European Civil Protection

»With the contribution of the Civil Protection Financial Instrument of the European Union«

Funded by
European Union
Humanitarian Aid &
Civil Protection

WIND RISK

Task D – Action plan

Action D.1: Spatial Planning Recommendations Aiming at Reducing Vulnerabilities

For the Wind Risk prevention project

University of Ljubljana
Technical University of Dortmund
University of Split
Municipality of Ajdovščina

European Civil Protection

»With the contribution of the Civil Protection Financial Instrument of the European Union«

WIND RISK

Funded by European Union Humanitarian Aid & Civil Protection

Chapter D.1 – Spatial Planning Recommendations Aiming at Reducing Vulnerabilities

Contents

List of Figures

List of Tables

1. Introduction: Reducing Vulnerability towards Storms through Spatial Planning?

As spatial planning decides about future land uses and city structures, the discipline recognizably influences the vulnerability of areas. The aim of this Wind Risk Report D.1 therefore is to discuss how vulnerabilities can be reduced from a spatial planning perspective. In comparison to other Wind Risk Reports, D.1 does not target the development of single on-site measures. Instead D.1 aims at developing an approach on how location-based vulnerabilities may be identified and treated by systematic, comparable spatial planning approaches.

One key procedure within spatial planning is environmental assessment. Environmental assessment aims at ensuring that before any (planning) decision on projects, plans or programs are taken, possible environmental implications are considered (cf. Website EC 2016a). As EU Directives 2011/92/EU[1] and 2001/42/EC[2] form the legal bases for environmental assessment, both a systematic and comparable approach is provided for.

The focus of this report is therefore on the connection between spatial planning and environmental assessment. In chapter 2, the EU Directives on Environmental Assessment are introduced. The above-mentioned Directives shall be addressed and their assessment procedures outlined in detail. Furthermore, the recent amendment of Directives 2011/92/EU will be introduced, which, for the first time, explicitly addresses climate change as well as risks from accidents and/or disasters (Annex IV) as substantial topics of environmental assessment. Moreover, a comparison of similarities and differences between Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) will be given.

In chapter 3, the connections between spatial planning and environmental assessment are introduced for each Wind Risk partner country, namely Germany, Slovenia and Croatia. For each country, the national spatial planning system is described and laws and regulations on environmental assessment are given.

Chapter 3 provides the basis for chapter 4, in which a discussion is conducted on the question if spatial planning is capable of reducing vulnerability through environmental assessment. In this chapter, opportunities and restrictions of environmental assessment as a systematic, comparable spatial planning approach are identified. Moreover, recommendations are given from a spatial planning perspective on how the (location-based and therefore spatially varying) vulnerability towards storms may be reduced.

Chapter 5 gives a summary of the finding and concludes on the guiding research question for this report, which is:

- *Is Spatial Planning Capable of Reducing Vulnerability through Environmental Assessment?*

[1] Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment
[2] Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

2. Environmental Assessment in the EU

This chapter presents an in-depth description of the Environmental Assessment Directives 2011/92/EU (EIA Directive) and 2011/42/EC (SEA Directive). Special attention is drawn to the latest amendment of the EIA Directive (2014/52/EU), which comprises an assessment of risks from accidents or disasters (Annex IV).

2.1. Environmental Impact Assessment Directive 2011/92/EU

2.1.1. Development of the EIA Directive

Environmental Impact Assessment (EIA) was first introduced in 1985 in the EIA Directive 85/337/EEC. It was established with the purpose of considering both positive and negative potential environmental impacts prior to the implementation of public or private projects. (Cf. Website EC 2016b)

The Annexes of the Directive define whether a project mandatorily requires an EIA (Annex I projects) or whether a screening procedure needs to be conducted in order to estimate the necessity of an EIA.
Projects listed in Annex I are considered to always have significant impact on the environment. These embrace for example airports (with a runway length greater than 2,100 m), long-distance motorways, long-distance railway lines, waste water treatment plants (greater than 150,000 person equivalents), installations for the disposal of non-hazardous waste (greater than 100 tons per day) and installations for the disposal of hazardous waste (regardless of the size).
Projects listed in Annex II are considered to possibly have an impact on the environment, which is why the national authorities decide in a case-to-case screening procedure on whether an EIA is needed. The criteria for the examination of Annex II projects are anchored in Annex III of the Directive. Annex II projects are for example flood-relief works and urban development projects. (Cf. Directive 2011/92/EU)

The presently legally binding Directive 2011/92/EU consists of the initial Directive from 1985 and three amendments. The first amendment of the initial Directive was conducted in 1997 with the aim of widening the scope of projects covered (Directive 97/11/EC). With the first amendment, both the number of projects for mandatory EIA (Annex I) as well as screening procedure projects (Annex II) was increased and new screening criteria (Annex III) established. The primary inducement for amending 85/337/EEC was the adoption of the UN ECE Espoo Convention.
The second amendment took place in 2003 due to the Aarhus Convention and the new resolution on public participation. Directive 2003/35/EC therefore detached Directive 97/11/EC and aimed at aligning the provisions “on public participation in decision-making processes and an access to justice in environmental matters.” (Website EC 2016b)
The third amendment was conducted in the year 2009 in which the Annexes were updated again. EIA Directive 2009/31/EC was newly considering projects in the field of transport and both capturing and storage of carbon dioxide (CO_2). (Cf. Website EC 2016b)

2.1.2. Structure and Contents of Directive 2011/92/EU

The first segment of Directive 2011/92/EU explains the essential contents of the Directive, before concrete articles are named. The first segment e.g. justifies the codification of the Directive *"[it] has been substantially amended several times" (1)* and states the legitimation for the existence of the Directive *"Union policy on the environment is based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should, as a priority, be rectified at source and that the polluter should pay. Effects on the environment should be taken into account at the earliest possible stage in all the technical planning and decision-making processes." (2)* In a later context, the legally protected goods embraced in the Directive are named: *The effects of a project on the environment should be assed in order to take account of concerns to protect human health, to contribute by means of a better environment to the quality of life, to ensure maintenance of the diversity of species and to maintain the reproductive capacity of the ecosystem as a basic resource for life. (14)*
Furthermore, the difference between Annex I and Annex II projects and the role of Member States in setting thresholds and the project developers are explained *(8-13)*. Also the topics of transboundary cooperation *(15)* and public participation *(16-21)* are included. Regarding public participation it is stated that by taking into account opinions and concerns of the public, the aims of *"increasing the accountability and transparency of the decision-making process and contributing to public awareness of environmental issues and support for the decisions taken." (16)* are enforced.

