project level. There is some overlap between the SEAs of lower-tier plans (e.g. local area plans, masterplans) and EIARs for large-scale projects.

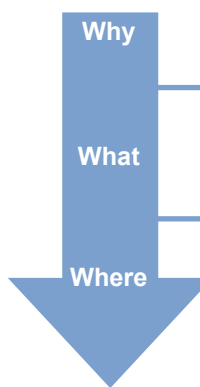
Box 2.1. Sequence for considering alternatives



1. **Why** is the plan needed? What would happen in the absence of the plan? Why this solution and not another for the problem it aims to solve? Does the plan achieve its objectives (e.g. provision of enough homes/energy/transport opportunities to fulfil socioeconomic needs)?
2. **What** needs to be done to achieve the objectives of the previously defined policy/ action [e.g. number of homes (and affordable homes) needed, amount of wind energy needed]?
3. **Where** should it be done/sited? For example, should the new homes be in existing urban areas, on the edge of urban areas, in new towns? Should there be one large or several smaller wind farms, and broadly where should they be?
4. **How** and **when** should it be done (e.g. proposals for individual housing developments, wind farms with layout, access arrangements, landscaping proposals)?

Box 2.2. Example of strategic versus local alternatives

The Clare Wind Energy Strategy 2017–2023 aimed to achieve 550 MW renewable energy by 2020, as the county’s share of the national target of 40% renewable energy production. The SEA for the Strategy considered seven alternatives, which spanned the “why”, “what” and “where” alternatives:



1. Alternative targets and timeframes: not 550 MW, not by 2020.
2. Do nothing: retain existing Wind Energy Strategy zonings.
3. Ad hoc planning for wind farms: address wind energy applications on an ad hoc basis.
4. Alternative renewable energy sources: plan for biomass or tidal power.
5. Offshore wind energy developments.
6. Offshore and onshore wind energy developments.
7. Strategic approach to onshore wind energy developments, matching the principal wind resources to existing infrastructure, excluding sensitive areas.

The Knockalough Wind Farm 2012 EIAR, noting that the site was in an area designated in the Clare Energy Plan as “acceptable in principle” (see section 2.5, Mitigation Measures, below), considered “how” options: more or fewer turbines, taller or shorter towers and different road designs.

⁴ Further advice on alternatives can be found in the EPA’s (2015) *Developing and Assessing Alternatives in Strategic Environmental Assessment*. Available online: https://www.epa.ie/publications/research/biodiversity/EPA-157_web.pdf (accessed 8 July 2021).

2.4 Impact Identification

Where the plan can “imagine” subsequent projects, the SEA can identify and describe how these projects can affect the environment. For instance:

The likely significant effects of implementing the Kerry County Development Plan 2015–2021 on biodiversity are potentially direct and indirect. Direct effects would relate to habitat loss or fragmentation as a result of development facilitated by the KCDP 2015–2021. Development could be industrial, domestic or recreational – for example the construction of walkways and greenways. Impacts could also be indirect – indirect habitat loss due to the encroachment of development into sensitive areas and/or cause changes to the conditions that support a site such as a wetland. (Kerry County Development Plan 2015–2021 SEA ER)

One of the main benefits of SEA over EIA is that it can identify cumulative impacts beyond those of individual projects, and propose measures to address them. These impacts could include climate change, habitat fragmentation, reduction in soil quality, and incremental land-use change and urbanisation. An example is:

The fact that the Eastern-Midlands Region is currently the only waste region with thermal capacity indicates a regional imbalance. This spatial imbalance may result in cumulative negative impacts to [air quality and climatic factors] as a result of transport related emissions as municipal wastes both from within and outside the region are transported to these facilities. (Eastern and Midlands Region Waste Management Plan 2015–2021 SEA ER)

As highlighted by the EPA’s guidance on cumulative effects assessment,⁵ where possible, mitigation of cumulative impacts should be proposed at the SEA level, rather than being left to the EIA level.

2.5 Mitigation Measures

Strategic-level mitigation may indicate preferred locations of new development. For instance, the Clare Wind Energy Strategy 2017–2023 SEA identified sites that are and are not acceptable, in principle, for wind farms (Figure 2.3). The Cherrywood Strategic Development Zone Masterplan 2010–2016 SEA designed mitigation around the sensitivities identified for the area (Figure 2.4).

It may be helpful for the SEA to propose mitigation measures that are applicable to all projects of a particular type, to help structure and manage any project of that type coming forward. For instance, the Eastern and Midlands Region Waste Management Plan 2015–2021 SEA ER sets out the following mitigation measures for all waste facilities (not just those requiring EIA):

In general, the location of waste facilities needs to consider the following:

- Avoid siting waste infrastructure or related infrastructure in areas protected for landscape and visual amenity, geology, heritage and/or cultural value;
- Avoid siting waste infrastructure or related infrastructure in Natura 2000 sites including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).
- To prevent the spread of Invasive Alien Species (IAS), undertake an IAS survey of any prospective sites. If found, preventative measures include ensuring that good site hygiene practices are employed for the movement of materials into, out of and around the site and ensuring that imported soil is free of seeds and rhizomes of key invasive plant species; ...
- Ensure that no development, including clearance and storage of materials, takes place within a minimum distance of 15 m measured from each bank of any river, stream or watercourse as specified in the [County Development Plan] area; ...

