Latvia

Guidance to SEA in practice

Capacity building in the fields of Strategic Environmental Assessment and Natura 2000 in Latvia

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About the Guidance Manual

This Guidance Manual provides an overview of most recent practical experience in Strategic Environmental Assessment (SEA) in Finland and other EU member states. It is prepared as part of the Finnish – Latvian joint project Capacity building in the fields of Strategic Environmental Assessment and Natura 2000 in Latvia

The Guidance Manual is developed to cover briefly the background of SEA and general principles and approaches, and go further into the procedures (screening, scoping, SEA report, consideration of alternatives, monitoring etc.) The procedural part will describe the principle steps of the procedure and the Latvian legal requirements therein.

The contents of the assessment section of the Guidance Manual will cover topics of baseline information, assessing the impacts (impact prediction, analysis and determination of significance) and preparation of the SEA report.

Quality control will be one of the discussed topics and public participation as well. Also, decision making and monitoring arrangement will be covered.

Finally the section of frequently asked questions (FAQ) will summarize and try to answer any problematic SEA issues that have risen during the project time.

The Guidance Manual deals also with Natura 2000 assessment in parallel with the assessment of other plans and programmes.

The structure of the manual is designed so that the main body text contains a brief description on the topic and more practical experiences and explanations are found from the annexes.

Foreword

From 21 July 2004, SEA is required under Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment' (the 'SEA Directive') in all European Union Member States. The SEA Directive is intended to help protect the environment and promote sustainable development. It involves predicting, evaluating and mitigating the environmental impacts of plans and programmes, thereby integrating environmental considerations into strategic decision-making and eventually improving plans and programmes.

This Guidance Manual is not intended to be conclusive, but rather provides an overview of the general progress that has been made on SEA implementation to date. It particularly aims to:
- highlight key points of SEA implementations;
- highlight good SEA practice;
- raise awareness among national authorities, other interested bodies and NGOs on the need to take a proactive approach in applying SEA;

With several consultants from Finland and Latvia involved in the preparation of this Guidance Manual, we believe that guiding principles and recommendations given can help to improve the implementation of the SEA Directive.

We also point out, that a lot of experiences have been reported and guidelines prepared within EU in recent years. This guidance owes a lot to this international development work. When ever we quote to works of other writers the source has been shown.

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1. What is SEA?

Definition

Strategic Environmental Assessment (SEA) can be defined as an analytical and participatory approach that integrates environmental considerations into plans and programmes and evaluates the inter linkages with economic and social considerations.

Moreover, SEA is a process which is implemented in parallel with preparation of plan or programme that is prepared by authorities. The main objectives of SEA are to support the preparation and implementation of the plan or programme, to advance the public discussion on the plan or programme and to produce information of the impacts of the plan or programme and the alternatives therein. SEA supports cooperation of the stakeholders of and it is precautious.

Legislation

This guidance is not intend to be as an interpretation of the Law, but should be read in conjunction with the SEA directive and Latvian Laws and Regulations which transpose it into national legislation:

- Environmental Impact Assessment (EIA) Act of 1998;
- Cabinet of Ministers Regulations on procedure for conducting SEA, 23. March 2004;
- Environment Protection Act of 29. November 2006;
- Administrative Law of 21. October 2001
- Cabinet of Ministers Regulations on procedure for conducting Natura 2000 assessment, 6 June 2006

For further information link to the State Environment bureau web page: http://www.vidm.gov.lv/ivnvb/Lsivn.htm

2. Legally required steps of the SEA process

The strategic environmental assessment *process* means assessment of the environmental impacts of a plan or programme, including preparation of an environmental report, carrying out consultations, taking into account the environmental report and the results of consultations in decision-making, and the provision of information on the decision.

The formal steps of the SEA procedure, required by the EIA Act include:
1. the written submission to the competent authority, in case the plan or programme might be subject to SEA
2. competent authority decides whether SEA is required or not and informs the public about the decision and it's reasons
3. developer consults the competent authority about the level of detail of the environmental report
4. preparation of the environmental report
5. informing public and relevant authorities of the environmental report and the draft plan or programme
6. after receiving the comments of public and relevant authorities developer updates the environmental report
7. developer submits the updated environmental report together with the received comments to the competent authority
8. the competent authority provides it's opinion on the environmental report. If the report is not in conformity with legislation, the plan or programme causes unjustified impact on human health or the environment or the procedure has shortcomings the competent authority sends the environmental report for revision to the developer
9. the developer informs the public of the acceptance of the plan or programme

In addition to these steps there are more requirements when the plan or programme has impact to the territory of an other EU member state. **See annex 2.1 on transboundary SEA**

The legal requirements should be kept in mind when planning the SEA. **See annex 2.2 on legal steps**. However practical steps of the preparation of the environmental report include far more tasks that are dealt with below. Further information about legal procedure can be found from the home page of the competent authority for SEA, which is the State Environment Bureau: **http://www.vidm.gov.lv/ivnvb/Lsivn.htm**

3. Practical tasks in SEA

3.1 Screening

The process of deciding whether a plan or programme requires SEA is called screening. The criteria for this decision are defined in the Environmental Impact Assessment Act and Cabinet of Ministers Regulations on procedure for conducting SEA.

Definitions
The SEA Directive applies to both plans and programmes, but neither of these terms is defined in the SEA Directive. In Latvia the term "planning document" is used instead, which covers not only plans and programmes but also other strategic documents. According to the EIA Act it has been decided that SEA will apply to the following types of planning documents: plans, programmes, conceptions and strategies. Since the meaning of these terms is a matter for country specific determination the following definitions are provided below:

Plan: Timely organised schedule of commitments or activities in a particular area, that implements a policy or programme.

Programme: A set of co-ordinated priorities, timed objectives, tasks and measures for the implementation of the policy in a particular area.

Conception: A set of necessary activities to be undertaken for solving a particular issue or problem. Conception is to be elaborated before initiating a new legal act.

Strategies: no definition is provided

EIA Act Article 4 describes the scope of the SEA Directive. In this context, a mandatory (paragraph 3) and a non-mandatory scope (paragraphs 4 and 5) are to be differentiated:
SEA shall, in accordance with regulatory enactments or other provisions, be performed for planning documents, as well as for such documents related to the utilisation of European Union co-financing and the amendments thereof if the relevant planning documents are formulated or adopted by the *Saeima*, the Cabinet of Ministers', a local government, a State or local government authority:

1) in the area of agriculture, forestry, fisheries, energy, industry, transport, waste management, management of water resources, telecommunications, tourism, extraction of mineral resources and for the planning documents which are related to regional development, land use, territorial planning and include the basic requirements for implementation of the intended activities provided for in Annex 1 or 2 of the EIA Act;

2) which may have a significant impact on areas of European significance (NATURA 2000), except for planning documents which determine the requirements for nature protection and management and the measures in relation to such territories.

The Cabinet of Ministers Regulations on procedure for conducting SEA provide a list of planning documents for which the SEA is always obligatory.

1. national-level planning documents (hereinafter — national planning document):
1.1. strategies, plans and programmes of sectoral policy;

1.2. conceptions that refer to several of the fields referred to in Section 4, Paragraph 3 of the EIA Act; and

1.3. the national plan (spatial development perspective of Latvia);

2. regional or local level planning documents:

2.1. regional or local level development strategies, plans or programmes;

2.2. regional or local level sectoral policy planning documents that refer to the planning of the entire sector;

2.3. spatial plans of cities of Latvia and districts; and

2.4. planning documents related to the development of ports.

However also other plans or programmes may be subject to SEA. With these the decision is made case by case, based on the screening criteria.

According to the EIA Act Article 4 paragraph 4 and 5:

SEA shall be performed for planning documents in areas which are not referred to in the EIA Act Article 4 paragraph 3 if they include the basic requirements for the implementation of intended activities and the implementation of planning documents may have a significant impact on the environment.

SEA of the planning documents referred to in Paragraph 3 of the EIA Act of article 4 which are related to the use of small territories on the local government level, as well as for small technical amendments of the planning documents referred to in Paragraph 3 of this Article shall not be performed, except for cases where the implementation of such documents may have a significant impact on the environment.

Cabinet of Ministers Regulations on procedure for conducting SEA describes how the significance of effects resulting from planning documents mentioned above may be assessed. This is done through case-by-case examination approach. General decision as to whether certain types of plans and programmes are likely to have significant environmental effects is taken by the State Environment Bureau.

The significance criteria identified in the Article 23.2 of the EIA Act have to be taken into account in all cases.

Prior to submitting the application form to the State Environment Bureau the developer shall consult (taking into account the type of the planning document, the field of its implementation and the territory that might be significantly affected by the implementation of the planning document) with environmental and public health institutions and the appropriate regional environmental board, as well as the Nature Protection Council or the administration of a specially protected nature territory and the relevant branch of the Public Health Agency regarding the possible impact of the planning document on the environment, human health, as well as the necessity for the SEA.

Practical information on screening is found from **annex 3.1.1** which includes the flowchart for screening and explanations of the screening criteria. For cases that might influence a Natura 2000 site, see **chapter 7** and **annex 7.1** additional information on screening.

3.2 Planning the SEA

When the decision is taken that SEA shall be applied to the plan or a programme the next step should be the planning of the assessment. According to EIA Act the SEA should be started as early as possible in the preparation of the plan or programme and therefore planning of SEA should take place simultaneously with planning the procedure of preparing the main document. Since each plan or programme is different, the ways SEA is implemented in each case vary. For this reason the assessment should be tailor made for each plan or programme and the need to plan SEA process must be recognized. However, there are certain basic principles how to tailor the SEA as there are some common steps that must be followed because of the legal reasons.

3.2.1 Integrating SEA and procedure of preparing the plan or programme

There are several different ways how to organize SEA. External consultant may be used to perform the whole SEA, the assessment may be done by the developers own staff or combination of these can be applied. More about integrating SEA and the preparation of the plan or a programme is found from **annex 3.2.1**

3.2.2 Identifying the type of plan or programme and choosing the approach

Different plans and programmes are different by type. This affects to the approach and method / techniques which can be applied to the assessment. The plans or programmes may be policy oriented, project oriented of bound to some physical area. Different approaches that can be used for the assessment are objective led appraisal, impact led appraisal and baseline led appraisal. Quite often in practice the assessment is combination of these. More information about the types of plans and programmes and the approaches is in **annex 3.2.2.**
More information and a checklist for planning the SEA is found from **annex 3.2.3**

3.3. Scoping

Scoping is the process of deciding the scope and level of detail of an SEA, including the environmental effects and alternatives which need to be considered, the assessment methods to be used, and the structure and contents of the Environmental Report. Scoping includes consulting of relevant authorities and often public.

The principal aims of scoping are

- to determine the contents of the environmental impact assessment report, its scope and the topics that shall be investigated in it
- to ensure that significant environmental impacts will be extensively investigated in the report
- to determine the alternatives that are assessed
- to provide incentives for considering negative environmental impact prevention and mitigation measures
- to plan the methods that will be used to predict environmental impacts of the proposed activities
- to facilitate further procedures concerning the preparation of the plan or programme

Determining the significance of impacts and developing alternatives often is done with help of different methods and techniques. Additional information on scoping is available in **annex 3.3.1.** Some useful information sources are given in **annex 3.3.2.**

The legal requirements for the scoping stage can be found from the **link of the State Environment bureau web page: http://www.vidm.gov.lv/ivnvb/Lsivn.htm**
For cases that might influence a Natura 2000 site, see chapter 7 and annex 7.2 additional information on scoping.

3.4 Preparation of the environmental report

The environmental report is the key product of the SEA process. There are certain legal requirements for the contents and form of the report. The legal requirements for this stage can be found from the **link of the State Environment bureau web page: http://www.vidm.gov.lv/ivnvb/Lsivn.htm**

The purpose of the report is to present information on the effects of the draft plan or programme and to serve the public consultations.

Information to be provided in the Environmental Report includes:
• the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. These effects should include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative effects
• an outline of the reasons for selecting the alternatives dealt with
• the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.

The contents of the report is described in more detail in **annex 3.4.1**

Usually different methods and techniques are used in the assessment. In principle, the analysis of the environmental impacts consist of three steps, which are

- Identification of impacts
- Qualitative assessment of which impacts are the most significant
- More or less advanced qualitative and/or quantitative analysis of impacts

More information about the methods and techniques to perform these tasks can be found from a**nnex 3.4.2**

For cases that might influence a Natura 2000 site, see chapter 7 and annex 7.3 additional information on the contents of the report.

4. Whom to involve?

Involving people in decision making is not an end in itself. Its main purpose is to improve decision-making by ensuring that:
- decisions are soundly based on shared knowledge, experiences and scientific evidence
- decisions are influenced by the views of those who are likely to be affected
- innovative and creative options are considered
- new arrangements are workable and acceptable to stakeholders.

Consultations are an important part of SEA and also required by EIA Act. This includes informing the authorities and the public and providing them an opportunity to comment the assessment at certain stages. The minimum requirements are that the public is informed about the decision to require or not to require SEA and the competent authority is consulted about the contents (scope) of the assessment. The public and relevant authorities must be informed and their comments asked of the environmental report and the draft plan or programme. When the plan or programme is adopted, the relevant authorities and public must be informed of this decision. For certain plans and programmes, earlier and wider participation can help to identify what matters to people and facilitate an effective and inclusive process.

In case the plan or programme has transboundary impacts to other countries their authorities and public must be consulted as well. The legal requirements for this stage can be found from the **link of the State Environment bureau web page: http://www.vidm.gov.lv/ivnvb/Lsivn.htm**

For practical guidance on participation see **annex 4.1.** In **annex 4.2.** there is a checklist for participation.

5. What to do with the SEA results?

The SEA procedure contains two types of decisions:
1) administrative decisions
2) process/contents decisions

The results of the assessment should contribute to these decisions. Therefore the form how the information is given and the contents should be designed so that it best serves the target group.

The administrative decisions are legally defined decisions which can be appealed. These are for example the screening decision and in many cases the decision to approve the plan or programme.
The screening decisions can be found from the **link of the State Environment bureau web page: http://www.vidm.gov.lv/ivnvb/Lsivn.htm**

The developer must inform the public and relevant authorities about administrative decisions.

Process decisions are internal decisions of the developer about the process; the integration of the assessment with preparation of the plan or programme, choice of SEA approach, choice of methods, time tables, etc. These are decisions that nobody can appeal on.

6. How to arrange monitoring?

Monitoring of the environmental effects of a plan or programme is performed to find out whether the implementation of the plan or programme causes any unforeseen impacts and to determine whether remedial actions are needed to be undertaken. Monitoring should be planned early in the preparation of the environmental report and the plans should be documented in the report. It is important that monitoring is considered when the baseline data is being collected.