Subsequently, the second segment contains the legally binding articles and paragraphs. The prior described structure is now transferred to articles, starting with the legitimation. *"Member states shall adopt all measures necessary to ensure that, before consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. […] The environmental impact assessment may be integrated into the existing procedures for consent to projects in the Member States, or, failing this, into other procedures or into procedures to be established to comply with the aims of this Directive." (Art. 2 1-2)* Subsequently the protected goods are anchored in Article 3: *"The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect effects of a project on the following factors: (a) human beings, fauna and flora; (b) soil, water, air, climate and the landscape; (c) material assets and the cultural heritage; (d) the interaction between the factors referred to in points (a), (b) and (c)."* Article 4 then contains the differentiation between Annex I projects (mandatory EIA) and Annex II projects (scoping): *"(1) Subject to Article 2(4), projects listen in Annex I shall be made subject to an assessment in accordance with Articles 5 to 10. (2) Subject to Article 2(4), for projects listed in Annex II, Member States shall determine whether the project shall be made subject to an assessment in accordance with Articles 5 to 10. Member states shall make that determination through: (a) a case-by-base examination; or (b) thresholds or criteria set by the Member State. Member States may decide to apply both procedures referred to in points (a) and (b). (3) When a case-by-case examination is carried out or thresholds or criteria are set for the purpose of paragraph 2, the relevant selection criteria set out in Annex III shall be taken into account."*
The exact EIA procedure is outlined in Tab 1, referring to Articles 5 to 9 of the Directive.

Last, the Annexes contain specific project for which an EIA is mandatory (Annex I), project, for which the competent authority needs to screen whether an EIA is needed (Annex II) and the selection criteria needed for screening projects (Annex III). Furthermore, Annex IV contains information referred to in Article 5(1) on the detailed description of the project. In addition, Annex V contains a list of the successive amendments, the dates until which these amendments needed to be transposed into national law and a table of correlation between the Articles of Directive 85/337/EEC and Directive 2011/92/EU.

2.1.3. EIA Procedure

Tab. 1: EIA procedure according to Directive 2011/92/EU

Art. & Parag.	Subject	Addressees	Procedure
Art. 5 (1-4)	Information on the project are to be provided, evaluated and commented on. This information are at least: • *a description of the project comprising information on the site, design and size of the project;* • *a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects;* • *the data required to identify and assess the main effects which the project is likely to have on the environment* • *an outline of the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects;* • *a non-technical summary of the information referred to in points (a) to (d). (Art. 5(3))*	• Developer	supplies information on the project in an appropriate form
		• Member State	evaluates the information given by the developer; ask the competent authority for an opinion on the information supplied
		• Competent authority	gives an opinion on the information to be supplied by the developer after consulting the developer and other authorities (Art. 6(1))
Art. 6 (1-6)	Participation procedures for authorities with environmental responsibilities (1) and the public (2). Early decision-making information for the public have to be: • *the request for development consent;* • *the fact that the project is subject to an EIA procedure and, where relevant, that Article 7 applies;* • *details on the competent authorities responsible for taking the decision, those from which information can be obtained, those to which comments or questions can be submitted, and details of the time schedule for transmitting comments or questions;* • *the nature of possible decision or, where there is one, the draft decision;* • *an indication of the availability of the information gathered pursuant to Article 5;* • *an indication of the times and places at which, and the means by which, the relevant information will be made available;* • *details of the arrangements for public participation made pursuant to paragraph 5 of this Article. (Art. 6(2))* Later information to be made available to the public concerned are: • *any information gathered pursuant to Article 5;* • *in accordance with national legislation, the main reports and advice issued to the competent authority or authorities at the time when the public concerned is informed in accordance with paragraph 2 of this Article;* • *[…] information other than that referred to in paragraph 2 of this Article which is relevant for the decision in accordance with Article 8 of this Directive and which only becomes available after the time the public concerned was informed […]. (Art. 6(3))*	• authorities with environ-mental responsi-bilities	express their opinion on the information supplied by the developer
		• Member State	designates the authorities to be consulted (either in general or on a case-by-case basis); ensures that information are made available to the public; defines the detailed arrangements for informing the public
		• Competent authority	forwards the information supplied by the developer to the other environmental authorities to be consulted
		• The public	is informed as soon as possible, latest when information can reasonably be provided
		• The public concerned	has early (before the request for development consent is taken) and effective opportunities to participate in the environmental decision-making procedures via comments and opinions

Art. 7 (1-5)	Participation procedures in case other Member States possibly being affected by a project in one Member State: • *a description of the project, together with any available information on its possible transboundary impact;* • *information on the nature of the decision which may be taken. (Art. 7(1))*	• Member State	inform other Member States possibly affected by a project and give reasonable time in which participation requests may be expressed; enter consultations on the potential transboundary effects of the project
		• Potentially affected other Member States	receives information on the project and may request the wish to participate in the decision-making process; arrange the information received and inform environmental authorities and the public concerned; enter consultations on the potential transboundary effects of the project
		• Potentially affected environ-mental authorities and public in other Member State	forwards the opinion to the Member State in whose territory the project is intended to be carried out before development consent for the project is granted
Art. 8	Consideration of the consultations and all information gathered (pursuant to Articles 5-7) in the development consent procedure.	• Competent authority	considers all information and consultations
Art. 9 (1-2)	Information of the public on the decision of the development consent: • *the content of the decision and any conditions attached thereto;* • *having examined the concerns and opinions expressed by the public concerned, the mains reasons and considerations on which the decision is based, including information about the public participation process;* • *a description, where necessary, of the main measures to avoid, reduce and, if possible, offset the major adverse effects. (Art. 9(1))*	• Competent authority	informs the public on the decision of the development consent; informs any Member State which as been consulted according to Article 7; forwards all information referred to in paragraph 1 of this Article
		• Consulted Member State	ensures that the received information is made available to the public concerned in their own territory

Source: own depiction following Directive 2011/92/EU, Articles 5-9.

2.2. Amended Environmental Impact Assessment Directive 2014/52/EU

2.2.1. Development of EIA Directive 2014/52/EU

In May 2014 Directive 2011/92/EU was amended by EIA Directive 2014/52/EU. The major aims of the amendment were to reduce the overall administrative burden, to make "business decisions on public and private investments more sound, more predictable and sustainable in the long term" and to better include topics that have emerged since the initial Directive, like "resource efficiency, climate change and disaster prevention" (Website EC 2016c).