5 Environmental Protection Agency (2020). *Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment*. Available online: <https://www.epa.ie/publications/monitoring--assessment/assessment/EPA-Good-Practice-Guidelines-SEA.pdf> (accessed 8 July 2021).

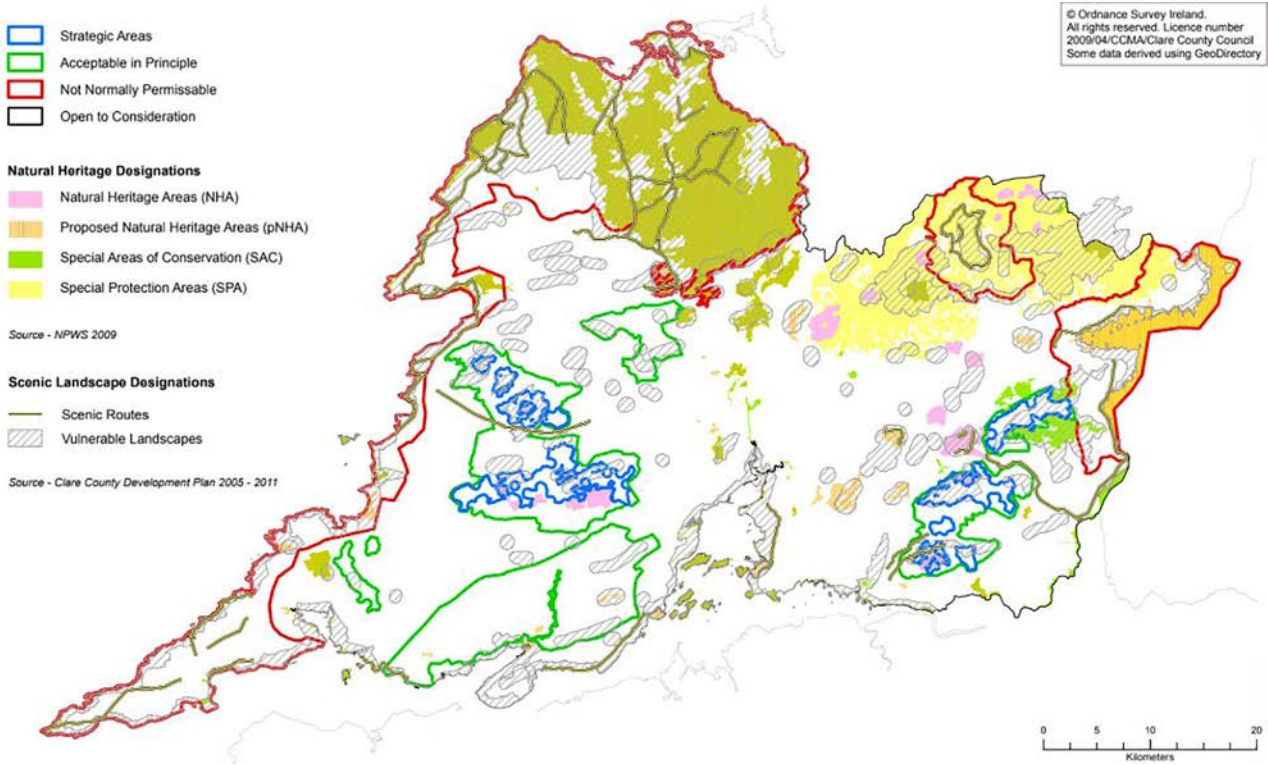


Figure 2.3. Areas that are acceptable (blue and green) and not acceptable (red) for wind farms (Clare Wind Energy Strategy 2017–2023 SEA ER).