When monitoring is planned a framework may be worked out. Typically this covers questions like: What needs to be monitored? What sort of information is required? What are existing sources of monitoring information? Gaps in monitoring information. Actions if adverse effects are recognized. Division of responsibilities. How to present the monitoring results.

In order to ascertain the direct or indirect environmental impact from the implementation of a planning document, or any environmental impact previously unforeseen in the environmental account, as well as, if necessary, in order to make amendments to the planning document, the developer, taking into account the opinion of the State Environment Bureau regarding the environmental report, shall perform monitoring of the implementation of the planning document.

Developer for the purpose of the monitoring could use official statistical data, information obtained while performing environmental monitoring, as well as other information available to the developer.

The developer should draw up a monitoring report and submit it to the State Environment Bureau within the time period specified in the opinion regarding the environmental report. The monitoring report shall compile the available information and contain a characterisation of changes in the state of the environment related at least to the implementation of the planning document and trends thereof.

The monitoring requirements can be found from the **link of the State Environment bureau web page: http://www.vidm.gov.lv/ivnvb/Lsivn.htm**

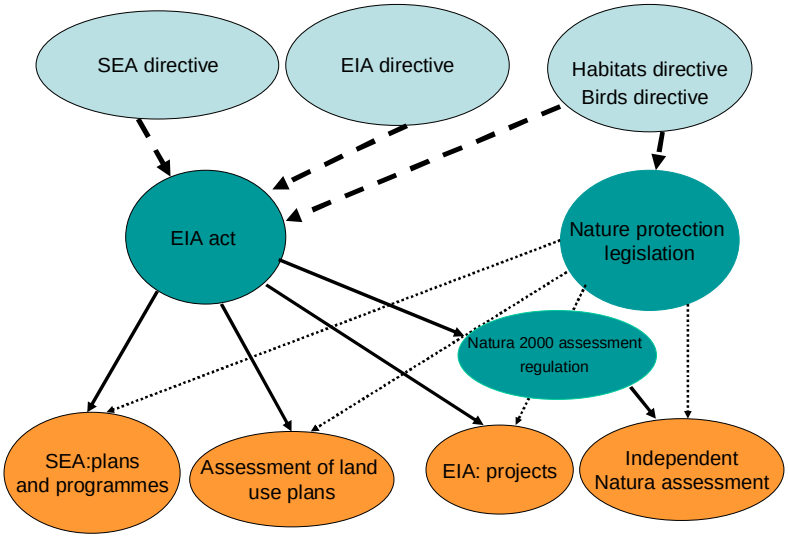
In **Annex 6.1** there is further information on monitoring.

7. Natura 2000 and SEA

EIA Act Article 4 stipulates that SEA is required of such plans and programmes which may have a significant impact on areas of European significance (NATURA 2000), except for planning documents which determine the requirements for nature protection and management and the measures in relation to such territories.

Moreover, if the intended activity may have a significant impact on areas of natural sensitivity of European significance (NATURA 2000) EIA is needed.

Below is shown a diagram on legislation stipulating Natura 2000 assessments
More information on Natura 2000 assessments is found in **annex 7**.



8. Quality control

One of the most important quality measures in the SEA are proper consultations where all the interested parties may review what is important from their point of view and communicate their findings to the developer. Quality questions may concern the process of SEA or the contents i.e. the report. To help the stakeholders to review the environmental report and to evaluate the SEA process quality control checklists have been developed. Usually they cover the content issues and the procedural steps of SEA. Quality control check list is presented in **annex 8.1**

9. Frequently asked questions

For frequently asked questions see **annex 9.1.**

Annexes

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Annex 2.1 transboundary SEA

Procedures for Notification of other States in case of likely significant transboundary impact

According to the Cabinet of Ministers Regulations on procedure for conducting SEA:

1. Subsequent to the receipt of the draft Environmental report State Environment Bureau shall evaluate whether in implementing the planning document a significant transboundary impact is possible. If a significant transboundary impact is possible, the Bureau shall notify in writing thereof the developer, the Ministry of the Environment, the Ministry of the Interior and the Ministry of Foreign Affairs, as well as other interested bodies and local governments.

2. Subsequent to co-ordination with the Ministry of the Environment and the Ministry of Foreign Affairs, the Bureau, prior to submission of the planning document for adoption, shall forward to the state which might be significantly affected by the implementation of the planning document the following documents (in the language agreed with the affected state):

- a written statement regarding the planning document as a result of the implementation of which a significant transboundary impact is possible; and
- the draft planning document and Environmental report.

3. The statement referred to above shall specify:

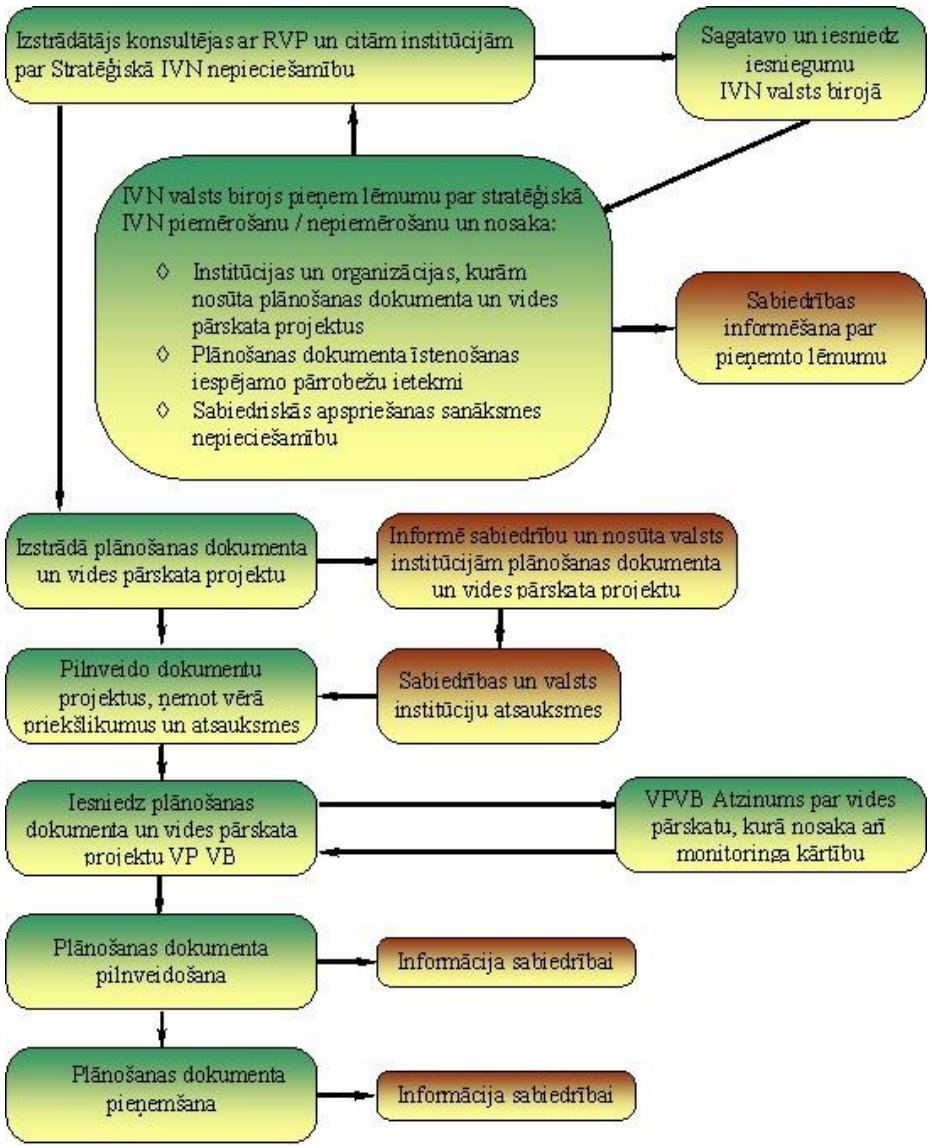
- information regarding the planning document as a result of implementation of which a significant transboundary impact is possible (title, developer, field to which the planning document relates, time period for development, duration of implementation, territory which might be affected by the implementation of the planning document); and
- information as to when and where the affected state may provide a response regarding its participation in the SEA, as well as submit proposals regarding measures for the reduction of the transboundary impact.

4. If a written request has been received, the Bureau shall forward the documents referred to above to the state which has requested the relevant information and which might be significantly affected by the implementation of the planning document.

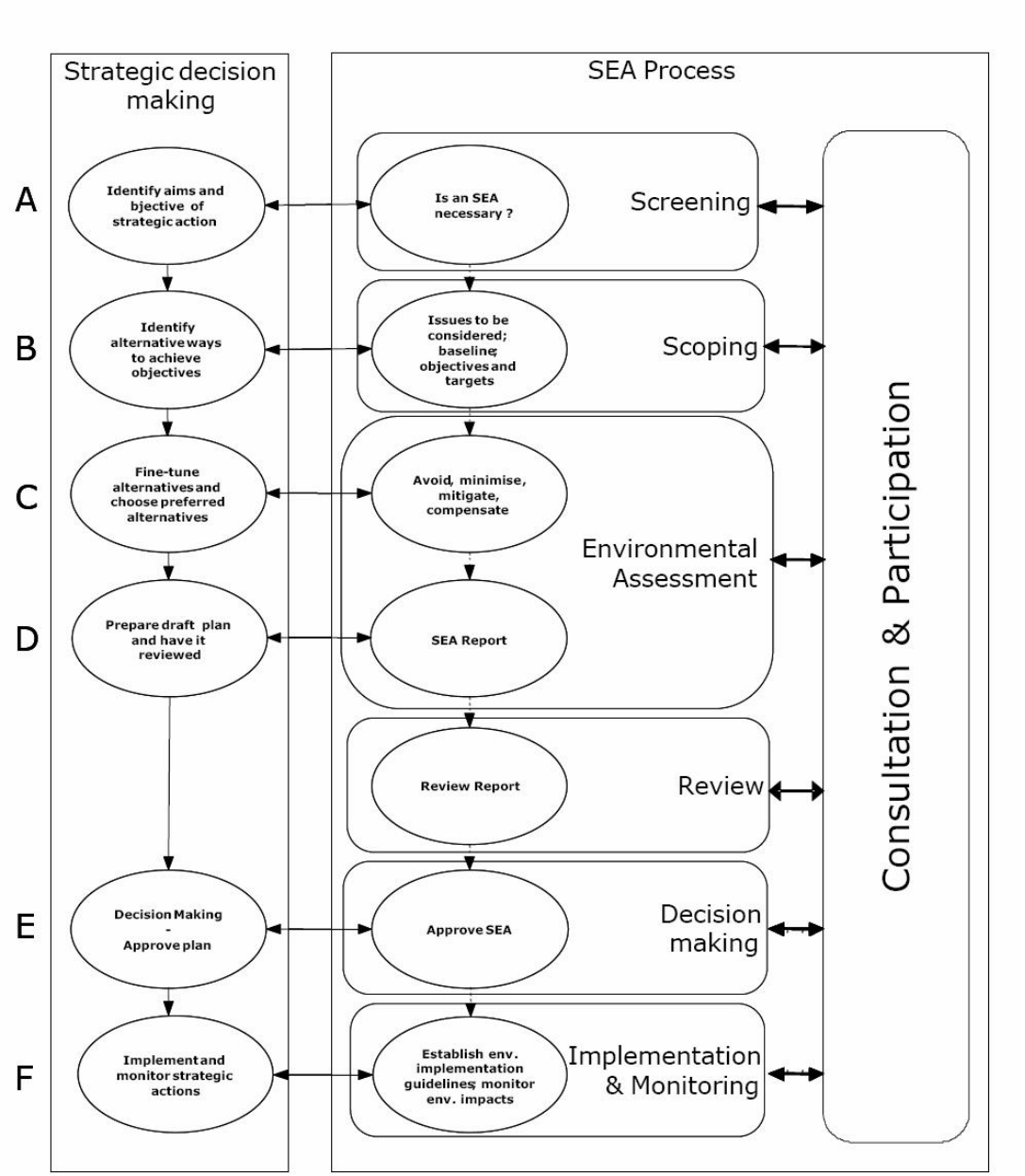
5. Subsequent to co-ordination with the Ministry of the Environment, the Bureau, in co-operation with the competent authority of the state which has decided to participate in the discussion of the planning document, shall determine the procedures by which the interested bodies and the public of the referred to state may become acquainted with the information referred above and submit proposals to the Bureau and the developer prior to the adoption of the planning document.