The European Commission sums up the main amendments as follows:

- "Member States now have a mandate to simplify their different environmental assessment procedures.
- Timeframes are introduced for the different stages of environmental assessments: screening decisions should be taken within 90 days (although extensions are possible) and public consultations should last at least 30 days. Members States also need to ensure that final decisions are taken within a 'reasonable period of time'.
- The screening procedure, determining whether an EIA is required, is simplified. Decisions must be duly motivated in the light of the updated screening criteria.
- EIA reports are to be made more understandable for the public, especially as regards assessments of the current state of the environment and alternatives to the proposal in question.
- The quality and the content of the reports will be improved. Competent authorities will also need to prove their objectivity to avoid conflicts of interest.
- The grounds for development consent decisions must be clear and more transparent for the public. Member States may also set timeframes for the validity of any reasoned conclusions or opinions issued as part of the EIA procedure.
- If projects do entail significant adverse effects on the environment, developers will be obliged to do the necessary to avoid, prevent or reduce such effects. These projects will need to be monitored using procedures determined by the Member States. Existing monitoring arrangements may be used to avoid duplication of monitoring and unnecessary costs." (Website EC 2016c)

The amendment needs to be transported into national law until 16 May 2017 (cf. Website EUC 2016c).

2.2.2. Structure and Contents of Directive 2014/52/EU

The first segment of EIA Directive 2014/52/EU outlines the major changes of the Directive in comparison to Directive 2011/92/EU and gives reason, why an amendment is needed: *"It is necessary to amend Directive 2011/92/EU in order to strengthen the quality of the environmental impact assessment procedure, align that procedure with the principles of smart regulation and enhance coherence and synergies with other Union legislation policies, as well as strategies and policies developed by Member States in areas of national competence. (3) […] Directive 2011/92/EU should also be revised in a way that ensures that environmental protection is improved, resource efficiency increased and sustainable growth supported in the Union. To this end, the procedures it lays down should be simplified and harmonised." (6)* Another important topic that was included in the amendment of the EIA Directive is the economic and social significance of good land management, including soil. Plans and programs shall therefore become more appropriate regarding the topics of land take, sealing, erosion and compaction. These insights were the outcome of the United Nations Conference on Sustainable Development held in Rio de Janeiro in June 2012. (Cf. Directive 2014/52/EU (9))

Most importantly for the Wind Risk Prevention Project is the following reason for the amendment of the EIA Directive: *"Over the last decade, environmental issues, such as resource efficiency and sustainability, biodiversity protection, climate change, and risks of accidents and disasters, have become more important in policy making. They should therefore also constitute important elements in the assessment and decision-making processes." (7)* This statement is specified in the following segments 13-15, which, in order to ensure a correct understanding, will be quoted directly:

- *"Climate change will continue to cause damage to the environment and compromise economic development. In this regard, it is appropriate to assess the impact of projects on climate (for example greenhouse gas emissions) and their vulnerability to climate change." (13)*
- *"[…] to ensure that the implementation, review and further development of Union initiatives, take into consideration disaster risk prevention and management concerns as well as the United Nations Hyogo Framework for Action Programme […], which stresses the need to put in place procedures for assessment of the disaster risk implications of major infrastructure projects." (14)*
- *"In order to ensure a high level of protection of the environment, precautionary actions need to be taken for certain projects which, because auf their vulnerability to major accidents, and/or natural disasters (such as flooding, sea level rise, or earthquakes) are likely to have significant adverse effects on the environment. For such projects, it is important to consider their vulnerability (exposure and resilience) to major accidents and/or disasters, the risk of those accidents and/or disasters occurring and the implications for the likelihood of significant adverse effects on the environment. […]" (15)*

It is striking that for the first time climate change, disaster risk management and accidents as well as disasters found entrance to the EIA Directive. According to statement 13 it is not sufficient anymore to describe the possible significant effects of projects on climatic factors as in Articles 3 and 5 of Directive 2011/92/EU (cf. Directive 2011/92/EU 3 (b); 5 (1))[3], but an assessment of the vulnerability of planned structures and objects towards climate change becomes necessary.
Furthermore, the inclusion of the Hyogo Framework enables a consideration of disaster risk prevention and management, especially for infrastructure projects. By including this statement 14, the gap between risks prevention and planning is bridged.
Last, statement 15 enforces precautionary actions regarding accidents and/or disasters in the habit of risks analyses. First, the vulnerability of projects towards major accidents and/or natural disasters needs to be assessed by investigating exposure and resilience of the projects. Second, the risk of occurrence for these accidents and/or disasters needs to be estimated. Third, implications for the likelihood of significant adverse effects on the environment need to be described.

From statement 30 onwards, the environmental impact assessment report is introduced. This report is to be written by the developer of a project and to be commented by the competent authority during the phase of scoping. It contains all information delivered previously under Article 5 (1) Directive 2011/92/EU and Annex IV. *"The environmental impact assessment report […] should include a description of reasonable alternatives […], including […] an outline of the likely evolution of the current state of the environment without implementation of the project (baseline scenario) […]." (31)*

Subsequently, the second segment contains the legally binding articles and paragraphs. E.g. the environmental impact assessment report in now embedded in Article 1. Especially interesting is the replacement of Article 3 in favor of an enlarged list of protected goods and of a second paragraph, which says: *"The effects referred to in paragraph 1 on the factors set out there in shall include the expected effects deriving from vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned."* (Directive 2014/52/EU Article 3(2))
Amendments of Articles 5 to 9, which describe the exact EIA procedure, are described in detail in the following subchapter.

Again, the third part of Directive 2015/52/EU consists of the amended Annexes. An Annex II.A is inserted on information referred to in Article 4(4), referring to the list of information the project developer has to provide. Former Annexes III and IV are being

[3] "A description of the aspects on the environment likely to be significantly affected by the proposed project, including, in particular, [...] climatic factors […]." (Directive 2011/92/EU, Annex IV, Information referred to in Article 5(1)

replaced by a new Annex III on the selection of scoping criteria referred to in Article 4(3). Annex IV provides information on the environmental impact assessment report and refers to the amended Article 5(1).

2.2.3. Changes in EIA procedure

As it is of special interest for the Wind Risk Prevention Project, in the following the amendments concerning changes in the EIA procedure are investigated. Changes are marked in red letters.