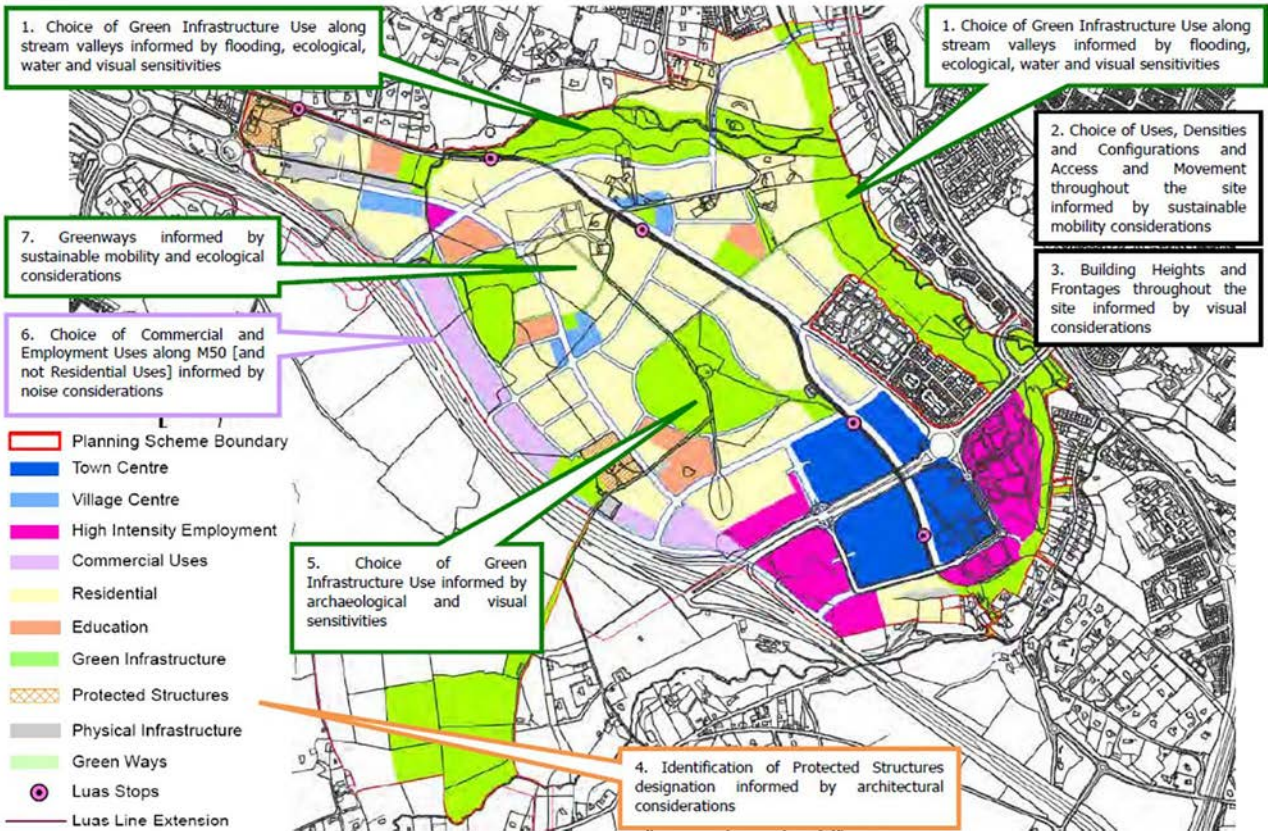


Figure 2.4. Mitigation designed around the constraints/sensitivities of the area (Cherrywood Strategic Development Zone Masterplan 2010–2016 SEA ER).

Figure 2.5 shows an example of how this could be presented in a checklist. The SEA can also set mitigation measures for projects that do not require EIA.

Generally, where there is uncertainty, the SEA should act in a precautionary manner, assuming that the impact will occur until it can be shown that it will not.

For instance:

Any future development within the Estuary which requires dredging, increases to surface water run-off, the introduction of foul sewer operations, etc. will all need to consider the requirement of the [Water Framework Directive] and ensure the objectives for each waterbody can be met. (Shannon Strategic Integrated Framework Plan 2013–2020 SEA ER)

Proposals for development which are deemed contrary to the environmental objectives and policies contained within the Plan will not normally be permitted, and if permitted, should contain development specific mitigation measures which have been proven

beyond scientific doubt, to remove significant negative effects. (Clare Wind Energy Strategy 2017–2023 SEA ER)

The SEA should also not assume that all impacts can be mitigated at the project stage. Where significant negative impacts are likely to arise from a project (e.g. impacts on a site that is designated for biodiversity or heritage), it is the role of the SEA to ensure that the project could, in theory, proceed if adequate mitigation measures were put in place and provide details of such mitigation. Simply saying that mitigation will be considered at the project EIA level is not adequate SEA mitigation. Similarly, mitigation in the form of existing legal requirements (e.g. stating that Appropriate Assessment needs to be undertaken at project level) does not represent meaningful SEA mitigation.

For clarity, and to help to ensure subsequent implementation, project-level mitigation could be presented as a checklist, such as the third column of Figure 2.5. Emerging good practice is to keep track of the mitigation measures needed for each development site or zone by linking the mapped site/zone with information about the mitigation measures

Potential Effect	Development Phase	Suggested Project Level Mitigation Measures	Timescale
Geology, geomorphology and hydrography			
Changes in hydrodynamic/ coastal processes and seabed morphology	CD	<ul style="list-style-type: none"> Site specific geophysical and geotechnical surveys to establish a baseline and inform the impact assessment for individual developments Modelling of hydrodynamics and sediment transport Avoidance of placement of devices in areas where sediment transport pathways are modelled as highly sensitive to change Modelling the effects on coastal processes should form part of pre-project activities to optimise location Avoidance of placement of devices within zones where coastal processes are modelled as highly sensitive to change 	<ul style="list-style-type: none"> Site/cable route selection stage Project design stage EIA stage
	CC		
	OD		
Seabed contamination and water quality			
Accidental release of contaminants (hydraulic fluids/ vessel fuel)	CD	<ul style="list-style-type: none"> Carry out potentially hazardous operations under appropriate weather/tide conditions Use low toxicity and biodegradable materials Use minimum quantities Design for minimum maintenance 	<ul style="list-style-type: none"> Project design stage EIA stage Project installation Project operation and maintenance
	CC		
	OD		

Figure 2.5. Examples of project-specific mitigation measures (Offshore Renewable Energy Development Plan). CC, construction/decommissioning cables; CD, construction/decommissioning devices; OD, operation devices.

in a GIS system. This is the case for the Clare County Development Plan 2017–2023 (Figure 2.6).