Annex 2.2 flowchart of legal steps

This SEA procedure can also be found from the **link of the State Environment bureau web page: http://www.vidm.gov.lv/ivnvb/Lsivn.htm**



Annex 2.3 General flowchart of tasks in SEA process



Schmidt, M., João, E. and Albrecht, E. (2005) (Eds.): Implementing Strategic Environmental Assessment. Environmental Protection in the European Union, Volume 2. 742 pages. Heidelberg: Springer Verlag

Annex 3.1.1 screening

The SEA Directive and the EIA Act provide for screening, i.e. the determination of the significance of the environmental effects of plans and programmes, in the following cases:

- new plans and programmes that determine the use of small areas at local level (according to the Article 4 para 3 of the EIA Act)
- modification of plans and programmes that determine the use of small areas at local level (according to the Article 4 para 3 of the EIA Act)
- minor modifications of plans and programmes (according to the Article 4 para 3 of the EIA Act)
- all new plans and programmes according to Article 4 para 5 of the EIA Act
- all modifications of plans and programmes according to the Article 4 para 5 of the EIA Act

The screening decision should be based on screening criteria:

1) the nature of the relevant planning document, taking into account:

a) to what extent the planning document includes preconditions for the implementation of intended activities, projects and other activities, taking into account the choice of location, the type and amount of the activity, the operating conditions and the use of resources,

b) to what extent the planning document shall influence other programming documents which are at various levels of planning,

c) the relation of the planning document to the inclusion of environmental requirements in the planning documents of other sectors, particularly in order to promote sustainable development,

d) the environmental problems related to a particular planning document, and

e) the relation of the planning document to the introduction of the provisions of the regulatory enactments of Latvia and the European Union in the area of the environment, especially in the area of waste management and the protection of water resources;

2) characterisation of the territory subject to the possible impact, taking into account:

a) the probability, duration, frequency and reversibility of the consequences of the impact,

b) the cumulative effect of the impact,

c) the nature of the transboundary impact,

d) the hazards to human health or the environment, as well as the risk of accidents, and

e) the amount and spreading of the impact, taking into account the size and number of inhabitants of the territory subject to the possible impact,

3) the vulnerability and specific characteristics of the territory subject to the possible impact, taking into account:

a) the measure of characteristics of natural conditions,

b) the impact on cultural monuments,

c) the existing or possible exceedances of the norms for environmental quality, and

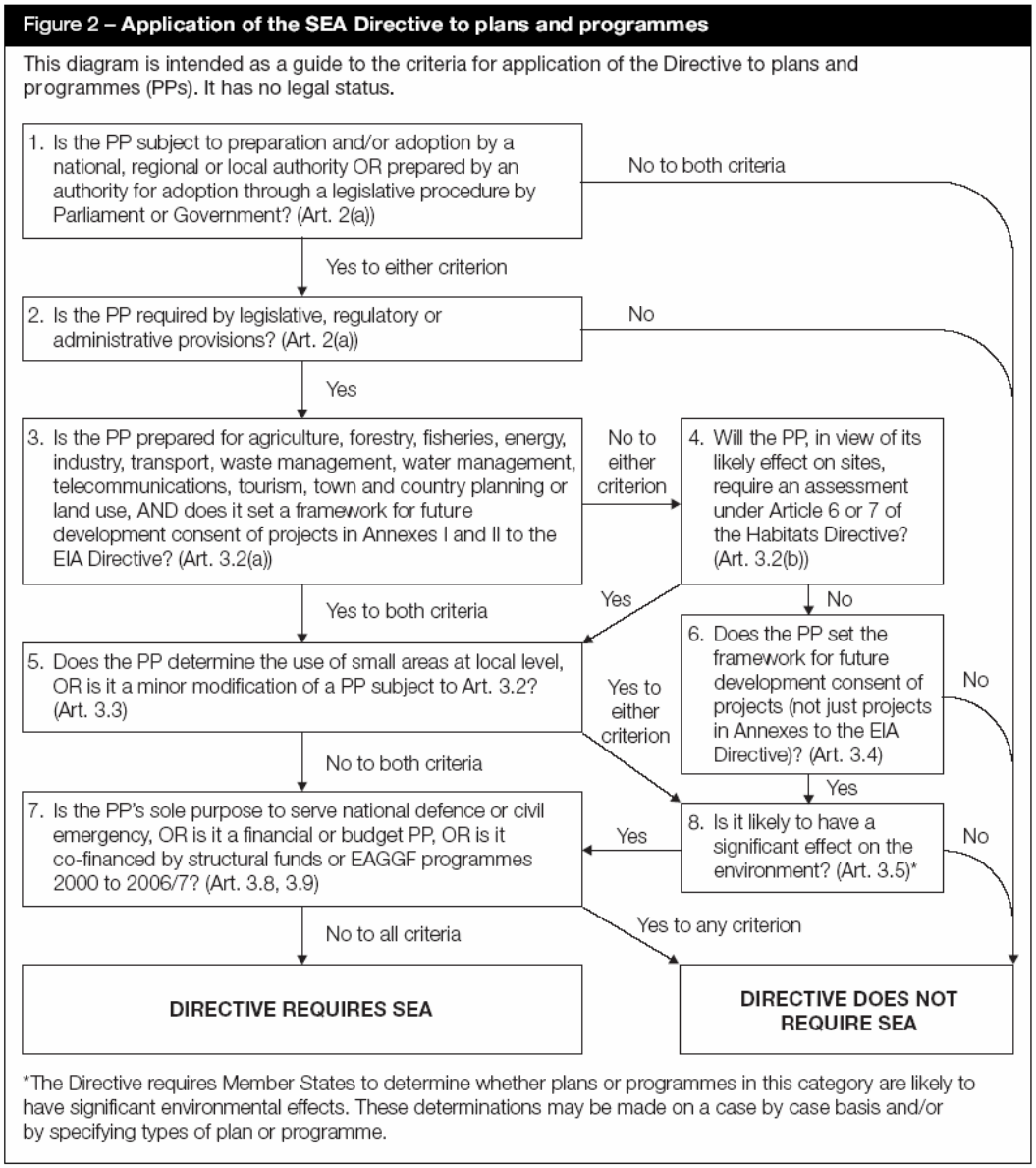
d) the type and intensity of the use of land;

4) the impact of the implementation of the relevant programming document on:
   a) areas of particular natural sensitivity, wetlands of international significance, micro-reserves, the protective coastal zone of the Baltic Sea and the Gulf of Riga, protective zones of surface water bodies, and
   b) specially protected species, the habitats and specially protected biotopes thereof.

All the criteria set out here have to be taken into account in each and every case. With regard to the differing relevance of the criteria, i.e. with regard to the importance and weight attributed to them, flexibility is possible only in individual cases taking into consideration the characteristics of specific plans and programmes or, if applicable, certain types of plans and programmes.

More information about screening methods could be found from the following link:
http://www.unece.org/env/eia/documents/austrian_sea_screening.pdf

The screening flowchart based on the SEA directive is shown below:



(A Practical Guide to the Strategic Environmental Assessment Directive, September 2005 Office of the Deputy Prime Minister (www.odpm.gov.uk))

Annex 3.1.2 List of plans and programmes which are subject to SEA

The Cabinet of Ministers Regulations on procedure for conducting SEA provides a list of plans and programmes for which the SEA is always obligatory:

1. national-level planning documents (hereinafter — national planning document):
1.1. strategies, plans and programmes of sectoral policy;
1.2. conceptions that refer to several of the fields referred to in Section 4, Paragraph 3 of the EIA Act; and
1.3. the national plan (spatial development perspective of Latvia);
2. regional or local level planning documents:
2.1. regional or local level development strategies, plans or programmes;
2.2. regional or local level sectoral policy planning documents that refer to the planning of the entire sector;
2.3. spatial plans of cities of Latvia and districts; and
2.4. planning documents related to the development of ports.

Annex 3.2.1 integration of SEA and planning process

Integrating SEA and planning

An other aspect in planning the implementation of SEA is the integration of planning and assessment. First comes the question who does the actual assessment work. Some planning authorities use their own staff to do the assessment while some others hire an outside consultant for SEA.

There are pros and cons for both solutions. If the assessment is done by own staff the advantage is that the assessment process is often more closely connected to preparation of the plan or programme. This gives the assessment team a possibility to react immediately to any new ideas and drafts produced by the planners and the assessment is implemented "on the road" not just at some formal steps. However, there might be criticism that the assessment is not impartial and objective and the assessment team is following too much the comments / requests of the planning team.

Using outside experts or consultants might make the assessment look more independent and objective. But this is not necessary true, since the planning organization is paying for the work done anyway. Use of outside experts usually makes the process more formal, since the terms of reference for the expert needs to be settled. Which ever way is chosen this choice must be taken into consideration when planning the assessment process.

Integration of the planning process and SEA process is also one of the key questions. One option is to do the assessment aside planning, which means that the assessment team is very closely working with the planning team and giving constantly comments / making fast assessment of each of the new ideas or alternatives. The other option is that the assessment team is only doing assessment work on documented drafts but not interfering in between.

Many practical examples have shown that the aside planning approach is more effective and serves better the planner in improving the plan or programme than the formal approach. However, documentation of the assessment needs then special attention, since an outsider does not necessary see the results of the assessment as well as in a more formal way. The minimal approach in integration of the SEA and planning process is that the assessment team evaluates the draft programme and the pre-final programme and produces reports on them. However, practical experiences have shown that this approach does not serve the panning work very well, nor influences the plan or programme very much. It merely points out the most crucial mistakes and helps to avoid them.

More information is available in an EU commission report:
http://ec.europa.eu/environment/eia/sea-studies-and-reports/sea_integration_main.pdf

Annex 3.2.2 different types of plans and programmes and SEA approaches

Types of plans and programmes

Plans and Programmes with policy orientation
First type of programmes have a clear policy orientation. The focus is more or less in the choice of line of action. Typically these kinds of programmes are not bound to any certain location, they may be nationwide decisions which direction to choose. Some examples of this type of programmes are energy programmes, which determine which kinds of energy production mode (wind, solar, hydro, conventional, nuclear) is supported and which are not. Other examples could be waste management strategies that focus on different ways of handling waste (source separation centralized separation, incineration, landfill, recycling fractions and rates etc.., but do not yet discuss the locations of the waste amangement sites. These programmes differ from policies in that they set up a framework for projects (that might need and EIA) and hence are in the scope of the SEA directive.

Plans and Programmes with project orientation
Some plans and programmes have a clear project orientation; they include one or several projects to be assessed. The focus of these types of plans and programmes is on a question which alternative projects to choose for development. They differ from project level EIA's in a way that they are comparing several projects and maybe different project types. Examples of this type of plans and programme are e.g.. harbour programme of a country or region, which is deciding which alternative places (in a regional scale) should be developed as harbours or transport plans, which purpose is to determine which mode or transport should be selected for certain transportation need (e.g. taking care of transportation of goods between two major cities either using waterways, railways or road transportation and hence directing the investments to certain projects). It is evident that in this types of plans and porgrammes the impacts can be much better be foreseen than in policy oriented plans and programmes.

Area bound Plans and Programmes
Land use plans and programmes which deal with natural resources are often bound to certain are or location. In this type of plans and programmes the future development projects are not necessarily known at the planning stage. Typical representatives of this type of plans and programmes are forestry plans, which determine the use of certain areas for certain purposes (intensive forestry, protected area, recreational use etc.).

SEA approaches

Objective led appraisal
Objective led appraisal means that the objectives of the plan or programme are evaluated against some environmental objectives. Further on more detailed levels of the plan or programme are checked against the environmental objectives. The environmental objectives may be taken as granted from a set of generally approved environmental objectives for example the EU 6th environmental action plan or the National Programme for Sustainable Development. Other possibility is to formulate a set of specific environmental objectives which have relevance for the sector or area of the plan or programme.

Objective led appraisal is often used in assessment of policy oriented plans and programmes. It is natural, since this type of plans or programmes seldom have concrete projects included and they are not necessary connected with certain geographical area. This

makes it difficult to assess the impacts since the projects are not known and the natural conditions are not known. However the assessment of objectives reveal to what extent the environmental concern has been taken into consideration in the plan or programme.

The methodology used in objective led appraisal is often matrixes and tables, which show the interconnection of environmental objectives with the objectives of the plan or programme. Quite often the institutional structures are also analyzed, since they are setting the framework for implementation of the plan or programme and either rule out or make possible the implementation of environmental objectives. If the plan or programme is hierarchical the matrixes should evaluate all levels of hierarchy.

Impact led appraisal

Impact led appraisal is often used in the assessment of project oriented plans or programmes. This approach is also sometimes called EIA approach. The key point is that the projects and sometimes even the locations of the projects are known in the course of preparation of the plan or programme. However the document itself is strategic by its nature since it compares several projects and might include even different project types.

In impact led appraisals the methodology used is mainly traditional EIA methodology i.e. assessing impacts of different projects / project types included into the programme. If the locations of these projects are known the baseline data on the environment is used.

Baseline led appraisal

Baseline led can be used in the assessment of plans and programmes which are bound to certain geographical area. The idea is take the environmental conditions as the leading factor in the assessment. Deriving from the baseline data, conclusions can be made, what kind of activities can be allowed in the chosen environment. This approach is most often used in assessment of land use plans or plans or programmes which are dealing with natural resource management of certain geographical area, such as forestry plans, river basin management plans, mining plans etc..

The methodology often used in baseline led appraisal, especially in land use planning is often GIS-based map overlay. A prerequisite for the use of this approach is that there is monitoring data available on the planning area.

How to choose the approach

As was stated before, different plans and programmes call for different approach and methodology. In policy oriented p&p it is very difficult to use any other than objective led appraisal. The impact led appraisal is ruled out, since there are not necessary concrete projects for which the impacts could be identified. The baseline led approach is ruled out, since the specific site and environment is not known at the time of appraisal.

In project oriented plans and programmes any of the three approaches may be used. The projects are known so the concrete impacts can be determined. However, the objective led appraisal may be used as well since any plan or programme contains the objectives that can be evaluated against the environmental objectives. The choice then depends on the resources. It is clear that identifying and assessing impacts of the several projects included into the programme means multiple work compared to project level EIA. If the projects will need an EIA anyway, the SEA may stay on a more general level in assessing impacts. If the locations of the projects are known, the baseline led approach may be used as well. However the question of resources and availability of data is in a key role in deciding whether to apply this approach. A combined approach may be used also, but it should be evaluated, which approach best serves the objectives of the assessment.

In area bound plans and programmes either objective led or baseline led appraisal may be applied. The choice depends on the planning style; for example German land use planning tradition is much more physically oriented than the British one. Therefore the Germans use more often the baseline led approach, whereas the British land use planning tradition is more policy oriented and the objective led approach is commonly used. In assessment of land use plans it is often difficult to use impact led approach, unless the plan is so detailed that the projects to be located are already known.

The assessment cost vary of course depending on the plan or programme. However, a general notion is that objective led appraisal is often less costly than impact led and baseline led approaches. The cost of impact led appraisal depends how well the impacts of the projects included in the plan or programme are known beforehand. In baseline led approach the availability of data makes a great deal of the costs. If the (monitoring) information is readily available in database of GIS form the cost is not necessary high. But if the GIS system does not exist and the baseline data must be collected in the course of the assessment this approach may be very expensive.

Annex 3.2.3 planning the SEA

Since each plan or programme is different, the ways SEA is implemented in each case vary. For this reason the assessment should be tailor made for each programme and the need to plan SEA process must be recognized. However, there are certain basic principles how to tailor the SEA as there are some common steps that must be followed because of the legal reasons. One should also note, that the choice of approach is closely connected to the choice of assessment methodology.