Tab. 2: Changes in EIA procedure according to Directive 2014/52/EU

Art. & Parag.	Changes in subject	Addressees	Procedure
Art. 5 (1-3, 4)	Information on the environmental impact assessment report (paragraph 1). The report shall at least have the following contents: • *a description of the project comprising information on the site, design, size and other relevant features of the project;* • *a description of the likely significant effects of the project on the environment;* • *a description of the features of the projects and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;* • *a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;* • *a non-technical summary of the information referred to in points (a) to (d); and* • *any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.*	• Developer	supplies information on the project in the form of an environmental impact assessment report; is responsible for a good quality of the report
		• Member State	evaluates the information given by the developer; ask the competent authority for an opinion on the information supplied
		• Competent authority	gives an opinion on the information of the environmental impact assessment report after consulting the developer and other authorities (Art. 6(1)); needs to exhibit sufficient expertise to examine the report
Art. 6 (1-2, 3-4, 5-6, 7)	Participation procedures for authorities with environmental responsibilities (1) and the public (2). Early decision-making information for the public have to be: • *the request for development consent;* • *the fact that the project is subject to an EIA procedure and, where relevant, that Article 7 applies;* • *details on the competent authorities responsible for taking the decision, those from which information can be obtained, those to which comments or questions can be submitted, and details of the time schedule for transmitting comments or questions;* • *the nature of possible decision or, where there is one, the draft decision;* • *an indication of the availability of the information gathered pursuant to Article 5;* • *an indication of the times and places at which, and the means by which, the relevant information will be made available;* • *details of the arrangements for public participation made pursuant to paragraph 5 of this Article.* *(Art. 6(2))* Later information to be made available to the public concerned are:	• authorities with environ-mental responsi-bilities	express their opinion on the information supplied by the developer
		• Member State	designates the authorities to be consulted (either in general or on a case-by-case basis); ensures that information are made available to the environmental authorities and the public (1-2); defines the detailed arrangements for informing the public, taking the necessary measures to ensure that the relevant information is electronically accessible

	• *any information gathered pursuant to Article 5;* • *in accordance with national legislation, the main reports and advice issued to the competent authority or authorities at the time when the public concerned is informed in accordance with paragraph 2 of this Article;* • *[…] information other than that referred to in paragraph 2 of this Article which is relevant for the decision in accordance with Article 8 of this Directive and which only becomes available after the time the public concerned was informed […]. (Art. 6(3))* *Article 6(7): The time-frames for consulting the public concerned on the environmental impact assessment report referred to in Article 5(1) shall not be shorter than 30 days.*	• Competent authority	forwards the information supplied by the developer to the other environmental authorities to be consulted
		• The public	is informed as soon as possible, latest when information can reasonably be provided
		• The public concerned	has early (before the request for development consent is taken) and effective opportunities to participate in the environmental decision-making procedures via comments and opinions
Art. 7 (1-3, 4-5)	Participation procedures in case other Member States possibly being affected by a project in one Member State: • *a description of the project, together with any available information on its possible transboundary impact;* • *information on the nature of the decision which may be taken. (Art. 7(1))*	• Member State	inform other Member States possibly affected by a project and give reasonable time in which participation requests may be expressed; enter consultations on the potential transboundary effects of the project
		• Potentially affected other Member States	receives information on the project and may request the wish to participate in the decision-making process; arrange the information received and inform environmental authorities and the public concerned; enter consultations on the potential transboundary effects of the project; agree on a reasonable time frame
		• Potentially affected environ-mental authorities and public in other Member State	forwards the opinion to the Member State in whose territory the project is intended to be carried out before development consent for the project is granted
Art. 8	The results of consultations and the information gathered (pursuant to Articles 5-7) shall be duly taken into account in the development consent procedure.	• Competent authority	considers all information and consultations
Art. 8a (1-6)	(1) Least information incorporated in the decision of granting a development: • *The reasoned conclusion referred to in Article 1(2)(g)(iv);* • *Any environmental conditions attached to the decision, a description of any features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment as well as, where appropriate, monitoring measures;* OR (2) Reasons for refusal of development (4) monitoring parameters	• Member State	ensures that the measures envisaged to avoid, prevent or reduce significant adverse effects are implemented by the developer; determines the procedures regarding the monitoring
		• Competent authority	takes decisions on the environmental impact assessment report within reasonable time; has to make sure that information on Article 3 are still up to date when granting development consent

Art. 9 (1, 2)	Information of the public on the decision to grant or refuse development consent: • *the content of the decision and any conditions attached thereto;* • ~~*having examined the concerns and opinions expressed by the public concerned,*~~ *the mains reasons and considerations on which the decision is based, including information about the public participation process. This also includes the summary of the results of the consultations and the information gathered pursuant to Articles 5 to 7 and how those results have been incorporated or otherwise addressed, in particular the comments received form the affected Member State referred to in Article 7;* • ~~*a description, where necessary, of the main measures to avoid, reduce and, if possible, offset the major adverse effects.*~~	• Competent authority	promptly informs the public on the decision of the development consent taking into account information from Article 8a; informs any Member State which as been consulted according to Article 7; forwards all information referred to in paragraph 1 of this Article
		• Consulted Member State	ensures that the received information is made available to the public concerned in their own territory
Art. 9a	"Member States shall ensure that the competent authority or authorities perform the duties arising from this Directive in an objective manner and do not find themselves in a situation giving rise to a conflict of interest. Where the competent authority is also the developer, Member States shall at least implement, within their organisation of administrative competences, an appropriate separation between conflicting functions when performing the duties arising from this Directive."	• Member State	ensure that the competent authority/ies are not in a conflict of interest

Source: own depiction, following EIA Directive 2014/52/EU, Articles 5-9a.

2.3. Strategic Environmental Assessment Directive 2001/42/EC

2.3.1. Development of SEA Directive 2011/42/EC

The SEA Directive came into force in 2001 and needed to be transposed into national law by July 2004. In comparison to the EIA, the SEA applies to plans and programs rather than to individual projects. Furthermore, there is no list of plans and programs for which the SEA applies but the demand that any plan or program setting the framework for future development needs an SEA.

The SEA is mandatory for plans and programs prepared in the sectors of "agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use". (Website EC 2015d) Furthermore an SEA has to be conducted if determined so under the Habitats Directive.

Important to note is that the SEA Directive does not refer to policies and that plans and programs "must be prepared or adopted by an authority (at national, regional or local level) and be required by legislative, regulatory or administrative provisions" (Website EC 2016d).

Similar to the EIA there is the screening procedure for projects, which possibly have environmental effects. A set of criteria of the screening procedure is anchored in Annex II. (Cf. Website EC 2016d) The detailed structure and contents as well as the SEA procedure are described in the following subchapters.