Finally, to ensure that SEA mitigation measures are implemented in practice, either the mitigation proposed in the SEA should be incorporated within the plan (by far the preferred option), or else the plan should include a mitigation policy/commitment that refers back to the SEA, stating that developers should put in place those mitigation measures listed in the SEA.⁶

2.6 Scoping Issues for Future EIAs

In European Union countries, SEAs cannot scope environmental factors (e.g. biodiversity, air and water) out of EIAs owing to the requirements of the EIA Directive.⁷ However, as part of determining project-level mitigation measures, an SEA can help to scope issues⁸ in and out of EIAs, that is, determine whether they are key issues that require consideration in the EIAR or not. Figure 2.5 shows an example where

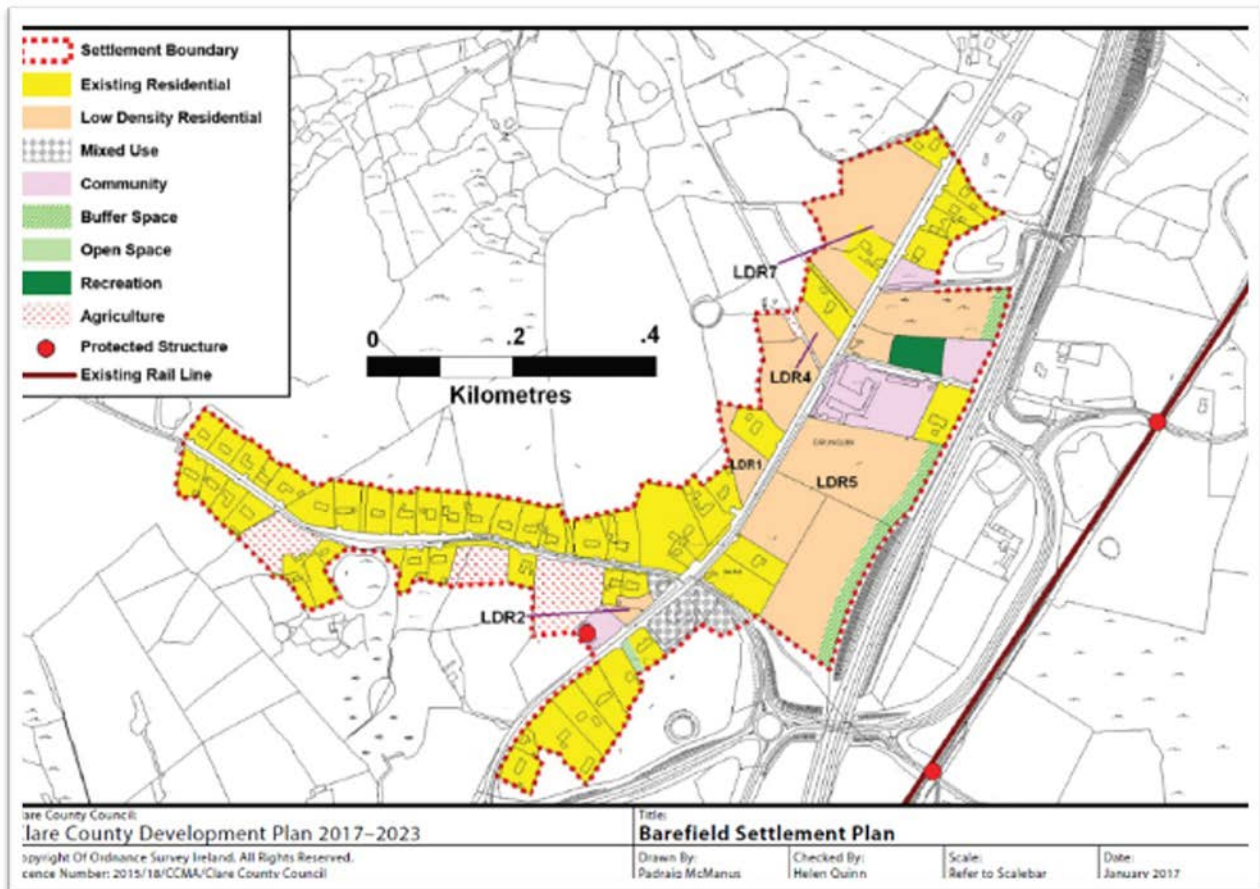


Figure 2.6. Site-specific mitigation measures embedded in a GIS (Clare County Development Plan 2017–2023 SEA ER).

6 This is supported by the findings of the EPA's (2020) *Second Review of Strategic Environmental Assessment Effectiveness in Ireland*. Available online: https://www.epa.ie/publications/research/environmental-technologies/Research_Report_306.pdf (accessed 8 July 2021).