Checklist for planning the assessment

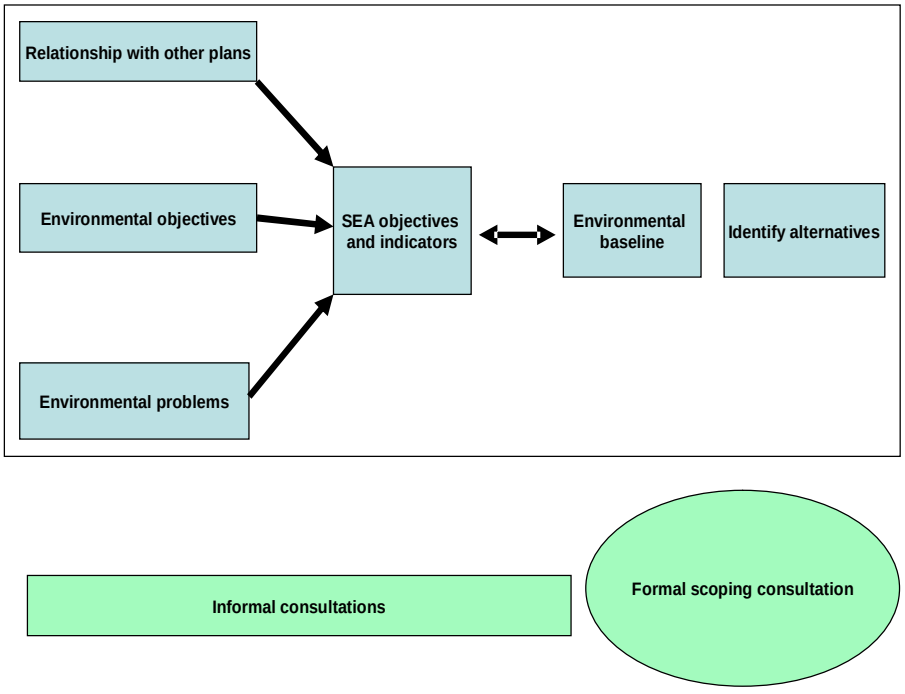
- identify what type of plan or programme you are preparing
- consider what are the objectives of the assessment
- choose the approach you are going to use in the assessment
- check if you have staff capable of performing the SEA in your own organization
- if you don't have own staff, identify what kind of external expertise you need to obtain
- identify all relevant choices / points of decision in the planning process
- think how you want to integrate the assessment to these decision points
- if you are using external experts, list things you want to get from them and at which points of the planning
- use this list in making the terms of reference
- plan how to involve stakeholders and general public (see. chapter on stakeholder and public participation
- plan the different steps of the assessment (see the chapters, which deal with the process)
- plan, how you are going to perform the monitoring
- think who is approving the plan or programme, what kind of information they need to make the decision

Annex 3.3.1. Scoping

Scoping
Scoping determines the likely extent (geographic, temporal and thematic) and level of detail for the assessment and the information to be included in the SEA and environmental report.
Scoping involves:
- Setting the environmental context and establishing the relevant baseline information
- Identifying environmental problems and protection objectives
- Proposing SEA objectives and indicators
- Identifying reasonable plan alternatives
- Consultation with the environmental authorities on the proposed scope of the SEA.

Scoping also involves identifying those aspects (geographic, temporal and thematic) which do not require detailed investigation, to make sure that resources are efficiently focused. Scoping is an iterative process, whereby the baseline information collated should influence the SEA objectives, and vice versa, and the outcome of consultation should genuinely influence the SEA objectives and the scope of the assessment

Scoping process



What should be focused on scoping consultations?

As mentioned earlier, the EIA Act requires consultations of the competent authority in the scoping stage of the SEA process. In consultations the following aspects should be taken into consideration:

- Adequacy of the description of the objectives of the plan
- Adequacy of attention to other plans and programmes, existing environmental objectives and existing environmental problems, and the interpretation of their relationship with the plan
- Accuracy of identification of the current state of the environment, its evolution without the proposed plan, and environmental characteristics of areas likely to be significantly affected
- Appropriateness of SEA objectives and indicators
- Appropriateness of proposed plan alternatives
- Appropriateness of proposed assessment tools/techniques
- Evidence of participation (we will expect plan makers to have involved the designated environmental authorities during scoping. We also endorse public participation as a means by which to help set the environmental context and determine the scope of assessment.

Good practice principles for setting SEA objectives and indicators

Setting Objectives and indicators is an important step in practical implementation of the SEA. In the following box there are good practice principles for their formulation

- Seek to integrate with and further environmental objectives from stakeholders
- Use a limited number of objectives and indicators to keep assessment and monitoring manageable and strategic (recommended a maximum of 15- 20)
- Promote early group discussion with stakeholders to agree objectives and indicators
- The objectives should be about *ends* not *means,* for example*,* reduce water usage rather than carry out marketing campaign for wiser water use
- Promote creative strategic thinking, for example, the strategic objective is actually to get from A to B, not necessarily to increase km of roads
- Indicators should be simple, measurable, and may need to be wider than objectives in order to allow for identification of unforeseen effects
- Targets for objectives should be identified if possible, and ideally should be Quantified.

Baseline information

The SEA objectives and indicators should reflect the significant issues and can therefore be used to target the collation of relevant baseline information. In practice it is likely that an iterative approach will be progressed such that emerging SEA objectives and indicators guide collation of baseline information, and SEA objectives and indicators are refined to reflect findings from baseline information.

- Collate information relevant to the SEA objectives and specific to the plan scale and scope. There is no need to collate excessive information on insignificant effects or irrelevant issues
- SEA is a strategic tool. Avoid collecting very detailed site-specific information that is more appropriate to project level environmental assessment
- Consider tiering (hierarchies) and nesting (linkages) between plans - data assembly needs to be organised to prevent duplication of efforts and encourage compatibility between plans, for example, at different spatial scales
- Consider the current state of the environment (see below) and its evolution without the plan
- Plan makers should identify what information they have, and then seek to fill in the gaps
- Much strategic environmental information is not yet collected. Limitations of baseline data must be recognised and reported to encourage instigation of monitoring to address existing deficiencies, thereby improving availability of information for subsequent SEA and plan making
- Include information to address cumulative effects
- Build upon existing good practice for collaborative data collection and management.

Identifying reasonable alternatives

In SEA significant effects on the environment of implementing the plan "*and reasonable alternatives"* taking into account the objectives and the geographical scope of the plan should be identified, described and evaluated. The identification and assessment of alternatives is an integral component of SEA, and provides significant potential to think creatively and improve the environmental performance of the plan. Often, alternatives (or 'options') are already identified during the development of plans, particularly in land use planning and other sectors including water and transport. SEA should link with work already undertaken, building in additional steps such as consideration of more realistic or robust alternatives, hierarchies of alternatives, and taking opportunities to think creatively and laterally at the strategic level. In practice the development of alternatives should not be undertaken as a separate stage in isolation. Appropriate alternatives should be informed by the environmental objectives and problems identified, and later, alternatives may be revised according to the outcome of assessment.

- Alternatives are different ways of fulfilling the objectives of the plan
- Include the likely evolution of the current state of the environment without the plan (i.e. do nothing alternative)
- Consider hierarchy of alternatives
- Specify alternatives at the right level to match the plan purpose and the geographical scope of the plan
- Maintain strategic focus at the scoping stage; consider more detailed alternatives at the next stage, but avoid slipping into project level detail
- Select realistic alternatives that fall within the legal and geographical competence of the plan
- For plans covering long time frames, scenario testing is useful to explore alternatives and their effects, for example, climate change scenarios (see below) and the Government's foresight scenarios (see below)
- Need to include an outline of the reasons for selecting the alternatives and report any difficulties and reasons for discounting non 'realistic' alternatives
- Collaborate to progress objectives of own plan as well as other relevant plans, e.g., biodiversity action plans and river basin management planning.

Modified from: Good Practice Guidelines For Strategic Environmental Assessment, Environment Agency (UK), January 2005

Annex 3.3.2. Information sources

Baseline information is in a key role in scoping and compiling the environmental report. The information needs cover a wide field of topics. The information about the plan or programme in preparation normally comes from the planning process. In addition there is a need of information about other relevant plans and programmes and environmental objectives which should be taken into account. These might be EU-wide, national, regional or local.

Information about environmental impacts is naturally important as well as information about the environment to find out which impacts are significant.

If the planning is cyclic, repeated e.g. in every five years, very valuable source of information is the monitoring system. Monitoring the impacts of the previous round plan or programme provides baseline data for the next round assessment.

Further there are some sources of information for environmental objectives and baseline information in Latvia.

Environmental objectives

National Environmental Policy Plan for Latvia for the period from 2004-2008 sets the main environmental objectives, however other policy documents whose links are provided here below should also be taken into account:

http://www.vidm.gov.lv/varam/DOC/Ldoc.htm

http://www.vidm.gov.lv/varam/Doc/Ldoc.htm

Baseline information

Data for baseline information could be found from many sources. Here are given a link where general information could be found:

http://www.vidm.gov.lv/varam/PUBL/Lpublik.htm

Link to state environmental institutions in Latvia:

http://www.vidm.gov.lv/varam/SAITE/Lpinst.htm

Link to environmental NGOs in Latvia:

http://www.vidm.gov.lv/varam/SAITE/Lnvo.htm

Annex 3.4.1 contents of the report

Many sectors have their own traditions in formulating reports. What ever is the form of the report it is important, that the issues required by legislation are found from the report. Here are two alternative structures for the report.

Alternative 1. for the contents and structure of SEA report

The SEA report may consist of following sections.

1. Background and problem identification
- an outline of the contents and main objectives of the plan and programme its relationship with other related plans and programmes;
- the relevant aspects of the current state of the environment and its probable evolution without implementation of the plan or programme;
- the environmental characteristics of areas likely to be significantly affected;
- any existing environmental problems which are relevant to the plan or programme including in particular those relating to any areas of particular environmental importance

2. Environmental protection objectives
- the way these objectives and environmental considerations have been taken into account in the preparation.

3. The likely significant impacts on the environment
- impact assessment
- secondary, cumulative and synergistic impacts
- short-, medium- and long term permanent and temporary
- positive and negative

4. Mitigation measures

5. Identification of alternatives
- a description of how the assessment was undertaken, including any difficulties (technical; lack of know-how)

6. Monitoring of environmental impacts

7. A non-technical summary of the information mentioned above.

Alternative 2 for the contents and structure of SEA report

Structure of report	Information to include
Non-technical summary	• Summary of the SEA process • Summary of the likely significant effects of the plan or programme • Statement on the difference the process has made to-date • How to comment on the report
Methodology used	• Approach adopted in the SEA • Who was consulted, and when • Difficulties encountered in compiling information or carrying out the assessment
Background	• Purpose of the SEA • Objectives of the plan or programme
SEA objectives and baseline and context	• Links to other international, national, regional and local plans and programmes, and relevant environmental objectives including how these have been taken into account • Description of baseline characteristics and predicted future baseline • Environmental issues and problems • Limitations of the data, assumptions made etc. • SEA objectives, targets and indicators
Plan/Programme issues and alternatives	• Main strategic alternatives considered and how they were identified • Comparison of the significant environmental effects of the alternatives • How environmental issues were considered in choosing the preferred strategic alternatives • Other alternatives considered and why they were rejected • Any proposed mitigation measures
Plan or programme policies	• Significant environmental effects of the policies and proposals • How environmental problems were considered in developing the policies and proposals • Proposed mitigation measures • Uncertainties and risks
Implementation	• Links to other tiers of plans and programmes and the project level (environmental impact assessment, design guidance etc.) • Proposals for monitoring

(A Practical Guide to the Strategic Environmental Assessment Directive, September 2005 Office of the Deputy Prime Minister (www.odpm.gov.uk))

Annex 3.4.2 prediction methods and techniques

Environmental impact

Environmental impact means a direct or indirect effect of a plan or programme in the country and outside the country territory on

- human health, living conditions and quality of life
- soil, water, air, climate, flora, fauna and biodiversity
- community structure, buildings, landscape, townscape and cultural heritage
- the utilization of natural resources and
- interrelations between the factors referred to above

How to analyze impacts?

The analysis of impacts involves trying to predict the likely consequences – both intended and unintended – of each option of a plan or programme. It is also to be noticed that the credibility of an impact assessment depends to a large extent on providing results that are based on reliable data and indicative analysis. This analysis should be transparent and understandable also to non-specialists.

The ultimate aim of the impact analysis is to provide sufficient and clear information on the impacts of the various policy options that can then be used as a basis for comparison of those options against each other and against the 'no policy change' option or 'baseline scenario'.

In principle, the analysis of the environmental impacts consists of three steps, which are

- Identification of impacts
- Qualitative assessment of which impacts are the most significant
- More or less advanced qualitative and/or quantitative analysis of impacts

The first step is to identify those impacts that are likely to occur as a consequence of implementing the policy or a plan or programme. Some impacts will be intentional. However, it is also necessary to try to identify possible unintended impacts, or so called side-effects of a plan or a programme. A screening of impacts with internal and external stakeholders will probably be of great help when doing this. It is also necessary to investigate, who or which groups in the society will be affected by the identified impacts and over what time period the impacts will occur.

3.4.2.1 Identifying the most significant impacts

Identifying the most important impacts can be done relatively quickly and cheaply by using simple tools. A checklist, a causal model, qualitative assessment and an impact matrix will be shortly dealt below.

A common, simple and inexpensive method to identify the impacts is a checklist. These can be of different types. *Simple checklists* list the components or aspects, usually of the environment that might be considered by the assessor, but no other assistance is provided to guide the impact identification process. An example of a simple checklist to identify impact categories for land development projects is given on next page.

1 Local economy • Public fiscal balance • Employment • Wealth
2 Natural environment • Air quality • Water quality • Noise • Wildlife and vegetation • Natural disasters
3 Aesthetics and cultural values • Attractiveness • View opportunities • Landmarks
4 Public and private services • Drinking water • Hospital care • Crime control • Feeling of security • Fire protection • Recreation – public facilities • Recreation – informal settings • Education • Transportation – mass transit • Transportation – pedestrian • Transportation – private vehicles • Shopping • Energy services • Housing
5 Other social impacts • People displacement • Special hazards • Sociability/friendliness • Privacy • Overall contentment with neighbourhood

A simple checklist (from Morgan 1998)

Descriptive checklists provide additional assistance by indicating, for example, the specific variables to be measured to characterize each component. *Scaling checklists* go a step further and include simple devices for assessing importance or significance of suspected impacts (Andersson 2000). The *questionnaire checklist* is a form scaling checklist but uses

a series of carefully directed questions to elicit information about possible impacts and their likely importance. Examples of such checklists is presented on the next pages.