2.3.2. Structure and Contents of Directive 2001/42/EC

The first segment of SEA Directive 2001/42/EC outlines the inducement for implementing a directive on strategic environmental assessment: *"Environmental assessment is an important tool for integrating environmental considerations into the preparation and adoption of certain plans and*

programmes which are likely to have significant effects on the environment in the Member States, because it ensures that such effects of implementing plans and programmes are taken into account during their preparation and before their adoption. (4) The adoption of environmental assessment procedures at the planning and programming level should benefit undertakings by proving a more consistent framework in which to operate by the inclusion of the relevant environmental information into decision making. The inclusion of a wider set of factors in decision making should contribute to more sustainable and effective solutions. (5) […] Action is therefore required at Community level to lay down a minimum environmental assessment framework, which would set out the broad principles of the environmental assessment system and leave the details to the Member States, having regard to the principle of subsidiarity. […]" (8)

The close linkage of the EIA and the SEA becomes apparent in statement (10). Therein it is stated that an SEA is mandatory for all plans and programs referring to projects listed in the EIA Directive. Furthermore, other prerequisites for plans and programs of mandatorily being subject to SEA are anchored: *"All plans and programmes which are prepared for a number of sectors and which set a framework for future development consent of projects listed in Annexes I and II to Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment, and all plans and programmes which have been determined to require assessment pursuant to Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna, are likely to have significant effects on the environment, and should as a rule be made subject to systematic environmental assessment. […]" (10)* A scoping-like procedure needs to be applied if plans or programs set the framework for future development but may not have significant effects on the environment. In this case, Member States need to determine whether an assessment of environmental effects is necessary. For this purpose, relevant criteria are anchored in the SEA Directive. (Cf. Directive 2001/42/EC (11, 12); Article 3(3-6)) From an SEA excluded are plans and programs, which solely serve national defense or civil emergency purposes as well as financial or budget plans and programs (cf. Directive 2001/42/EC Article 3(8)).

Similar to the amended EIA Directive 2014/52/EU, a report needs to be created if significant environmental effects are to be expected. This environmental report identifies, describes and evaluates the possible effects on the environments and gives reasonable alternatives. (Cf. Directive 2001/42/EC (14)) Again similar to the EIA Directive is the information, participation and consultation process of the public, other authorities and other potentially affected Member States (cf. Directive 2001/42/EC (15-18))

As well as in the EIA Directives, the second and third segment of the SEA Directive consist of the concrete Articles and the Annexes. First, in Article 2, definitions are given. Following the definition for 'plans and programs' these comprise both newly prepared plans and programs as well as modifications to them. Furthermore, these have to be *"subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and which are required by legislative, regulatory of administrative provisions" (Article 2(a)).* In Article 3 the scope of the Directive is defined. Therein is stated that any plan or program likely having a significant environmental effect according to Articles 4 to 9 needs to be subject to an environmental assessment. In detail this applies to plans and programs prepared for *"agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use and which set the framework for future development […]"(Article 2(2)(a)).*

The exact SEA procedure and monitoring is anchored in Articles 5-10 which are subject to the following subchapter. In Annex I, a list of information to be provided within the environmental report (referred to in Article 5(1)) is given. Annex II contains the criteria for determining the likely significance of effects referred to in Article 3, the scoping-like process of estimating the necessity for an SEA.

2.3.3. SEA Procedure

Tab. 3: SEA procedure according to Directive 2011/42/EC

Art. & Parag.	Subject	Addressees	Procedure
Art. 5 (1-4)	Development of an environmental report for plans and programs according to Art. 3(1). Report identifies, describes and evaluates the likely significant effects on the environment and reasonable alternatives. Least information to be given (according to Annex I): • *an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes;* • *the relevant aspects of the current state of the environment and the likely evolution thereof 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 […];* • *the environmental protection objectives, established at international, Community or Member State level […];* • *the likely significant effects (including secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative 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;* • *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;* • *an outline of the reasons for selecting the alternatives 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;* • *a description of the measures envisaged concerning monitoring in accordance with Article 10;* • *a non-technical summary of the information provided under the above headings.* Other authorities according to Art. 6(3) shall be consulted when deciding on the level of detail of information in the environmental report.	• Authority introducing plan or program	supplies an environmental report according to Art. 5(1) and Annex I on the likely significant effects, taking into account other levels of decision-making and other Community legislation
		• other authorities (accord. to Art. 6(3))	give an opinion on the sufficiency of the level of detail of the supplied information
Art. 6 (1-5)	Information and consultation procedures for authorities with environmental responsibilities and the public: both receive the draft plan or program as well as the environmental report in an early stage, so that an effective opportunity within an appropriate time frame is given to express their	• authorities with environmental responsibilities	receive the draft plan or program; express their opinion on the draft plan or program as well as on the environmental report in an appropriate time frame

	opinion.	• Member State	designates the authorities to be consulted; identifies the concerned public, the interested public, non-governmental organizations, e.g. those promoting environmental protection and others; determines the detailed arrangements for the information and consultation of the public
		• The public	receive the draft plan or program; express their opinion on the draft plan or program as well as on the environmental report in an appropriate time frame
Art. 7 (1-3)	Transboundary information and consultation procedures in case other Member States are possibly being affected by the plan or program.	• Member State	informs other Member States possibly affected by the plan or program before its adoption or submission to the legislative procedure; forwards a copy of the draft plan or program as well as the environmental report; gives reasonable time in which consultation requests may be expressed; enters consultations on the potential transboundary effects of the project
		• Potentially affected other Member States	receives draft plan or program as well as environmental report; may request the wish to be consulted or may be asked to do so and then agree on a reasonable time frame of the duration of the consultation; agrees on detailed arrangements to ensure that authorities and concerned public are being informed and have enough time to forward their opinion
		• Potentially affected environ-mental authorities and public in other Member States	forward their opinion
Art. 8	Consideration of the environmental report, the national and transboundary consultations and all information gathered (pursuant to Articles 5-7) in the preparation of the plan or program, before its adoption or submission to the legislative procedure.	• Competent authority	considers all information and consultations

Art. 9 (1-2)	Information of the authorities, the public and any Member State consulted on the adopted plan or program. The following information need to be made available: • *the plan or program as adopted;* • *a statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report prepared (Art. 5), the opinions expressed (Art. 6) and the results of consultations entered into (Art. 7) have been taken into account in accordance with Article 8 and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with;* • *the measures decided concerning monitoring according to Article 10.*	• Competent authority	informs authorities, the public and any Member State consulted on the adopted plan or program
		• Member State	Determines the detailed arrangements concerning the information
Art. 10 (1-2)	Monitoring of significant environmental effects of the implementation of plans and programs in order to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.	• Member State	is responsible for monitoring

Source: own depiction, following Directive 2011/42/EC, Articles 5-10.

2.4. Comparison of EIA and SEA

2.4.1. Similarities between EIA and SEA

As can be seen in Tables 1-3, the EIA and SEA procedure have many similarities. In the EIA (since 2014), environmental impact assessment report needs to be prepared by the project developer, describing the project and its potential significant environmental effects. In the SEA, the equivalent is the environmental report, which needs to be prepared, also identifying possible significant effects on the environment due to the plan or program. Both reports also have to present:

- the likely development without the implementation of the project or plan/program,
- reasonable alternatives to the intended planning and
- a description of the features of the project respectively plan/program and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;

In both procedures, relevant authorities, the public and other Member States possibly affected are informed and consulted early in the procedures. In the EIA, the environmental impact assessment report needs to be provided as soon as possible. In the SEA the draft version of a plan/program and the environmental report need to be provided.
Before the final decision on a project, respectively the adoption of a plan or program, the results of the consultations of the public, environmental authorities and other Member States are to be considered in both environmental assessment procedures. After the decision respectively adoption, all groups involved are to be informed on the final outcome and, in the case of the EIA, equipped with further information. Furthermore, in case of significant environmental effects of a project, plan or program, a monitoring needs to be set up and regularly assessed by the Member States.