7 The list of environmental factors must be considered: population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage, landscape and interactions between these factors.

8 Consistent with the EPA's (2017) *Draft Guidelines on the Information to Be Contained in Environmental Impact Assessment Reports (EIAR)* (available online: https://www.epa.ie/publications/monitoring--assessment/assessment/EPA_EIAR_Guidelines.pdf; accessed 8 July 2021), this guidance note distinguishes between environmental *factors* listed in environmental assessment legislation, for instance biodiversity, air and water, and environmental *issues*, such as surface water, groundwater and wastewater.

issues are scoped *in* for subsequent EIAs. Another example is:

Landslide susceptibility and risk assessment must be undertaken for all proposed developments particularly in peat areas. All proposed wind farm developments are to be assessed, to ensure all factors contributing to slope instability is identified and addressed appropriately. This assessment should incorporate slope stability mapping and groundcover assessment in the context of potential cumulative effects arising from multiple developments. (Clare Wind Energy Strategy 2017–2023)

If the SEA states that something is not an issue (e.g. waste water) at the strategic scale, then subsequent EIAs can cite this to support a scoping out at the EIA level. This would save time and resources at the EIA level, and help to ensure that the EIA focuses on significant issues. This will often be possible only in lower-tier plans (i.e. local area plans and masterplans), which tend to consider specific project types and locations.

The SEA can also indicate circumstances where EIA of subthreshold developments may be required, although legislation requires that this ultimately takes place on a case-by-case basis. For example:

The current requirement for Environmental Impact Assessment for Wind Energy Developments is for 5 turbines or more. The Council may require the preparation of an Environmental Impact Assessment for sub-threshold development. (Clare Wind Energy Strategy 2017–2023)

2.7 Monitoring

SEA monitoring must aim to capture any unforeseen adverse effects as a result of implementing the plan

and may also allow the infilling of identified data gaps.⁹ The SEA should determine the monitoring measures that are strategic and should be applied to follow up on the plan implementation, and those measures that can only be effectively implemented at project level. The specificity of the monitoring measures is particularly relevant for data that can help to resolve uncertainties on the ground, for instance:

The most significant data gaps which should be prioritised are bird surveys (inter-tidal feeding areas, wintering and migratory) on an appropriate spatial and temporal scale together with cetacean monitoring upstream from Tarbert... In order to supplement biodiversity data gaps, additional data gathering to be subsequently used during the plan review or at project level should be undertaken. (Shannon Integrated Framework Plan 2013–2020 SEA ER)

Ideally, monitoring data should be collected spatially and stored in a GIS. This will not only facilitate their access and interrogation by planners, but also provide sources of baseline information for subsequent plans, projects and their assessments, and help assess and address cumulative impacts.

As projects tend to look up to the plan (rather than the associated SEA ER), it is important to incorporate the SEA monitoring measures in the plan. In some cases, the inclusion is by reference to the SEA ER, for instance “Chapter 9 of the SEA Environmental Report attached to this Plan contains detailed monitoring and review methods proposed as part of the SEA process” (Kerry County Development Plan 2015–2021). However, the full incorporation of SEA-related monitoring measures within the plan would mark a better-defined path to projects deriving from the plan, and is recommended.

⁹ For instance, a consortium of local authorities and developers monitored bird use of the Shannon Estuary for a year to support planning at six strategic development locations deemed appropriate for marine-related investment; <https://www.catchments.ie/comprehensive-bird-survey-undertaken-along-shannon-estuary/> (accessed 24 June 2021).

2.8 Conclusion

The best SEA ER will be of little use to lower-tier plans/projects and associated environmental assessments if it is not accessible:

- Please ensure that the SEA ER is put on the plan website *and kept there* (not just replaced with the post-adoption SEA Statement).

The key messages of this section, and a tiering checklist for an SEA, are:

- Use the ESM Webtool and EPA SEA Search and Reporting Tool to support the preparation of SEAs, so that EIA teams can subsequently refer to that information.
- When describing the baseline environment, identify aspects that will require further data collection at lower tiers and/or EIA level.
- When identifying reasonable plan alternatives, think about how these fit with the alternatives that

will be considered in subsequent EIAs. Focus on issues of “why”, “what” and “where” when developing plan alternatives.

- Scope environmental issues¹⁰ in (and out as appropriate) for EIAs where possible, particularly in specific areas/sites.
- Where possible, propose project-level mitigation measures, either for categories of projects (e.g. waste management) or for specific locations.
- Clearly list the mitigation measures so they can act as a checklist at the EIA level. Consider putting them on a GIS system linked to zones/sites.
- Ensure that the mitigation measures are fully integrated into the plan, or that a policy/commitment in the plan requires projects to implement the mitigation measures from the SEA.
- Identify monitoring recommended for the project level and include these in the plan.

In brief, write the SEA ER as a document that sets the context for future projects and their EIAs.

¹⁰ See footnote 8 regarding environmental factors versus issues.