Environmental effects

Air quality	Does the strategy/option have an effect on emissions, eutrophying, photochemical or harmful air pollutants that might affect human health, damage crops or buildings or lead to deterioration in the environment (polluted soils or rivers etc.)?
Water quality and resources	Does the option decrease or increase the quality or quantity of freshwater and groundwater? Does it raise or lower the quality of waters in costal or marine areas (e.g. through discharges of sewage, nutrients, oil, heavy metals or other pollutants? Does it affect drinking water resources?
Soil quality and resources	Does the option affect the acidification, contamination or salinity of soil, and soil erosion rates? Does it lead to loss of available soil (e.g. through buildings or construction works) or increase the amount of usable soil (e.g. through land decontamination)?
The climate	Does the option affect the emission of ozone-depleting substances and greenhouse gases into the atmosphere?
Renewable and non-renewable resources	Does the option affect the use of renewable resources (freshwater, fish) more quickly than they can regenerate? Does it reduce or increase use of non-renewable resources (groundwater, minerals)?
Biodiversity, flora, fauna and landscape	Does the option reduce the number of species/varieties/races in any area or increase the range of species? Does it affect protected or endangered species or their habitats or ecologically sensitive areas? Does it split the landscape into smaller areas or in other ways affect migration routes, ecological corridors or buffer zones? Does the option affect the scenic value of protected landscape?
Land use	Does the option have the effect of bringing new areas of land ('green fields') into use for the firs time? Does it affect land designated as sensitive for ecological reasons? Does it lead to a change in land use (for example, the divide between rural and urban, or change in type of agriculture?
Waste production/generation/recycling	Does the option affect waste production (solid, urban, agricultural industrial, mining, radioactive or toxic waste) or how waste is treated, disposed of or recycled?
The likelihood or scale of environmental risks	Does the option affect the likelihood or prevention of fire, explosions, breakdowns, accidents and accidental emissions? Does it affect the risk of unauthorized or unintentional dissemination of environmentally alien or genetically modified organisms? Does it increase or decrease the likelihood of natural disasters?
Mobility (transport modes) and the use of energy	Does the option increase or decrease consumption of energy and production of heat? Will it increase or decrease the demand for transport (passenger or freight) or influence its modal split? Does it increase or decrease vehicle emissions?
The environmental consequences of firm' activities	Does the option lead to changes in natural resources inputs required per output? Will it lead to production becoming more or less energy intensive? Does the option make environmentally unfriendly goods and services cheaper or more expensive through changes in taxation, certification, product, design, rules, procurement rules etc.? Does the option promote or restrict environmentally unfriendly goods and services through changes in the rules on capital investments, loans, insurance services etc.? Will it lead to businesses becoming more or less polluting through changes in the way in which they operate?
Animal and plant health, food and feed safety	Does the option have an impact on health of animals and plants? Does the option affect animal welfare (i.e.) humane treatment of animals)? Does the option affect the safety of food and feed?

Source: Impact Assessment guidelines. European Commission SEC(2005)791. 15 June 2005.

Social impacts

Employment and labor markets	Does the option facilitate new job creation? Does it lead directly to a loss of jobs? Does it have specific negative consequences for particular professions, groups of workers, or self-employed persons? Does it affect the demand for labor? Does it have an impact on the functioning of the labor market?
Standards and rights re- lated to job quality	Does the option impact on job quality? Does the option affect the access of workers or job-seekers to vocational or continuous training? Will it affect the demand for labor? Does it have an impact on the functioning of the labor market?
Social inclusions	Does the option impact on job quality? Or the protection of particular groups?
Equality of treatment and opportunities, non-discrimination	Does the option affect equal treatment and equal opportunities for all? Does the option affect gender equality? Does the option entail any different treatment of groups or individuals directly on grounds of e.g. gender, race, color, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation? Or could it lead to indirect discrimination?
Private and family life, personal data	Does the option affect the privacy of individuals or their right to move freely within the EU? Does it affect family life or the legal, economic or social protection of the family? Does the option involve the processing of personal data or the concerned individual's right to access to personal data?
Governance, participation, good administration, access to justice, media and ethics	Does the option affect the involvement of stakeholders in issues of governance as provided for in the Treaty and the new governance approach? Are all actors and stakeholders treated on an equal footing, with due respect for their diversity? Does the option impact on cultural and linguistic diversity? Does it affect the autonomy of the social partners in the areas for which they are competent? Does it, for example, affect the right of collective bargaining at any level or the right to take collective action? Does the implementation of the proposed measures affect public institutions and administrations, for example in regard to their responsibilities? Will the option affect the individual's rights and relations with the public administration? Does it affect the individual's access to justice? Does the option make the public better informed about a particular issue? Does it affect the public's access to information? Does the option affect the media, media pluralism and freedom of expression? Does the option raise (bio)ethical issues (cloning, use of human body or its parts for financial gain, genetic research/testing; use of genetic information)?
Public health and safety	Does the option affect the health and safety of individuals/populations, including life expectancy, mortality and morbidity, through impacts on the socio-economic environment (e.g. working environment, income, education, occupation, nutrition)? Does the option increase or decrease the likelihood of bioterrorism? Does the option increase or decrease the likelihood of health risks due to substances harmful to the natural environment? Does it affect health due to changes in the amount of noise or air, water or soil quality in populated areas? Will it affect health due to changes energy use and/or waste disposal? Does the option affect lifestyle-related determinants of health such as use of tobacco, alcohol, or physical activity? Are there specific effects on particular risk groups (determined by age, gender, disability, social group, mobility, region, etc.)?
Crime, Terrorism and Security	Does the option improve or hinder security, crime or terrorism? Does the option affect the criminal's chances of detection or his/her potential gain from the crime? Is the option likely to increase the number of criminal acts? Does it affect law enforcement capacity? Will it have an impact on the balance between security interests and the rights of suspects? Does it affect the rights of victims of crime and witnesses?
Access to and effects on social protection, health and educational systems	Does the option have an impact on services in terms of their quality and access to them? Does it have an effect on the education and mobility of workers (health, education, etc.)? Does the option affect the access of individuals to public/private education or vocational and continuing training? Does it affect the cross-border provision of services, referrals across borders and cooperation in border regions? Does the option affect the financing /organization/access to social, health and education systems (including vocational training)? Does it affect universities and academic freedom / self-governance?

Source: Impact Assessment guidelines. European Commission SEC(2005)791. 15 June 2005.

Economic impacts.

Competitiveness, trade and investment flows	Does the option have an impact on the competitive position of EU firms in comparison with their non-EU rivals? Does it provoke cross-border investment flows (including relocation of economic activity)? Are the proposed actions necessary to correct undesirable outcomes of market processes in European markets?
Competition in the internal market	Does the option affect EU competition policy and the functioning of the internal market? For example, will it lead to a reduction in consumer choice, higher prices due to less competition, the creation of barriers for new suppliers and service providers, the facilitation of anti-competitive behavior or emergence of monopolies, market segmentation etc.
Operating costs and conduct of business	Will it impose additional adjustment, compliance or transaction costs on businesses? Does the option affect the cost or availability of essential inputs (raw materials, machinery, labor, energy)? Does it affect access to finance? Does it impact on the investment cycle? See also the reference.Will it entail the withdrawal of certain products from the market? Is the marketing of products limited or prohibited? Will it entail stricter regulation of the conduct of a particular business? Will it directly lead to the closing down of businesses? Are some products or businesses treated differently from others in a comparable situation?
Administrative costs on businesses	Does the option impose additional administrative requirements on business or increase administrative complexity? Do these costs weigh in relative terms heavily on small and medium enterprises?
Property rights	Are property rights affected (land, movable property, tangible/intangible assets)? Is acquisition, sale or use of property rights limited? Or will there be a complete loss of property?
Innovation and research	Does the option stimulate or hinder research and development? Does it limit or hinder academic or industrial research? Does it promote greater resource efficiency?
Consumers and households	Does the option affect the prices consumers pay? Does it impact on consumers' ability to benefit from the internal market? Does it have an impact on the quality and availability of the goods/services they buy, and on consumer choice? Does it affect consumer information and protection? Does it have significant consequences for the financial situation of individuals / households, both immediately and in the long run? Does it affect the economic protection of the family and of children?
Specific regions and sectors	Does the option have significant effects on certain sectors? Will it have specific impacts on certain regions, for instance in terms of jobs created or lost? Does it have specific consequences for small and medium enterprises?
Third countries and international relations	Does the option affect EU trade policy and its international obligations, including in the WTO? Does it affect EU foreign policy and EU/EC development policy? Does the option affect third countries with which the EU has preferential trade arrangements? Does the option affect developing, least developed and middle income countries?
Public authorities	Does the option have budgetary consequences for public authorities at different levels of government, both immediately and in the long run?
The macroeconomic environment	What are the overall consequences of the option for economic growth and employment? Does it contribute to improving the conditions for investments? Does the option have direct or indirect inflationary consequences?

Source: Impact Assessment guidelines. European Commission SEC(2005)791. 15 June 2005.

One of the advantages of the checklists is to help to remember all the information relevant to a task. It also provides a simple way of identifying whether certain issues are relevant to a proposal and help to avoid overlooking potential issues.

On the other hand, it does not necessarily offer a very analytical approach to analysis. It also encourages neglect of any important effects that are not present in the checklist. It also may cloud judgment with irrelevant information and does not specify the nature of cause-and-effect relationships.

3.4.2.2 Causal Models and Impact Matrixes

The causal model is also a useful tool for impact identification since it provides a foundation upon which more sophisticated analyses can be built. The model is in general carried out like a 'bottom up' exercise, which starts by identifying the impacts that would arise as a result of the policy or a plan or programme attaining the set objectives. These initially identified impacts can then form the basis for identifying further rounds of impacts and so on. A flowchart or map of impacts can then be built that sketches out cause-and-effect linkages between each of the policy options/instruments and their impacts (Impact Assessment guidelines. European Commission SEC(2005)791. 15 June 2005). In order to make a qualitative assessment it is necessary to assign **likelihoods** (e.g. low, medium or high probability) that the identified impact will occur (or conversely the risk that the impact will not occur). After that, the **magnitude** of each impact (e.g. low, medium or high) will be assessed. In this connection, it is to be noticed that some of the effects may be irreversible, too. The importance of impacts can be assessed on the basis of these two elements (from low likelihood/low magnitude through to high likelihood/high magnitude).

Building an impact matrix is a third way to structure the task of identifying the more significant impacts of the plan or programme. It includes the following stages:

- Break the options of the policy or a plan or programme into their main actions (the rows of the matrix).
- Identify the main types or categories of impacts (the columns of the matrix), organized according to a time horizon where possible.
- Indicate in each cell the likelihood of an impact (certain, probable, unlikely).
- Indicate in each cell whether the impact is expected to be positive or negative, or uncertain. Where it is positive or negative the magnitude can also be indicated.
- Indicate in each cell the addressees (or affected populations) and the timescale over which the impacts are reached.

Matrices of conflicts or synergies show relationships between proposed interventions (e.g. proposed objectives or actions) and relevant environmental, including health, objectives or on other objectives (e.g. in the case of more comprehensive assessments).

The usual application of matrices within SEA is the identification of issues and impacts, assessment of impacts and contributing to development and comparison of alternatives. Providing a good visual summary of impacts is one of the principal advantage of the matrices. They can also be adapted to identify cumulative impacts as well as impact interactions. They are useful tools also for presenting results, for example from subjective assessments, or from numerical modeling. They can be designed to include the potential for interactions and can combine the impacts from various actions or from a number of projects. They have also been used to compare alternative options.

On the other hand, matrices often present only direct impacts. These may lead users to overcomplicate the analysis by considering all potential interactions between all proposed actions and all environmental, including health, issues. This is time consuming and may divert attention to minor impacts.

Examples of practical application or sources for further information (see also http://www.unece.org/env/eia/sea_manual/annexA51.html):

Sample matrix for assessment of the measures of the National Development Plan of the Czech Republic in the Proceedings of the International workshop on Public Participation and Health Aspects in SEA (the REC)

http://www.rec.org/REC/Publications/Proceedings/SEAproceedings.pdf

Matrix method suggested to screen alternative (in an SEA of carbon dioxide capture and storage)

http://uregina.ca/ghgt7/PDF/papers/poster/143.pdf

3.4.2.3 Identification and comparison of alternatives

After the relevant impacts have been identified, the next step is to compare them as to allow consideration of the strengths and weaknesses of each of the policy options. This may then allow the conclusion to be drawn that one option stands above the others. However it is important to point out that the final decision on whether, and how, to proceed is a political one. Scenarios as tools for alternative comparison are dealt with in this section.

Scenario building

Scenario building is a process of designing hypothetical situations that incorporate the most uncertain and important driving forces affecting future development. The technique is aiming at addressing of the following questions:

1. What are the driving forces?
2. What are the uncertainties?
3. What is inevitable?
4. How about this or that scenario?

Scenario building is sometimes associated with forecasting, which is also used to predict future events, but it uses calculations based on historical data. There are many scenario-building techniques. A method based on 8 steps of scenario-building approach described in *The Art of the Long View* by Peter Schwartz (see reference below) may be of interest in SEA.

1. Identify focal issue or decision: Where having scenarios will be helpful? What do you really want to know?
2. Identify the key forces in the local environment: What factors influence the focal issue or decision? What will decision makers want to know when making their choices?
3. Identify driving forces: What major trends influence the key forces?
4. Rank the key and driving forces on the degree of importance and the degree of uncertainty. Identified key or driving forces should be looked at carefully as they are more critical to providing different scenarios that are important. Select 2-3 to study further.
5. Select scenario logics: Following the ranking, take the information to define the key variables for building scenarios.
6. Flesh out the skeletal scenarios by looking at key factors and driving forces developed in steps 2 and 3. Each key factor and driving force should be given some role in the scenario. For example, if you had two key factors and 2 driving forces, that is 4 possible combinations that can be built into a narrative about the scenarios.
7. Define implications: Once the scenarios are defined, look for implications – what would happen in the different scenarios? Build these into your scenarios.
8. Select the leading indicators and signposts: Relate the scenarios to real situations – some are more likely than the others given the trends underway. Then, identify further indicators (e.g., leading indicators) that could alert you if this scenario plays out.

In general, scenarios are used in assessment of effects. They also contribute to develop and compare alternatives. Scenarios provide a simplified version of reality and a way of creating a shared understanding of complex systems among those that work in them. They can, e.g., be used to test ideas and explore consequences.

Scenario development and interpretation requires relatively high technical skill. Scenario-based analysis is no better than the model itself and the data used. Careful testing and validation are necessary to avoid decisions or actions based on a flawed model. Scenarios may involve complex mathematical operations or graphic images that are hard to understand and explain to non-technical audiences and policy makers.

Practical experiences
According to practical experiences it has proven difficult to formulate the alternatives as part of assessments. There is also considerable variation in the role of the alternatives and the constraints placed on these. Finnish experiences show that alternatives can play very different roles: exploratory and visionary alternatives map possible worlds; variations on a single theme prepare the ground for a compromise; and demonstrative alternatives serve to prove that the chosen solution is the only possible or clearly the best alternative.

In most of the transport plans and programmes, for example, the consideration of alternatives has often been fairly exploratory and not overly restricted by what is possible or realistic. In the assessment phase, the aim has been to examine what constraints and conditions would arise under different scenarios. A key task has been to identify and co-ordinate means of achieving various objectives. E.g. the road maintenance policy in Finland is developed using such an objectives approach.

As an example Helsinki Metropolitan Area Transport System Plan (TSP 2002) is a strategic, long-term plan of transport in The Helsinki Metropolitan Area. The transport system plans´ intention is the all-inclusive planning of the areas´ transportation, comprising various models of transport and modes of travel, linked journeys made using various vehicles, transportation networks, parking, area and urban structure, land use as well as financing and co-operation.