2.4.2. Differences between EIA and SEA

Besides these similarities between EIA and SEA procedures, there also are some differences. First, the in the SEA environmental authorities are required to be consulted in the screening-like process (Art. 3(6)) and are therefore, in comparison to the EIA, involved in the decision on whether or not an SEA needs to be conducted for a plan or program. Yet, the amendment of the EIA Directive also gained further involvement of other relevant authorities. In Article 5(3)(b) is for example anchored that other environmental authorities can be requested for their expertise before the competent authority gives an opinion on the environmental impact assessment report. If requested so by the developer, the competent authority even needs to consult other relevant authorities before giving an opinion on the scope and level of detail of the information to be included by the developer in the environmental impact assessment report (Directive 2014/52/EU, Article 5(2)). Nonetheless, a major difference is that other authorities are already included in the screening-like process of the SEA while other authorities are earliest consulted after the screening is completed and the decision that an EIA is necessary is already taken.

Until the amendment of the EIA Directive, another major difference existed in the scoping procedures of EIA and SEA. In the latter, the content and extent of scoping matters for the environmental report is obligatorily determined in Annex I, consisting of ten comprehensive aspects to be included. Under the Directive 2011/92/EU the EIA did not have any form of report but rather a list of information to be supplied in “an adequate form” according to Article 5(1) and Annex IV. Since the amendment and the entering into force of EIA Directive 2014/52/EU an environmental impact assessment report needs to be developed, also embracing comprehensive criteria. One major difference still existing between EIA Directive 2014/52/EU and SEA Directive 2001/42/EC is that the assessment of reasonable alternatives is studied by the project developer in the EIA (see Annex IV(2)), while in the SEA a transparent decision process is demanded, including the requirement of outlining any difficulties that may have arisen in the assessment of the alternatives (see Annex I(h)).

Another major difference that existed until the amendment of the EIA Directive is that there were no monitoring arrangements provided in the EIA, while the SEA determines a monitoring “of the significant environmental effects of the implementation of plans and programmes in order, *inter alia*, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action” (Article 10(1)). Since EIA Directive 2014/52/EU entered into force, the Member States are responsible for determining monitoring procedures “of significant adverse effects on the environment” (Article 8a(4)). It stays unclear though, who is responsible for conducting the monitoring.

3. Connecting Spatial Planning and Environmental Assessment in Germany, Slovenia and Croatia

The EU Directives on Environmental Assessment shall ensure that projects, plans and programs "likely to have significant effects on the environment are made subject to an environmental assessment, prior to their approval or authorization." (Website EC 2016a) Therefore, the EIA and SEA Directives are inevitably linked with the instruments and tasks of spatial planning.
As both Directives originate of the European Parliament and of the Council, they are binding and need to be transferred to national law. While the SEA Directive has been established in all EU Member States since 2004 and is daily spatial planning practice, the amended EIA Directive 2014/52/EU will need to be implemented by May 2017.

The following two questions shall be investigated in this chapter:

- How are the EU Directives on Environmental Assessment implemented in national law in the three Wind Risk partner countries Germany, Slovenia and Croatia?
- In how far are spatial planning and Environmental Assessment connected in each partner country?

3.1. Spatial Planning and Environmental Assessment in Germany

In Germany, the environmental assessment and spatial planning are closely interwoven. Besides the anchorage of Strategic Environmental Assessment of plans and programs in the Law on Environmental Impact Assessment (*Umweltverträglichkeitsprüfungsgesetz*, UVPG), also the Federal Building Code (*Baugesetzbuch*, BauGB) contains regulations on environmental assessment. According to § 1 (6) No. 7 BauGB, the interests of environmental protection, including nature protection and landscape preservation, are to be considered whenever developing a land-use plan.

Detailed information on the connection between environmental assessment and spatial planning are given in the following subchapters. First, the German spatial planning system is briefly introduced in order to get an understanding of the administrative structure (see chapter 3.1.1). Subsequently, German laws and regulations on environmental assessment are enlarged, focusing on the connection of environmental assessment and German planning law (see chapter 3.1.2).

3.1.1. The German Spatial Planning System

In Germany, spatial planning is divided into comprehensive spatial planning and sectoral planning (cf. Website ARL 2016). While the latter develops sectoral plans for sectoral disciplines, e.g. water management, comprehensive spatial planning acts cross-sectoral. Both, comprehensive and sectoral spatial planning is oriented according to the administrative structure of Germany and therefore takes place on the national level, the regional level (consisting of both Federal States and regions) and the municipalities. (Cf. Greiving et al. 2016: 186f.; Turowski 2005) Fig. 1 illustrates the structure of spatial planning in Germany and gives examples for each spatial level.

Fig. 1: Spatial Planning Structure in Germany

Spatial level	Spatially relevant planning			
	Comprehensive		Sectoral (Transport, water, geology, emergency response, etc)	
Europe	Spatial planning	European spatial development (no binding character)	Societal planning	Environmental policies, TEN, CAP
National level		Spatial development planning		eg, National transport network plan
Federal state		Regional planning (partly land-use related)		eg, River basin authorities in charge of management plans, partly land-use planning and management related
Municipality (all planning on this level can be subsumed together under the term "*urban planning and management*")		Local land-use planning		eg, Waste and sewage planning, public transport planning, municipalities are in charge of (land-use management)

Source: Greiving et al. 2016: 187.

There are two laws on comprehensive spatial planning that are to be considered in this chapter's context; the Federal Spatial Planning Act (*Raumordnungsgesetz, ROG*) and the Federal Building Code (*Baugesetzbuch*, BauGB).

The ROG applies to the national and the regional level of spatial planning in Germany. It contains principles and aims of comprehensive spatial planning. While principles of spatial planning are statements on the future spatial development without legally binding character[4], aims of spatial planning incorporate binding standards that have to be considered by all spatial planning authorities and need to be included as designations in regional plans (cf. § 3 I 2 ROG). On the regional level, Spatial Planning Acts are implemented for each federal state (except for the city stated Berlin, Bremen and Hamburg). According to the Federal Spatial Planning Acts, spatial structure plans are to be prepared on the level of regions. According to § 8 ROG, spatial structure plans need to contain information on the structure of settlements, open space and the location of infrastructure and their paths. (Cf. Greiving et al. 2016: 187f.; Hendler 2012)

The BauGB applies to the municipal level. It provides for preparatory and binding land-use plans. (Cf. § 1 BauGB) Preparatory land-use plans contain the distribution of land uses for the entire municipal territory and are the spatial prerequisite for the development of binding land-use plans. The latter are developed and implemented for concrete parts of the city and are binding for both authorities and the public. (Cf. Greiving et al. 2016: 188) The BauGB provides for an environmental assessment in the field of urban land-use planning, which is introduced under subchapter 3.1.2.