3 Effective Tiering in Lower-tier Assessments: Undertaking the EIA with SEA in Mind

This chapter is mostly oriented at EIA practitioners and Chapter 2 is mostly oriented at SEA practitioners, although they inform each other. Both chapters go through the environmental assessment process in chronological order.

3.1 Context Setting

Where the proposed project clearly emerges from a single plan, it will be easy to identify the relevant SEA ER. Where several plans relate to the project (e.g. a county development plan and a transport programme), then reference to several SEA ERs may be needed. If the relevant SEA ERs are not in the public domain, the plan-maker should be contacted for a copy.

The EIAR should mention in its context section both the relevant plan(s) and the SEA ER(s); it could show how the project relates to higher-level plans, for instance in a variant of Figure 2.1. Where the project is consistent with the plan, the policy context section of the EIAR should state this, as it will make the EIAR more robust, and set a clear context for the project. An example is:

The proposed development is located in the eastern suburbs of Waterford City and is zoned for residential development under the City Development Plan 2013–2019. The proposed residential development with creche is consistent with the zoning and related objectives of the Development Plan. The location of new residential development at this site has therefore been pre-empted in the adopted City Development Plan which itself was [subject to] Strategic Environment Assessment (SEA). (Knockboy Residential Strategic Housing Development 2019 EIAR)

Where the project is not consistent with the plan, the policy context section of the EIAR should explain why the project should nevertheless proceed.

The plan or SEA ER may also refer to circumstances where EIA or similar types of assessment may be expected to be carried out for developments that fall below the EIA threshold. For instance, the Clare Wind Energy Strategy 2017–2023 notes that “The current requirement for Environmental Impact Assessment for Wind Energy Developments is for 5 turbines or more. The Council may require the preparation of an Environmental Impact Assessment for sub-threshold development”.

3.2 Baseline Environment and Scoping

The SEA ER can provide valuable baseline data for the EIA if it is location specific enough and if the baseline data have not changed significantly since the SEA was prepared. Figure 2.2 is an example of an SEA map that is likely to be helpful at the EIA level; the increasing availability of spatial information, the growing use of GIS-based tools and the enhancement of platforms such as the ESM Webtool will make this easier in the future. An example of SEA baseline data that has been cited in an EIAR is:

[Sections 4.10 and 5.9 of the SEA] deal with Landscape. Following are some extracts of particular relevance to the current study: From SEA Section 4.10.4 Key Landscape Sensitivities within the Planning Scheme area: The elements that most strongly establish the distinctive character of the landscape are listed below. The significance of the effects on the character and appearance of the landscape will be in proportion to the degree that these elements are affected.

- The integrity of the lands around Tully Church – i.e. the context of the Church and its associated setting of trees, Lehaunstown Lane and the panoramic views from the nearby hill top.
- The natural quality of the steep-sided stream valleys that enclose the north and east of the site.
- Occasional panoramic views from vantage points towards the surrounding landscape features – including Killiney hill, the coast and the Wicklow Mountains and its foothills.
- The context and setting of items of cultural heritage. (Cherrywood Mixed-use Town Centre Development 2017 EIAR)

The SEA may also help to scope issues¹¹ in and out of the EIA, and to justify that scoping. For instance, the Clare County Development Plan 2017–2023, informed by its SEA, noted that development at Bunratty would require a comprehensive tree survey, and hydrological and geological surveys (scoping in those issues). In contrast, the Ulster Canal Restoration Plan 2016–2022 SEA ER provides much information for scoping out of issues from subsequent EIAs, and could be quoted to support such a scoping out:

Enniskillen to Clones: There is the potential for short-term, temporary, direct, slight negative impacts on local air quality from construction plant emissions on local receptors, however there are no air quality sensitive areas in the vicinity of the route. In the medium and long term there is the potential for reduced air emissions from reduced traffic, due to the operation of this relatively long section of greenway, which is within close proximity to a relatively large number of people to use. (Ulster Canal Restoration Plan 2016–2022 SEA ER, p. 105)

Indeed, the subsequent EIAR for that section of the canal scoped out air quality assessment from further analysis; it did not quote the SEA ER but doing so would have helped to justify that scoping decision (and demonstrated tiered consideration of issues).

3.3 Alternatives

The SEA will have considered strategic-level alternatives, such as the type, amount and general location of development. The assessment of strategic-level alternatives does not need to be duplicated in the EIAR; the EIA should explore more detailed issues of where, how and when a development should take place (see also section 2.3). Box 2.1 shows an example of this distinction.

The EIAR does not need to repeat the SEA alternatives, but the extent to which higher level considerations have already been assessed should inform the EIA process. For instance:

The proposed development is located in the eastern suburbs of Waterford City and is zoned for residential development under the City Development Plan 2013–2019. The proposed residential development with creche is consistent with the zoning and related objectives of the Development Plan. The location of new residential development at this site has therefore been pre-empted in the adopted City Development Plan which itself was subject to Strategic Environment Assessment (SEA) and the consideration of alternatives for this site and area. As a result, the consideration of alternative site locations for the proposed development were not considered necessary or justified in this instance. (Knockboy Residential Strategic Housing Development 2019 EIAR)

If the proposed project is not in line with the alternatives preferred in the SEA, the EIAR should explain why the project should, nevertheless, proceed.