On the basis of background investigations, and the knowledge gained from the evaluations of individual projects and transport policy measures, certain lines of action, i.e. alternative packages of measures, were formed.

Lines of action considered.

Alternatives	Principle
Reference alternative Alt 0+	The current transport system supplemented with infrastructure projects already decided upon
Alt 1 The former Transport System Plan (TSP 1998)	Transport system described in the 1998 plan. Emphasis on infrastructure investments. Problems are solved by building new roads, and adding new rail tracks.
Alt 2 Traffic management	An alternative based traffic and mobility management. Reduced demand for new infrastructure because of increased efficiency of the current system (pricing etc). Less new road infrastructure than in other alternatives.
Alt 3 Land use management	The leading principle is to minimize demand through land-use planning. The existing capacity of the transport system is used more efficiently. New infrastructure investments support the land-use decisions.

Source: www.ytv.fi/liikenne

Comparison of the impacts of the alternative lines of action using various indices is shown in table below.

Comparison of alternatives.

	Alt 0+ vs. Present 2000	Alt 1 The former TSP 1998 vs. Alt 0+	Alt 2 Traffic management vs. Alt 0+	Alt 3 Land-use management vs. Alt 0+
Public transport				
- modal share over the whole area	-	*	* *	* *
- modal share over the capital region's cross-town routes	*	*	* *	*
Other vehicular traffic				
- fluency of traffic	- -	*	* *	* *
- mileage, light vehicles	- -	-	* *	*
- mileage, heavy vehicles	- -	*	-	*
Transportation costs				
- running costs, public transport	0	*	- -	-
- vehicle costs, private cars	- -	0	* *	*
- vehicle costs, lorries	- -	*	*	* *
- time costs, private cars	- -	* *	* *	0
- time costs, good vehicles	- -	* *	* *	* *
- travel costs seen by car users	0	0	- -	-
- taxes and duties levied on traffic by authorities	0	0	* *	*
- overall socio-economic benefits	- -	* *	* *	* *
External impacts				
- traffic safety	0	0	*	*
- local emissions	* *	*	*	*
- carbon dioxide emissions	- -	*	* *	*
- energy use in transportation	- -	*	* *	*

Source: www.ytv.fi/liikenne

* * = significant positive impact (change >3%)
* = somewhat positive impact (change 1 – 3%)
0 = no clear effects (change <1 %)
- = somewhat negative impact (change 1 – 3 %)
- - = significantly negative impact (change > 3%)

On the basis of these results, recommendations were made for the principles to be observed in developing the transport system, and also for actions and projects to be implemented in the first phase. These have been the starting point for the drawing-up of the TSP 2002 development programme.

Examples of practical application or sources for further information (see also http://www.unece.org/env/eia/sea_manual/annexA51.html):

- Detailed overviews of various approaches to scenario development can be obtained at: www.dit.ie/DIT/built/futuresacademy/whoweare/Scenario-Building.doc and www.gbn.com/ArticleDisplayServlet.srv?aid=27802

- Global Business Network (http://www.gbn.com/)
- Information portals on scenario building can be found at www.plausiblefutures.com/index.php?cat=6691a and www.well.com/~mb/scenario/

3.4.2.4 Cost/Benefit Analysis (CBA)

CBA seeks to compare monetary value of benefits with the monetary value of costs. A benefit is defined as anything that increases human well-being, and a cost as anything that decreases human well-being. In turn, human well-being is determined by what people prefer. Preferences are either revealed through choices and market behavior or are stated through questionnaire procedures. Measurements of a preference is obtained by finding out the individual's willingness to pay for a benefit or for the avoidance of a cost, or their willingness to accept compensation for tolerating a cost or foregoing a benefit. These WTP (Willingness to pay for environmental gain) and WTA (Willingness to accept compensation for an environmental loss) concepts provide estimates of what is known as consumers' surplus. The aim of maximizing benefits minus costs, or of requiring benefits to exceed costs, is fundamental to the concept of economic efficiency which has the overall goal of maximizing the sum of human well-being in a given economy.

In many cases, WTP can be found from market behavior and damages can be estimated directly. An example might be the effects of air pollution on crop productivity. In other cases there is no evident market to refer to. Revealed preferences analysis looks at 'surrogate markets', markets in goods and services that embody some environmental feature. An example would be a house and the market would be the housing market.

In the field of SEA, CBA is applicable in the assessment of the effects and contributing to development and comparison of alternatives. CBA is a widely used and recognized technique. It provides easy to understand information in monetary terms to the decision maker. It also allows comparison of effects which might otherwise be difficult to compare, e.g. time savings for motorists versus loss of landscape value.

There are many issues of contention in CBA, including appropriate discount rates and the reduction of future costs and benefits to net present values, and the valuation of health, life and environmental goods and services. Also many technical difficulties exists, and much dispute regarding the methods used within CBA, such as contingent valuation.

Examples of practical application or sources for further information (see also http://www.unece.org/env/eia/sea_manual/annexA51.html):

- Boardman A, D Greenberg, A Vining, D Weimer, 1996. *Cost-Benefit Analysis: Concepts and Practice*, Prentice Hall, Upper Saddle River, USA.
- Dixon J, L Fallon Scura, R.Carpenter and P.Sherman, *Economic Analysis of Environmental Impacts*, Earthscan, London, 1994.
- Hanley N and C Spash, 1993. *Cost-Benefit Analysis and the Environment*, Edward Elgar, Cheltenham.
- Mishan E, 1988. *Cost Benefit Analysis*, Allen and Unwin, London.
- Pearce DW, D Whittington, S Georgiou and D James, 1994. *Project and Policy Appraisal: Integrating Economics and the Environment*, OECD, 2 rue Andre Pascal, Paris.
- Risk and Policy Analysts Ltd, *Guidance on Environmental Costs and Benefits*, Report to the Environment Agency, January 1998.
- Winpenny J, 1995. *The Economic Appraisal of Environmental Projects and Policies: a Practical Guide*, OECD, Paris.

UK Department of the Environment, Transport and the Regions, *Review of Technical Guidance on Environmental Appraisal:* A Report by EFTEC (Economics for the Environment Consultancy)

http://www.defra.gov.uk/environment/economics/rtgea/1.htm

3.4.2.5 Multi-criteria analysis (MCA)

Multi-criteria analysis is a method for evaluating alternative options against several criteria, and combining the separate evaluations into an overall evaluation. It can be used to identify a single most preferred option, to rank options, to short-list a limited number of options for subsequent detailed appraisal, or simply to distinguish acceptable and unacceptable options.

MCA helps to manage that complexity by converting the evaluation to a numerical score. All MCA approaches incorporate judgments that are expressed in weights of criteria and in performance evaluations. Usual steps in a multi-criteria analysis are as follow:

1 Identify assessment criteria; they can measure key consequences of proposed alternative options based on the relevant objectives or on their likely impacts. Carefully examine the proposed set of criteria to ensure that

- the set of criteria is complete (no significant criteria is missing)
- there are no redundant criteria (these may include insignificant criteria or criteria where all options perform equally)
- criteria are measurable (it must be possible to assess – at least qualitatively – how well each option performs in relation to the criterion)
- criteria are mutually independent (there is no double counting).

2 Analyze relative importance criteria (weighting). Most MCA techniques enable to determine relative weights of each criteria in the decision making. Methods of weighting vary from simple techniques (e.g. comparing criteria against each other to determine their relative weight) to compare methods (e.g. sociological surveys to determine importance of each criterion in the affected community)

3 Analyze performance (scoring); before scoring the performance, determination of what constitutes the best and the worst performance in a given context is required. Scoring performance may be done through three basic means:

- direct rating through expert judgments by assessing a score to each option
- determining performance against criterion-specific function that defines gradual progression from the worst to the best performance
- judging performance of options against each other. Methods vary – through simple ranking of options to determine the order of their performance to complex calculations.

4 Multiply weights and scores for each of the options and derivate their overall scores. Each option's performance on a criterion is multiplied by the weight of the respective criterion – this done for all the criteria. The sum yields the overall relative score for the given option. The results for all options are compared and discussed.

5 Analyze sensitivity to changes in scores or weights; sensitivity shows how changes in the scores or weight affect the results of MCA. Such analysis may be essential if

- there are serious uncertainties about performance of some options against selected criteria
- if decision-makers or stakeholders argue about the relative weights or criteria used in MCA
- assessment of impacts
- contributing to development and comparison of alternatives.

MCA is applicable in assessment of impacts and contributing to development and comparison of alternatives. The method takes into account different criteria at the same time,

which is impossible with the usual decision making process based on a single criterion. MCA may also be used to bring together the view of the different stakeholders in the evaluation. MCA is transparent and explicit and it may facilitate communication with decision maker and sometimes with the wider community.

On the other hand, MCA reduces rational debate about various pros and cons of proposed alternative options into discussion about abstract numbers (scores and weights). It cannot facilitate consensus on very controversial decisions. By presenting quantitative information (aggregated scores) MCA may create a false impression of accuracy despite the fact that application of MCA heavily depends on a value judgment. Further, one of the disadvantages is that the results may be manipulated by those who master MCA.

Examples of practical application or sources for further information (see also http://www.unece.org/env/eia/sea_manual/annexA51.html):

Multi-criteria Analysis Manual of the UK Government, available at http://www.odpm.gov.uk/index.asp?id=1142251

The Journal of Multi-Criteria Decision Analysis (ISSN: 1099-1360). By subscription only. More information can be obtained from the editor val@mansci.strath.ac.uk or at http://www.interscience.wiley.com/jpages/1057-9214/

Department of the Environment, Transport and the Regions, *Review of Technical Guidance on Environmental Appraisal:* A Report by EFTEC (Economics for the Environment Consultancy) http://www.defra.gov.uk/environment/economics/rtgea/1.htm

3.4.2.6 Delphi Technique

Delphi Technique or collective expert judgments iteratively canvass opinions and perspectives from recognized 'experts' in relevant fields.

Specific means that meet this aim may include simple workshops, interviews or questionnaires with a problem-solving focus (for example to assess possible impacts or risks), as well as more sophisticated techniques.

The Delphi technique represents the systematic and powerful tool for formulation of collective expert judgments. It enables identification of prevailing judgment within a large group of experts who do not directly interact with each other. This technique thus reduces costs and enables participation of experts from geographically dispersed locations. It also defines principles and steps that can be effectively used for formulation of expert judgments using other less time-consuming techniques (e.g. workshops, conferences etc).

The Delphi technique is based on the following key steps:

- Clarify what information is needed, design the questions and determine the time line of the process.
- Identify the appropriate number of experts to serve on the Delphi panel and explain the tasks.
- Prepare and distribute the initial set of open-ended or closed-ended questions.
- Collect and analyze the first responses and compile the responses. If open-ended questions were used extensively, analyze and present the first set of responses within the appropriate theoretical framework, typology, or outline.
- Send the same question out to the same panelists a second or third time. The process may be repeated with additional waves, if necessary. Include the responses with the question so that the panelist can read the other opinions and adjust their own opinions. Respondents will read each other's ideas and answer the question again. As information is exchanged, people incorporate each others' perspectives and information into their thinking and arrive at a fairly accurate understanding of the critical issues to consider in their decision making process.

Always prepare and distribute a final report to panelists. One of the motivations for participating in a Delphi panel, particularly for specialist, is to learn firsthand, before others, what the results of the Delphi study are.

Delphi technique is usually applied in SEA in analysis of context and baseline, identification of issues and impacts and assessment of impacts. One of the advantages of the technique is that it can deal with quite technical and complex issues. It allows sharing of ideas and consensus in decision making by a large number of stakeholders who are geographically distanced. It is also convenient to participants as they can usually contribute from their own office or home.

On the other hand, the Delphi procedure takes time for the organizers (can run for several months). Participant commitment may falter if the process takes too long or they have other commitments. Also large amounts of data need to be carefully assessed and distributed, so the process can be expensive to manage.

Examples of practical application or sources for further information (see also http://www.unece.org/env/eia/sea_manual/annexA51.html):Nehiley, J. M. (2001) *How to Conduct a Delphi Study*

Muotoiltu: Normaali, Molemmat reunat, Väli Jälkeen: 6 pt

Dick, B. (2000), *Delphi face to face*, available at http://www.uq.net.au/action_research/arp/delphi.html

3.4.2.7 SWOT analysis

SWOT analysis is a simple framework for generating strategic alternatives from a situation analysis. SWOT is a quick and easy way to find out the strengths, weaknesses, opportunities, and threats connected with a policy or a plan or programme. While useful for reducing a large quantity of situational factors into a more manageable profile, the SWOT framework has a tendency to oversimplify the situation.

In Finland, in the assessment of the national forestry programme, the regional development programme and the national climate strategy, SWOT type of analyses were made and synthesized into best and worst case scenarios. These have been used in subsequent public discussions on the effects and have thus diversified the view of what the policy, plan or programme actually is about.

An example of a SWOT analysis in connection with a regional development programme in South-West of Finland is presented below. In the first stage, the strengths, weaknesses, opportunities and threats of the regional strategy were investigated by an inquiry. It was addressed to the principal stakeholders like those responsible for implementing the strategy, relevant associations and municipal authorities responsible for environmental, land use and social issues.

An example of a SWOT analysis in connection with a regional development programme in South-West of Finland.

Strengths • **Precious islands** • **Relatively clean sea water areas** • **Pure ground water suitable for water supply** • **Nature of great variety** • **Valuable cultural heritage** • **Great possibilities for recreation and tourism** • **High productivity of agricultural land** • **Good economic resources** • **Good quality of environmental knowledge and research**	**Opportunities** • **Possibility to increase the ground water consumption in the water supply** • **High productivity in agriculture** • **Great possibilities to develop recreation and tourism** • **Increase of the regional and local co-operation** • **Higher concern of environmental issues in the regional planning and development** • **Opportunities for large environmental projects because of the co-operation with the Baltic countries** • **Utilization of the Environmental Management Systems in municipalities and enterprises** • **Higher environmental awareness** • **Co-operation between the important stakeholders like universities, authorities, municipalities**
Weaknesses • **Negative impacts of energy production, industry and traffic to the air quality and noise level** • **Air and water pollution from the Baltic Sea, Central Europe and the Baltic Countries** • **Low inland water courses** • **Polluted soils without sufficient maintenance** • **Higher need of utilization of industrial and municipal waste** • **Constructing unsuitable from the environmental point of view and disappearance of the traditional building stock** • **Environmental awareness has increased but the citizens and communities do not take environmental issues enough into consideration**	**Threats** • **Green gas emissions** • **Effects of immissions from outside on the soil and ground and surface waters** • **Eutrophication of the surface waters** • **Environmental effects of old dumping places** • **Decreasing of the biodiversity of the landscape** • **Disappearance of the old rural landscape** • **Non-planned rural settlement** • **Failure of the regional land use planning** • **Environmental accidents** • **Severe economic depression or over emphasizing productive efficiency**

Muotoiltu taulukko

Source: Environmental Impact Assessment of the Regional Development programmes 1999. In Finnish only.