[4] According to § 3 I 3 ROG, their legally binding force is restricted to an obligatory consideration. This means that the principles have to be considered throughout the planning process but can be outweighed by other – in certain situations, more important – concerns.

3.1.2. Laws and Regulations on Environmental Assessment in Germany

EIA and SEA according to Umweltverträglichkeitsprüfungsgesetz, UVPG

In Germany, EIA and SEA are implemented jointly in the *Umweltverträglichkeits-prüfungsgesetz* (UVPG, directly translated as 'law on environmental assessment'), commonly referred to as '*Umweltprüfungen*' (meaning 'environmental assessments'). The UVPG therefore is the national implementation of both EIA and SEA EU Directive. (Cf. UVPG; Website UBA 2016)

The UVPG is structured as follows:
In part I, general regulations for environmental assessments are explained, including definitions and scope of the law. Part II contains the EIA, structured into two segments. Segment 1 contains the prerequisites for an EIA and segment 2 contains the procedural steps of an EIA. A closer description of the contents can be taken from Tab. 4 below.
In part III, the SEA is anchored, also structured into the two segments on the prerequisites (segment 1) and the procedural steps of an SEA (segment 2). Furthermore, Part IV of the UVPG contains special procedural steps for both EIA and SEA, embracing e.g. airports, but also spatial structure plans as well as land-use plans. Part V contains regulations for specific cables and pipelines, e.g. high-voltage lines or gas pipelines. In part VI, concluding regulations and four annexes are included. (Cf. UVPG)

Tab. 4: EIA and SEA procedures according to UVPG in Germany

**Contents in blue colour present national contents that exceed the EIA or SEA Directives*

Art. & Parag.	Subject	Comparison to EIA / SEA Directive
§3 (a-f)	Description of the screening procedure and on different possibilities: • general screening if an EIA is necessary for a project (§3a) • screening through individual preliminary examination (§3c) • screening for projects with research or trial character of maximum two years (§3f) • list of projects with mandatory EIAs due to criteria on type, size and/or capacity included in Annex I (§3b) • necessity to conduct an EIA in case a project, which was approved with a mandatory EIA, is expanded (§3e)	EIA (2011) Annexes I and II
§4	*"This law is applied, if legal regulations of the Federation or the Federal States do no specify the environmental assessment or if the regulations do not correspond this law. Legal regulations with advanced requirements stay untouched."*	/
§5	Instruction of the developer on prospectively required documents • the developer of a project may in advance of any procedure ask the competent authority for consulting, especially regarding the prospectively required documents according to § 6. (1) • the competent authority offers a review on the scope and content of the required documents with both the developer as well as other authorities according to § 7. (1) • the competent authority may moreover offer consulting to the developer beyond the above mentioned review, if appropriate for the process.	/
§6	Contents of the documents on the project, to be supplied by the developer. § 6(3) • *a description of the project comprising information on the site, design and size of the project, as well as demand of ground; (1)* • *a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects, as well as compensating measures in case of prior interference with nature which cannot be remedied; (2)* • *an overview on the expected adverse effects on the environment with respect to common level of knowledge and approved inspection method; (3)* • *a description of the environment and its components within the scope of the project, as well as information on the population in the project's scope as far as essential and appropriate towards the developer; (4)* • *an outline of the main alternatives studied by the developer and an indication of*	EIA 2011 Art. 5

	the main reasons for his choice, taking into account the environmental effects; • *a non-technical summary of the information.* § 6(4) • *description of the most important characteristics of the applied technical procedures;* • *description of the type and scope of expectable emissions, waste, ratio of waste water, the usage and design of water, soil, nature and landscape as well as other consequences of the project which may have adverse environmental impacts;* • *references to problems, which may have occurred during gathering of these information, e.g. technical gaps or lack of knowledge;*	
§7	Participation procedures for other authorities • the competent authority informs other authorities with environment-related field of responsibilities and supplies them with the information according to § 6.	EIA 2014 Art. 6
§8	Transboundary information and consultation of authorities • in case that the scope of the project touches protected goods in another Member State or that another Member States asks for it, appropriate information need to be provided. The consultation time frame of the consulted authorities is to be determined. In case participation is found appropriate, the authorities of the affected Member State has to be provided with all information according to § 6. (1) • the decision on the approval or refusal of the project shall be provided, including the reasoning. (3)	EIA 2014 Art. 7
§9 (1-3)	Participation of the public • the public is to be informed on the environmental effects of the project and sufficient time shall be given to the concerned public in order to participate in the decision-making process; • in case the submitted documents according to § 6 change during the process, but no additional or other severe environmental effects arise, public participation may be abstained from. (1) • The following information shall be provided to the public: o *the request for development consent;* o *the fact that the project is subject to an EIA procedure according to § 3a and, where relevant, that Articles 8 and 9a apply;* o *details on the competent authorities responsible for taking the decision, those from which information can be obtained, those to which comments or questions can be submitted, and details of the time schedule for transmitting comments or questions;* o *the nature of possible decision ~~or, where there is one, the draft decision~~;* o *an indication on which information have been submitted pursuant to Article 6;* o *an indication of the times and places at which, and the means by which, the relevant information will be made available;* o *further details of the arrangements for public participation. (1a)* • at least the following documents need to be made available to the public: o *any information gathered pursuant to Article 6;* o *the main reports and advice issued to the competent authority or authorities at the time when the public concerned is informed. (1b)* In preliminary public participation the public shall to be informed that: • the procedure will be made public according to § 9(1a); • according to § 9(1b) the required documents are open for searching within an appropriate time frame; • the concerned public will have the opportunity to participate; • the public will be informed on the decision, including the content and explanation to the decision. (3)	EIA 2014 Art. 6
§9a	In case a project might have significant environmental effects on another Member State, the public in that state should get the opportunity to participate in the process according to § 9 (1-1b) or (3). The competent authority should work towards: • announcing the project in the other Member State; • a clarification on which authority and in which form the public may submit statements; • it is clarified that any statement submitted after a certain time frame cannot be considered; • that the decision on the approval or refusal of the project will be made public to the concerned public and that both content and explanation are made available. (1)	EIA 2011 Art. 7