¹¹ See footnote 8 regarding environmental factors versus issues.

Table 3.1. Use of an SEA mitigation checklist in EIAR (hypothetical example)

SEA paragraph	Mitigation required	How this EIAR has incorporated the mitigation measure
15.10	Site-specific geophysical and geotechnical surveys to establish a baseline and inform the impact assessment for individual developments	Described in Chapter 7, Geology
15.10	Modelling of hydrodynamics and sediment transport Avoidance of placement of devices in areas where sediment transport pathways are modelled as highly sensitive to change	Described in Chapter 8, Geomorphology. Proposed turbines would not be located in areas where sediment transport pathways are highly sensitive to change
15.11	Carry out potentially hazardous operations under appropriate weather/tide conditions Use low-toxicity and biodegradable materials Use minimum quantities Design for minimum maintenance	All requirements integrated into the Construction Environmental Management Plan in paragraph 8.5 There is currently no non-toxic material available for xxx. Instead, yyy will be carried out

3.4 Mitigation

The SEA(s)¹² may have proposed mitigation measures that are site specific or specific to particular types of development. This is particularly important for cumulative impacts such as climate change or habitat fragmentation that may not seem important at the individual project level but that accumulate over time in the plan or wider area. Where such measures exist, the EIAR should list these, possibly as a checklist, and show how the project has incorporated these measures. Where the project does not incorporate the SEA mitigation measures, the EIAR should explain why it has not done so, and, where relevant, propose a different way of mitigating the impacts. Table 3.1 shows an example based on Figure 2.5.

3.5 Monitoring

Where appropriate, project-level monitoring can contribute to filling data gaps identified at the SEA level. For example, monitoring cultural heritage and landscape may be more appropriately done at the project than the plan level, and so incorporated into the project EIAR. The incorporation of project monitoring data into a higher-tier GIS platform can feed back into subsequent SEAs, informing strategic monitoring indicators and targets (see also section 2.7).

3.6 Conclusion

The key messages of this section, and a tiering checklist for an EIA, are:

- The SEA ER can provide useful baseline data for the EIA.
- The SEA may have scoped issues in or out for the EIA, which can help focus the EIAR.
- The SEA alternatives should not be revisited in the EIA process, but used as a springboard to consider project-level alternatives.
- The EIAR should explain how the project fulfils the mitigation measures from the SEA ER (possibly via the plan) or, if it does not, why not.
- The SEA ER may highlight monitoring needed at the project level.

In brief, read the SEA ER as part of setting the context for the project, and refer to it as appropriate.

Tiering can also be bottom up: project EIAs can inform and influence higher-tier plans and SEAs. Other environmental assessments can also learn from previous EIARs, and use them to inform their cumulative impact assessments. To facilitate this transfer of information, and help to ensure that the EIA Portal is kept up to date, ensure that the EIAR is put on the project website *and kept there*.

¹² As noted in section 3.1, more than one plan may apply to a project, so an EIA may need to take account of mitigation measures from more than one SEA, e.g. county development plan and river basin management plan.

4 Setting the Framework for Effective Tiering

Although tiering can be improved for individual plans and projects (and their associated SEAs and EIAs), institutional issues can often set a context which restricts tiering. This section discusses some more overarching ideas for improving tiering.

4.1 Preventing Silo Assessment

Planning authorities often treat forward planning (and SEA) and development management (and EIA) as two distinct functions, managed by different teams. This division is often mirrored in other (sectoral) competent authorities and in consultancy environmental assessment teams. In addition, plans are prepared by public bodies and most projects by developers, further separating the purpose and interests behind these processes and their related assessments. Improved communication between plan/SEA and project/EIA teams – regular meetings, training events, or even having the teams work physically closer to each other – can encourage information sharing, cross-fertilisation of ideas and best practice, and potentially resource efficiency where data are shared or overlaps in assessments are eliminated.

4.2 Training

Training is essential to improving practice. The provision of information about how to improve tiering (as in this guidance note or at training events) would directly improve practice. More indirectly, making SEA planners and consultants aware of how project development works can help to ensure that higher-tier assessors “think” about how their plan and SEA set a framework for development control and project planning, and allow them to put forward more meaningful mitigation measures. Similarly, making project developers and EIA consultants aware of how the planning system and SEA work will help them to understand what aspects of the plan and SEA can

inform their EIA, to reduce duplication and the need for resources.

4.3 Front-loading the Assessment Process

Properly done, tiering is likely to increase the workload at the higher plan/SEA tier, in return for significant cost savings at the lower plan or project/EIA tier, and a more thorough consideration of cumulative impacts. SEA can scope issues out, provide data, reduce the consideration of alternatives, etc., for the lower tier SEA/EIA; and can better consider and propose mitigation measures for cumulative impacts. However, in turn, that is likely to require detailed consideration of specific development types or locations, which increases the workload of the SEA practitioner. This could be addressed by reconsidering SEA budgets and funding, particularly for plans/programmes that clearly set the framework for projects (e.g. land-use plans, wind energy strategies, transport plans). Ensuring that potential developers are engaged in the plan-making process, including the SEA process, can also help streamline issues and costings.