The SWOT table facilitates communication between the stakeholders during the planning procedure. It also provides a comprehensive framework for further development of the strategy.

3.4.2.8 A Geographic Information System (GIS)

GIS is a collection of computer software, hardware, data, and personnel used to store, manipulate, analyze, and present geographically referenced information. Spatial features are stored in a coordinate system. Descriptive data can then be associated with these spatial features. Spatial data and its associated attribute information can then be layered on top of one another for viewing and analysis. Using GIS, planners, engineers, and other professionals can holistically and efficiently view multiple items of interest about a particular geographic area.

GIS methodology can:

- Provide a composite picture of the receiving environment, including health (sensitive areas or resources, current pressures, etc.)
- Present impacts of previous developments
- Illustrate potential impacts of future activities
- Map the cumulative impacts, or map the impacts on a number of receptors

An important feature of spatial analysis is its ability to consider topographic data that become essential when planning infrastructure or analyzing certain impacts (e.g. noise, local air quality, visual impacts).

Manual overlay mapping uses a series of transparent maps with different information shown on each layer. GIS allows the rapid construction of multi-layered electronic maps and can be regarded as the high-tech equivalent of overlay mapping. GIS can also be useful for handling large amounts of data. Once a base GIS has been prepared, further information can be added and amended as necessary; outputs and inputs are therefore easy to update.

GIS is applied in SEA in connection of analysis of context and baseline, identification of issues and impacts, assessment of impacts and contributing to development and comparison of alternatives. It enables visual presentation of past, present and future impacts. On the other hand, the technique can be expensive and time consuming.

Examples of practical application or sources for further information (see also http://www.unece.org/env/eia/sea_manual/annexA51.html)**:**

British Geological Survey report (2004) on *Strategic environmental assessment (SEA) and future aggregates extraction in the East Midlands Region* presents a number of GIS usage methods and approaches:

http://www.mineralsuk.com/britmin/CR_04_003N.pdf

3.4.2.9 Life Cycle Assessment

Life Cycle Assessment is a technique for assessing the potential environmental, including health, effects and potential issues associated with a product or a service, by

- Compiling an inventory of relevant inputs or outputs.
- Evaluating the potential environments effects associated with those inputs and outputs.
- Interpreting the results of an inventory and effect phases in relation to the objectives of the study.

LCA generally addresses at least energy but may also include emissions into air and water, land use and depletion of natural resources. LCA is usually applied in identification of issues and effects, assessment of effects and contributing to development and comparison of alternatives.

LCA makes a comprehensive analysis of effects possible, based on cradle-to-grave approach. LCA serves also as validation for the system boundaries used in the evaluation of the environmental effects.

It is to be pointed out that LCA must be used cautiously and, in the interpretation of the inventory, care must be taken with subjective judgments. Certain products do not provide enough information to accurately assess environmental effects (e.g. metals, VOC). Also, production processes and usage might differ from country to country.

Reliable methods for aggregating figures generated by LCA, and using them to compare the life-cycle effects of different products, do not yet exist. LCA does not have spatial or temporal resolution.

Examples of practical application or sources for further information (see also http://www.unece.org/env/eia/sea_manual/annexA51.html):

- INTERREG III B Project Alp Frail (http://www.alpfrail.com/) Operational Solutions for the transalpine railway freight traffic for sustainable management of connections of the economic areas within the alpine space, available at http://www.deutscher-verband.org/seiten/dv-ev-projekte/downloads/Alp_Frail-Kurzdarstellung-CADSES-en.pdf
- Complete Life Cycle Assessment for Vehicle Models of the Mobility CarSharing Fleet Switzerland Gabor Doka, Doka Life Cycle Assessments Sabine Ziegler, Mobility Car Sharing Switzerland Conference paper STRC 2001 Session Emissions, available at http://www.strc.ch/doka.pdf
- Umberto – software tool to model, calculate and visualize material and energy flow systems, available at http://www.umberto.de/en/

- Gabi 4 – Life Cycle Engineering, Green House Gas Accounting, Benchmarking and Energy Efficiency, available at http://www.environmental-expert.com/software/pr_eng/pr_eng.htm
- Greet model, ANL – Fuel-Cycle Model for Transportation Fuels and Vehicle Technologies, available at http://greet.anl.gov/publications.html
- E2database LBST – fuel chain analysis decision aiding tool, E3database for energetic, emissions-related and economic regional evaluation of hydrogen fuel chains, Agator, His, Schindler, available at http://www.waterstof.org/20030725EHECO3-48.pdf

- GEMIS – Global Emission Model for Integrated Systems Germany, available at http://www.oeko.de/service/gemis/en/index.htm
- SimaPro – collects, analyzes and monitors the environmental performance of products and services, available at http://www.pre.nl/simapro/simapro_lca_software.htm

Annex 4.1 consultations in practice

Consulting authorities and arranging participation for stakeholders and public

Consulting the relevant authorities is stipulated in legislation. At scoping phase the competent authority provides its opinion on scope of the assessment and when the environmental report is published the competent authority reviews the quality of the report and the SEA process.

Public participation is the social side of the SEA process. The objectives of public participation are partly coming from democracy ideology, partly it's a question of information flows between planning organization and citizen. The minimum is that people have right to know what is going to happen in their living environment, but further on public participation may serve conflict resolution and even influence the planning by improving the plan or programme. The participation is a two way exorcise, also the planning organization is obtaining information from those participating. This may consist of information on natural conditions, information of peoples habits (e.g. for land use plan: how they travel, where they get services, what services they need, what are the problems of the existing community structure etc.) and information on the opinions (what alternatives people would be opposing, what impacts they are afraid, what kinds of confrontation might be expected etc.)

In arranging participation, two levels can be identified: stakeholders and the general public. Stakeholders are a more limited group of people / organizations, that are somehow related to the preparation or implementation of the plan or programme. These can be individuals (e.g. landowners), organizations (e.g. associations like Chamber of Commerce or environmental NGO's) or authorities (e.g. fire department, health service, city environmental authorities etc.) Stakeholder participation is usually more intense than the participation of general public and their opinions have often more weight in preparation of the plan or programme and the environmental assessment.

The general public is usually informed in SEA only at couple of stages. The timing is often arranged so that there is some kind of document (screening, scoping, draft plan) to discuss about. Quite often part of the general public is against the plan or certain alternatives and part for it, since people have different values and the impacts of the plan might be distributed unevenly. For the SEA it is important that the different opinions are documented. As there might be numerous responses from public these could be summarized.

If the plan can not be modified so that the main opposition is satisfied then it is important that what ever choice is made, it will be reasoned so that people can see, on what grounds the choice has been made.

The methods for arranging participation differ for stakeholders and the general public. For stakeholders it is easier to arrange planning and assessment meetings, internet forums, workshops etc since the number of participants is limited. Often some written feedback is asked at some stages of the assessment. This makes is also possible to really work with the stakeholders.

With the general public the methods are more limited. Big hearings may be arranged, information may be distributed through media (radio, TV, internet homepages, newsletters etc.) and opinion may be asked through written responses. Also internet may be used for collecting feedback, but one should take into consideration, that only part of the population has access to it.

Annex 4.2 Checklist for participation

Stakeholders

- identify the stakeholders, think who are influenced by the plan or programme, who represent some important effected groups, who have a say (authorities etc.),
- consider at what stages the stakeholders should participate or do you want to arrange some kind of continuous system e.g. internet forum
- consider, how you can use the contribution of the stakeholders
- think about how to negotiate the confronting opinions
- think how to reason the choices, so that everybody can see the grounds

General public

- at what stages you want to address public, remember the legal requirements
- consider how widely you want to reach general public
- choose the method
- how much information you want to provide
- in hearings / public meetings:
    - which documents you will present
    - who will give presentations
    - who will chair, take notes
- how documenting is arranged
- what to do with the feedback
- how to reflect it to the assessment and the plan or programme

Annex 6.1 monitoring

Monitoring of the effects of plan or program implementation

Implementation monitoring is performed after the plan has been approved and is operational to get information on whether and how the objectives and measures that are introduced in the plan or programme are implemented. Implementation monitoring is usually done whether the plan or programmme need SEA or not. Impact monitoring is performed to find out the impacts of the implementation of the plan or programme.

Monitoring impacts of a plan or programme should be designed in parallel with planning the assessment procedure. There are several alternative ways to do the monitoring. When a plan or a programme is updated repeatedly in cycles, the monitoring of impacts can be attached to the implementation monitoring and to the collection of baseline data of the next planning round. Examples of this type of plans and programmes are structural funds progammes with six years cycle, land use plans, length of cycle varies, transport infrastructure plans etc.

If the plan of programme is a one time exorcise or the planning cycle is extremely long, the monitoring of impacts can performed as a separate action. In this case the costs of monitoring must be recognized already when the plan or programme is under preparation.

On possibility is to use existing environmental monitoring systems for the monitoring of impacts. This depends whether such system is available at the respective planning level, and whether the data it can provide is relevant for monitoring the impacts of a plan or a programme.

The issues that are monitored depend on the type of plan or programme and the chosen assessment approach. If the chosen approach is objective led assessment, then the monitoring should be focused on the question how the implementation of the plan or programme is influencing the chosen environmental objectives. For example if maintaining biodiversity is one of the environmental objectives then the monitoring should ansver the question: is biodiversity reduced because of implementation of certain measures of plan or programme. Further more some indicator species can be selected that indicate the loss of biodiversity.

When the impact led approach is chosen for the assessment, the monitoring will focus on those impacts that have been identified and predicted during the assessment.

In the case of baseline led assessment the monitoring will focus on the question whether the environment will experience changes due to the implementation of a programme or a plan. For example if assessment of a land use plan identifies valuable nature area, the monitoring will focus on the question whether the nature of that area is deteriorated because of the implementation of the plan.

Checklist for monitoring

- consider the approach you have chosen for the assessment, and set objectives for the monitoring
- identify relevant system for monitoring of your plan or programme (implementation monitoring, separate monitoring programme or existing state of the environment monitoring system)
- identify most important findings of the assessment to be monitored (important objectives, most significant impacts, most valuable nature objects)
- plan the time span for monitoring (during plan or programme implementation, after, long time after to find out the long term effects)
- consider the planning cycle and baseline data collection for the next planning round
- identify who will do the monitoring and where to get resources for it

Annex 7: SEA and Natura 2000

7.1. Screening of Appropriate Assessment and SEA

7.1.1. Relationship between SEA and assessment of impacts on Natura 2000 sites

According to the article 3 of the SEA directive (CEC, Directive 2001/42/EC) an environmental assessment shall be carried out for plans and programmes which are likely to have effects on Natura 2000 sites.

Habitats directive's (CEC, Directive 92/43/EEC) article 6 requires that any plan or project which is likely to have a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects has to be assessed appropriately. This means that the projects or plan's impacts on the Natura 2000 site's conservation objectives have to be assessed in a certain manner. The requirement does not concern plans or programmes directly connected with or necessary to the management of Natura 2000 sites.

Thus, the requirement to assess plan's or programme's impacts on a Natura 2000 site makes a full SEA process necessary. The trigger for an Appropriate Assessment and for SEA is the significance of the effects that the plan or programme may have on a Natura 2000 site.

7.1.2 Natura 2000 network and impact assessment

At the EU level Natura 2000 is considered as the most important initiative to meet the EU's goal to halt biodiversity decline within the EU by 2010. Thus it is the centerpiece of EU Nature and biodiversity policy. Natura 2000 network is an EU-wide network which aims to conserve areas of high importance for threatened species and habitats. It comprises of Special Areas of Conservation (SAC) designated by Member States under the Habitats Directive (CEC, Directive 92/43/EEC) and also incorporates Special Protection Areas (SPAs) which are designated under the 1979 Birds Directive (CEC, Directive 79/409/EEC).

The selection of sites for the network is based only on scientific criteria, such as the size and density of populations of the species and the ecological quality and area of habitat types. The Member States propose candidate sites (SCIs) to the European Commission. The Commission and the Member State discuss the sites in biogeographical seminars to include the final sites into the Natura 2000 network. After approval of the final sites (SACs) it is up to the Member State to protect and manage the Natura 2000 sites in its territory so that their conservation objectives will endure and are not jeopardized.

It is usually possible that human activities that have been practiced in Natura 2000 sites can be continued as previously. Even in some case human activity is a precondition for preserving the site's conservation objectives, e.g. practices of traditional agriculture.

New developments are not prohibited as such/ a priori within and in vicinity of Natura 2000 sites. New projects, plans and programmes possibly affecting Natura 2000 sites are judged case by case. In the Habitats Directive article 6 (3) and 6 (4), there is a clear procedure when and how to assess these impacts and how outcome of the assessment should be treated in subsequent decisions.

The assessment procedure will start if the impacts are likely to be significant. The assessment can be integrated as part of other impact assessment in SEA and its results can be reported as an integrated part of the SEA assessment report or the results can be reported

as a separate or clearly distinctive part of the SEA assessment report. The main point is to include all relevant parts of Appropriate Assessment required by the Habitats Directive in the planning documents. The EU has given some non-binding methodological guidance on the assessment:

- Managing Natura 2000 Sites, The provisions of Article 6 of the Habitats directive 92/43/EEC
- Assessment of Plans and Projects significantly Affecting Natura 2000 Sites, Methodological Guidance on the provision of Article 6(3) and 6 (4) of the Habitats directive

- The EU guidelines can be found on the Commissions internet pages: http://www.europa.eu.int/comm/environment/nature/nature_conservation/eu_nature_legislation/specific_articles/art6/index_en.htm or http://europa.eu.int/comm/environment/nature/ ->EU Nature conservation-> EU Nature legislation -> Work on specific articles of directives -> Habitats Directive: Art 6

There is no well-established and widely used term for the assessment of impacts on Natura 2000 sites. It has been called Natura Assessment, Natura 2000 Assessment, Habitats Directive Article 6 Asssessmet, Appropriate Assessment etc. In these SEA guidelines we call it simply Appropriate Assessment (AA).

7.1.3 Screening of likely impacts upon a Natura 2000 site

7.1.3.1 General

Determination whether impacts on a Natura 2000 site are likely or not is part of the Screening procedure of SEA. Screening is a process which identifies the likely impacts upon a Natura 2000 site of a plan or programme, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

It is important to describe also other plans, programmes, projects and activities which are already approved, under preparation or being implemented in or in vicinity of the same Natura 2000 site that the plan or programme in question may affect. Therefore, information on characteristics and pressures or emissions of these existing or planned activities is necessary to assess cumulative or "in combination" impacts. Sometimes it is difficult to obtain information on other planned or existing activities, especially on those which are just under preparation.