4.4 Spatial Data and GIS Support

GIS can help to manage the upwards and downwards flows of information between assessment processes. Centralising SEA and EIA data in a single online interface, such as the ESM Webtool (www.enviromap.ie), can support tiering by making environmental information accessible at various scales. It can also raise awareness of environmental issues at a given location, and enables trend analysis over time for the various planning hierarchies. Similarly, the incorporation of both SEA ERs and EIARs from different sectors (land use, transport, energy, fisheries, etc.) into a centralised database would facilitate access to assessment reports.

Abbreviations

EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ESM	Environmental Sensitivity Mapping (www.enviromap.ie)
GIS	Geographical Information Systems
SEA	Strategic Environmental Assessment
SEA ER	Strategic Environmental Assessment Environmental Report

AN GHNÍOMHAIREACTH UM CHAOMHNÚ COMHSHAOIL

Tá an Gníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaoil a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaoil a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: Déanaimid córais éifeachtacha rialaithe agus comhlionta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.

Eolas: Soláthraimid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírthe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.

Tacaíocht: Bimid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaoil atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaoil inbhuanaithe.

Ár bhFreagrachtaí

Ceadúnú

Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaoil:

- saoráidí dramhaíola (*m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistriúcháin dramhaíola*);
- gníomhaíochtaí tionsclaíoch ar scála mór (*m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta*);
- an diantalmhaíocht (*m.sh. muca, éanlaith*);
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe (*OGM*);
- foinsí radaíochta ianúcháin (*m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíochta*);
- áiseanna móra stórála peitрил;
- scardadh dramhuisece;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil

- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdarás áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhírú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a idíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaoil.

Bainistíocht Uisce

- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uisce idirchriosacha agus cósta na hÉireann, agus screamhuisecí; leibhéal uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaoil

- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil (*m.sh. tuairisciú tréimhsiúil ar staid Chomhshaoil na hÉireann agus Tuarascálacha ar Tháscairí*).

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn

- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis ceaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhar breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil

- Taighde comhshaoil a chistiú chun brúnna a shainathint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta

- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaoil in Éirinn (*m.sh. mórfheananna forbartha*).

Cosaint Raideolaíoch

- Monatóireacht a dhéanamh ar leibhéal radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as tairmí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas

- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaoil ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaoil (*m.sh. Timpeall an Tí, léarscáileanna radóin*).
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosaint agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta

- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil

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

- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltáí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair inní agus le comhairle a chur ar an mBord.

Authors: Riki Thérivel and Ainhoa González Del Campo

Identifying Pressures

Strategic Environmental Assessments (SEAs) aim to identify and mitigate environmental impacts resulting from the implementation of plans and programmes (e.g. county development plans, wind energy strategies). Environmental Impact Assessments (EIAs) aim to do the same for projects (e.g. residential or windfarm projects) before planning permission is given. In theory, SEAs should set the context for, and inform, EIAs so that environmental considerations trickle down for environmental protection on the ground. EIAs could also provide data for SEAs, enhancing the evidence-base for strategic assessments and decisions. However, in practice, the lack of communication and links between SEA and EIA impede achieving the benefits of tiering. SEA data are rarely used in EIAs; SEA alternatives are sometimes referred to in EIAs but could set a clearer structure; SEA mitigation measures are generally not written with EIAs in mind and are rarely referred to in EIA Reports; and EIA monitoring rarely feeds back to SEAs. This reduces the effectiveness and efficiency of both SEAs and EIAs.

Informing Policy

Better tiering allows strategic-level alternatives and public concerns to be better addressed at the strategic scale, so that these issues do not need to be revisited for each subsequent project. It allows urgent issues such as climate change and biodiversity loss, which require a strategic response, to be better considered in individual projects. It can allow strategic decisions for large-scale development to be made early on – for instance protecting strategic development sites from inappropriate development. SEA may also be able to restrict the scope of subsequent EIAs, saving time and resources. Although this all involves more work at the SEA stage, it can reduce the workload at the EIA stage, and help to ensure that plans and environmental objectives are better implemented.

Developing Solutions

This *Guidance on SEA-EIA Tiering* aims to improve the links between SEA and EIA, using a range of good practice examples. It focuses on improving communication between SEA and EIA: getting SEA practitioners to write SEAs with EIAs in mind, and EIA practitioners to refer to SEAs in their EIA Reports. It shows how:

- data can be better shared between SEA and EIA, for instance by using GIS;
- SEA alternatives can better set a context for EIAs, and reduce the need for EIAs to consider strategic-level alternatives;
- SEAs can set mitigation measures for strategic level and cumulative issues like climate change, which are more difficult to set on a project-by-project basis;
- SEAs can help to determine what issues the EIAs should cover; and
- project-level monitoring can feed back to future SEAs, improving the next round of plan-making.

It also identifies institutional issues that can set a context which restricts tiering, including 'silo assessment', lack of training, and restrictive legal requirements.