However, it is not useful in all cases to collect exactly the same information on the other planned or existing activities than on the plan or programme in question. The main task is to identify all planned or existing activities which might act in combination with the impacts of the plan or programme in question and concentrate on the most important impacts. In order to find out these activities and their impacts it is useful to define geographical boundaries for examination of cumulative impacts. It is essential to pay attention to different pathways through which cumulative impacts can be carried, e.g. via water from a large drainage area.

After gathering the necessary information it is assessed. It is important that the provided information is assessed side by side with the information gathered on the other existing or planned activities. The final determination of the significance depends equally on the already planned or existing activities and the new plan or programme. There might be even cases, in which the already existing and planned activities will cause a significant adverse effect on the Natura 2000 site and the new plan or programme is out of question without changing existing plans or programmes.

How the significance is determined on the basis of the provided information? Plans and projects are usually site-specific and the matters are best to deal with case-by-case basis. Thus it is not possible to provide unambiguous criteria. Furthermore, screening deals with the likeliness of the significant impacts and not with the final outcome of the Appropriate Assessment. Thus the precautionary principle should be applied. If after the screening phase there is still uncertainty about the significance of impacts, an Appropriate Assessment and SEA are obligatory. If it can be objectively concluded that there are not likely to be significant effects on the Natura 2000 site, Appropriate Assessment, and therefore SEA are unnecessary on the basis of potential effects on a Natura 2000 site. However, there may be some other criteria unconnected with Natura 2000 network requiring SEA.

Plans and programmes and their assessment approaches might be different in their relation to Natura 2000 network. Usually plans and programmes with strong policy orientation including very general level policy oriented statements do not have effect on Natura 2000 sites, because they are not spatially bound to certain areas. The most probable plan or programme type is spatial/ land use planning. The requirement to assess possible adverse effects on Natura 2000 sites concerns all plan levels from national and regional to local master and local detailed land use plans

If the plan or programme is prepared on a very general spatial level it is not always possible to define exactly where the final activities will be placed and e.g. what is their distance from the Natura 2000 site and its key features (conservation objectives: species sites and the habitat type areas). However, this does not mean that the screening or possible Appropriate Assessment is impossible to carry out. It is necessary to ensure on each planning level that land use principles general land use reservations do not cause harmful effects on Natura 2000 sites. If Natura 2000 areas are involved, the screening of the plan or programme is needed. If screening reveals that negative impacts on a Natura 2000 site are likely, Appropriate Assessment and SEA are necessary.

7.1.3.2 Screening criteria for significance

The wording of the Habitats directive article 6 (3) offers some interpretation of e.g. what kind of disturbance or fragmentation of habitats/species can be interpreted as significant. The article 6(3) states that "… any plan or project likely to have a significant effect thereon (site's conservation objectives), either individually or in combination with other plans or projects…"

Therefore, important are:

- the conservation status of a certain site
- what are the effects on this site
- what kind of effects are significant on this particular site
- how probable are the effects and
- do the effects take place at the same time with some other effects arising from some other activities.

Table below describes some important criteria that are used in interpreting the information required.

Criterion	Content
Site's conservation objectives Note: the significance depends on what the specific conservation values of the site are, e.g. valuable habitat types or certain bird species! In SPA sites which are selected for bird protection, other valuable aspects, e.g. habitat types and other species, are not treated as conservation objectives that can be harmed by the plan or programme. In SCI sites bird species are not treated as conservation objectives.	Habitat Directive's Annex I natural habitat types Annex (SCI sites) Note Habitat Directive's Annex II animal and plant species of community interest (SCI sites) ***(excluding national exceptions, are there any in Latvia?)*** Bird Directive's Annex I species (SPA sites) Regularly occurring migratory species meant in Bird Directive article 4.2 (SPA sites) Exception: habitat types and species that are classified in a representativity class D are not treated as conservation objectives
Effects on the conservation objectives	Disturbance of species Physical changes of the habitats of species Effects on the species viability in the site Reduction of the area of the habitat type Habitat or species population fragmentation Disruption of factors that help to maintain or achieve the favourable conservation status of a species or habitat type
Significant effects Note: even a small change can be significant!	Significance of the effects depends on: Extent of the change Size of the site Importance/ representativiness of the site's conservation objectives Location of the conservation values in the site Integrity of the site, viz. its wholeness in an ecological sense, vital aspects of the ecosystem, ecological functions depending on many factors (e.g. nutrient and water balance) Overall coherence/ consistency of the network
Likelihood Note: effects do not have to be certain to be assessed!	Application of precautionary principle requires that site's conservation status should prevail when there is uncertainty It has to be ascertained that there are no significant effects Probability of the occurrence of effects: low, medium, high
Cumulative effects Note: the other projects, plans and programmes and their impacts have to be taken into account when considering significance!	All existing/ completed, approved or formally proposed projects, plans and programmes and their effects Definition of the area where the other affecting projects, plans or programmes exist

Criteria used in determining impact significance

7.2. Scoping of impacts upon a Natura 2000 site

In SEA scoping phase, if there are likely impacts on a Natura 2000 site it is important to identify and describe:

- What are the affected Natura 2000 sites and their conservation objectives (listed Annex habitat types and species, the difference between SCIs/SACs and SPAs)
- Where the conservation objectives are situated in the Natura 2000 site?
- Definition of the affected area – e.g. are all occurrences of the certain species affected or just a part of the occurrences?
- Data gaps, what data already exist on a Natura 2000 site (e.g. Natura 2000 Standard Data Form) and what is missing?
- The other existing or planned activities and information requirements on these and methods, how this information is gathered?
- Necessary expertise – what kind of experts are needed? (based on the likely affected habitat types or species) e.g. ecologists specialized on certain species groups or habitat types
- Necessary field works and methods of these
- Assessment methods – how effects, including cumulative effects, are assessed on certain species and habitat types based on the gathered information?

7.3. Assessment of the effects on Natura 2000 sites related to implementation of plan or programme

If the Appropriate Assessment is reported as an integrated part of the SEA environmental report, in the following it is pointed out what information is necessary in each part of the environmental report because of the possible impacts on a Natura 2000 site:

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

- Relationship to the Natura 2000 network
- Natura 2000 sites inside or near the area where the plan or programme is implemented (SCIs or SACs and SPAs)

(b) The current state of the environment and the likely evolution thereof without implementation of the plan or programme.

- State of the Natura 2000 sites and their conservation objectives (Annex habitat types and species)
- Favourable conservation status, factors that help to maintain or achieve the favourable conservation status of a habitat type or species and their likely evolution without the plan or programme.

(c) The environmental characteristics of areas likely to be significantly affected

- Description of which alternatives of the plan or programme affect Natura 2000 sites - which Natura 2000 sites are affected in each alternative?
- Delineation of the affected area by the plan or programme

- The affected parts (if only a part is affected) of the Natura 2000 site or the whole site(s) (if the whole site(s) is/(are) affected) are described in detail. The detailed description is presented on the habitat type and species level and they are delineated on a map. In any case the whole Natura 2000 site(s) is/(area) described as well. If the affected part is small and the whole Natura 2000 site is large, the description of the whole site does not have to be as detailed as of the affected part.

(d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance.

- In this the problems connected to Natura 2000 sites can be emphasized further.

(e) The environmental protection objectives, established at international, European Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation

- Plan's or programme's implication to the overall coherence of the EU Natura 2000 network. Are there in the affected Natura 2000 site(s) some habitat types or species of EU responsibility (priority habitat types on species)? Are there in the affected Natura 2000 site(s) habitat types or species occurring only in Latvia? Are there in the affected the Natura 2000 site(s) habitat types or species that are underrepresented in the national or the EU Natura 2000 network?

(f) The likely significant primary, secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative effects on the environment, including biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

- Description of the plan's or programme's impacts on Natura 2000 sites including also cumulative impact assessment. The impacts on Natura 2000 sites are described on individual habitat type and species level and on the integrity of the site. If there are clearly distinctive alternatives in the plan or programme, impacts on Natura 2000 sites are described in each alternative.
- Outcome of the Appropriate Assessment is described clearly: will the implementation of the plan or programme adversely affect the integrity of the Natura 2000 site(s)? The reasons for this outcome should be given. The outcome is described without mitigation measures.

(g) The measures envisaged to prevent, reduce and compensate significant adverse effects on the environment of implementing the plan or programme

- Mitigation measures to prevent significant adverse effects on Natura 2000 sites are presented. The outcome of the Appropriate Assessment is described again in the light of mitigation measures: are the mitigation measures effective enough to prevent adverse effects on the integrity of the Natura 2000 site(s)?

(h) A description of alternatives examined, and the reasons for selecting the alternatives of a plan or programme dealt with and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.

- If the Natura 2000 site(s) have affected the selection of alternatives, this is told.
- The data used in Appropriate Assessment
- Description of methods used in gathering data on the Natura 2000 site(s), the plan or programme, and other existing and planned activities

- Description of assessment methods how impacts of the plan or programme in combination with other existing and planned activities were assessed
- Description of difficulties and data gaps encountered during information collection and impact assessment on Natura 2000 sites

(i) A description of the measures envisaged concerning monitoring

- Description of monitoring on impacts on the Natura 2000 site(s) or sites after the plan or programme is implemented including possible monitoring methods.

(j) A non-technical summary of the information provided under the headings 1-10 of this Annex.

- Issues connected to the impacts on Natura 2000 sites are a part of the non-technical summary.

References:

Commission of the European Communities (CEC). Council Directive 79/409/EEC on the conservation of wild birds. Official Journal: L103, 25 April 1979.

Commission of the European Communities (CEC). Council Directive 92/43/EEC on the conservation of the natural habitats and wild flora and fauna. Official Journal: L206, 22 July 1992.

Commission of the European Communities (CEC). Directive 2001/42/EC of the European parliament and of the council on the assessment of the effect of certain plans and programmes on the environment. Official Journal: L197, July 2001

Annex 8.1 Quality control checklist

Objectives and context
• The plan's or programme's purpose and objectives are made clear.
• Environmental issues and constraints, including international and EC environmental protection objectives, are considered in developing objectives and targets.
• SEA objectives, where used, are clearly set out and linked to indicators and targets where appropriate.
• Links with other related plans, programmes and policies are identified and explained.
• Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described.

Scoping
• Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report.
• The assessment focuses on significant issues.
• Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit.
• Reasons are given for eliminating issues from further consideration.

Alternatives
• Realistic alternatives are considered for key issues, and the reasons for choosing them are documented.
• Alternatives include 'do minimum' and/or 'business as usual' scenarios wherever relevant.
• The environmental effects (both adverse and beneficial) of each alternative are identified and compared.
• Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained.
• Reasons are given for selection or elimination of alternatives.

Baseline information
• Relevant aspects of the current state of the environment and their likely evolution without the plan or programme are described.
• Environmental characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan.
• Difficulties such as deficiencies in information or methods are explained.

Prediction and evaluation of likely significant environmental effects
• Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape), as relevant; other likely environmental effects are also covered, as appropriate.
• Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) is addressed.
• Likely secondary, cumulative and synergistic effects are identified where practicable.
• Inter-relationships between effects are considered where practicable.
• The prediction and evaluation of effects makes use of relevant accepted standards, regulations, and thresholds.
• Methods used to evaluate the effects are described.

Mitigation measures
• Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated.
• Issues to be taken into account in project consents are identified.

The Environmental Report
• Is clear and concise in its layout and presentation.
• Uses simple, clear language and avoids or explains technical terms.
• Uses maps and other illustrations where appropriate.
• Explains the methodology used.
• Explains who was consulted and what methods of consultation were used.
• Identifies sources of information, including expert judgement and matters of opinion.
• Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA.

Consultation
• The SEA is consulted on as an integral part of the plan-making process.
• Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate time frames to express their opinions on the draft plan and Environmental Report.

Decision-making and information on the decision
• The environmental report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme.
• An explanation is given of how they have been taken into account.
• Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered.

Monitoring measures
• Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.
• Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.
• Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect.)
• Proposals are made for action in response to significant adverse effects.

(A Practical Guide to the Strategic Environmental Assessment Directive, September 2005, Office of the Deputy Prime Minister: London)

Annex 9.1 Frequently asked questions

What is Strategic Environmental Assessment (SEA)?
SEA is procedure in which the environmental aspects of a plan or programme are assessed and authorities and public are given possibility to comment the environmental report and the draft plan or programme.

What plans and programs are subject to SEA?
The requirements to apply SEA are in the EIA act. Plans or programmes are either listed in as obligatory for SEA or in other cases screening decision is made.

Who makes the screening decision if SEA is needed for a plan or program?
The State Environment Bureau makes the decision based on information provided by the authority responsible for preparation of the plan or programme. Contact information:

Working hours of the State Environment Bureau: weekdays from 8:30 AM till 5:00 PM

Visitors' address:
Rūpniecības iela 23, Rīga

Postal address:
Rūpniecības iela 23, Rīga, LV 10 – 45, Latvia

Phone: + 371 7321173
Fax: + 371 7321049
E-mail: vpvb@vpvb.gov.lv

Who bears the costs of SEA?
The authority, who is preparing the plan or programme is responsible of the SEA costs.

Is the developer of a plan or program allowed to prepare the Environmental report by himself (herself)? Who is allowed to carry out SEA study and prepare SEA report?
Is some kind of a special license or certificate required?
The EIA Act does not stipulate who is authorized to prepare Environmental report. The criterion is the quality of the report and not the official qualification of the preparer.

Who makes a decision if the plan or program can be approved / implemented?
The decision maker on the plan or programme is not stipulated by the EIA Act. The decision maker depends on the legislation or administrative decisions which are stipulating the preparation of the plan or programme.

How much time the SEA procedure takes?
Time consumption depends on how the assessment and the preparation of the plan or programme are integrated. A well integrated assessment can be usually performed within the time frame of plan or programme preparation. However, participation and evaluation of the environmental report might add some months time.

Where can I get acquainted with SEA documents?
It is up to the body responsible for preparation of the plan or programme to publish the documents and the time and place should be specified in announcements concerning the procedure. Also, the State Environment Bureau has the information of the accessibility of the documents.

Can I comment on the SEA of a certain plan or program?
The competent authority is entitled to give their opinion on scoping of SEA. General public and relevant authorities have the opportunity to comment the Environmental Report and the draft plan or programme.

Are there any possibilities for me to participate in the planning process?
It is up to the preparer (the authority responsible for preparing) of the plan or programme to decide who they involve in the planning process. Often stakeholders are involved in the planning beyond the formal participation.