§9b (1-3)	In case of a project in another Member State that has significant effects on Germany, the competent German authority beseechs the other state for information on the project, especially a description of the project and the transboundary environmental effects. If transboundary participation is appropriate, the competent authority beseechs the other state for participation and communicates time frames.	/
§10	*"Legal regulations on secrecy and data security (privacy) remain untouched."*	/
§11	Comprising illustration of environmental effects • the competent authority considers the consultations and all information gathered (pursuant to §§6-8 and §§9 and 9a) in the development consent procedure.	EIA 2011 & 2014 Art. 8
§12	Assessment of environmental effects and consideration of the result in the decision • the competent authority assesses the environmental effects of the projects according to the illustration from § 11 and considers the assessment in the final decision.	EIA 2014 Art. 8a
§13	Preliminary notices and/or partial license are only to be approved after the environmental impact assessment, which shall focus on the recognizable environmental effects at that level of planning process.	/
§14	In case the project needs the approval from several federal state authorities, the federal state authorities shall nominate one leading authority for §§ 3a, 5, 8(1, 3), 9 and 11. Further responsibilities according to §§ 6,7 and 9 may be assigned to that authority.	/
§14a (1-2)	The competent authority shall screen if there is a necessity for a SEA. (1) The screening result is to be made available to the public. In case the SEA is not necessary, the main reasons are to be made public. (2)	SEA 2001 Art. 3
§14b (1-4)	A SEA is mandatory for plans and programs according to Annex III No. 1 and 2. (1) Other plans and programs only require a SEA if they form the framework for projects according to Annex I and which are likely to have significant environmental effects (to be estimated in a preliminary examination). (2) If a preliminary examination is required, the criteria attached in Annex IV are to be used. Authorities mentioned in § 14h are to be included in the preliminary examination process. (4)	SEA 2001 Art. 3
§14c	A SEA is mandatory in case an assessment is required according to the § 36 Federal Nature Conservation Act (*Bundesnaturschutzgesetz,* BNatSchG).	/
§14d	In case of minor changes in plans and programs, a SEA is only required if a preliminary examination reveals possible significant environmental effects. §§ 13 and 13a BauGB and § 9(2) ROG stay untouched.	SEA 2001 Art. 3(3)
§14e	*"This law is to be applied, if legal regulations of the Federation or the Federal States do no specify the SEA or if the regulations do not correspond this law. Legal regulations with advanced requirements stay untouched."*	/
§14f (1-4)	• The competent authority determines the scope of SEA, including the environmental report. (1) • The environmental report shall contain information to be gathered with appropriate effort, regards the state of knowledge, […] content and detail of the plan or program as well as its position in the decision process. (2) • In case of a multistage planning and approval process, multiple examinations shall be prevented. For subsequent examinations, SEA shall concentrate on additional or other significant environmental effects as well as on required updating. (3) • Other authorities touched by the plan or program are to be included in the process of determining the scope of the environmental report. The competent authority offers a review on the scope and content of the required documents with other authorities. (4)	SEA 2001 Art. 5

§14g (1-4)	The competent authority creates an environmental report early in the process. Therein, probable significant environmental effect due to the implementation of a plan or program are described and reasonable alternatives identified, described and assessed. (1) The environmental report should at least provide the following information: • *an outline of the contents, main objectives of the plan or program and relationship with other relevant plans and programs;* • *the aims of environmental protection applying to the plan or program as well as an acknowledgement on how these aims were regarded;* • *the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or program;* • *any existing environmental problems which are relevant to the plan or program […];* • *the environmental characteristics of areas likely to be significantly affected;* • *the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or program;* • *an outline of the reasons for selecting the alternatives 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;* • *a description of the measures envisaged concerning monitoring;* • *a non-technical summary of the information provided under the above headings. (2)*	SEA 2001 Art. 3(1), 5
§14h	Information and consultation procedures for authorities with environmental responsibilities: they receive the draft plan or program as well as the environmental report in an early stage, so that an effective opportunity within an appropriate time frame (of at least one month) is given to express their opinion.	SEA 2001 Art. 6
§14i (1-3)	• Regarding public participation, § 9(1-1b) apply. (1) • The draft plan or program, as well as the environmental report and other relevant documents are to be made publically available in an early stage and for at least one month. (2) • The concerned public may vent the draft plan or program and environmental report. A suitable time frame of at least one month is to be set by the competent authority. (3)	SEA 2001 Art. 6
§14j (1-3)	• For transboundary participation of authorities § 8 applies. Regarding the information of authorities in another Member State, a copy of the draft plan or program as well as the environmental report has to be supplied. The competent authority determines an appropriate time frame for consultation. In case of approval of the plan or program, the competent authority informs the authority in the other Member State and provides the information according to § 14l. (1) • For transboundary participation of the public in another Member State, § 9a applies. The public of the other Member State may participate in the process according to § 14i. (2) • For the participation of German authorities and the public in case of a plan or program in another Member State with potential significant effects on Germany, § 9b applies. (3)	SEA 2001 Art. 7
§14k (1-2)	• Consideration of the environmental report, the national and transboundary consultations and all information gathered (pursuant to §§14h-j) in the preparation of the plan or program. (1) • The result of the SEA is to be considered in the adoption or adjustment of a plan or program. (2)	SEA 2001 Art. 8
§14l (1-2)	Information of the authorities, the public and any Member State consulted is necessary if the plan or program is adopted. A refusal may be made public. (1) The following information need to be made available in case of an adoption: • *information that the plan or program is adopted;* • *a statement summarizing how environmental considerations have been integrated into the plan or program and how the environmental report prepared, the opinions expressed and the results of consultations entered into have been taken into account and the reasons for choosing the plan or program as adopted, in the light of the other reasonable alternatives dealt with;* • *the measures decided concerning monitoring according to § 14m.*	SEA 2001 Art. 9
§14m (1-5)	• Monitoring of significant environmental effects of the implementation of plans and programs in order to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action. Monitoring measures are to be included in the environmental report. (1) • if not arranged differently according to legal regulations of the Federation or the	SEA 2001 Art. 10

	Federal States, the monitoring is task of the authority competent for SEA. (2) • Other authorities shall receive all environmental information, if requested. (3) • Monitoring results are to be made available for the public according to the regulations of the Federation or the Federal States via the gateway on environmental information and to be considered in case of amendments of a plan or program. (4) • Established mechanisms of monitoring as well as data and information resources may be used for fulfilling § 14m(1). (5)	
§14n	The SEA may be combined with other examinations on the investigation or assessments of environmental effects.	SEA 2001 Art. 4(3)
§16	Spatial structure plans, regional planning procedures: • the ROG or either federal state law contains the specific procedures for EIA in case of projects under the *Raumordnungsverfahren* ('regional planning procedure') (§15(1) ROG) (1) • the environmental assessment may be restricted to additional or severe environmental effects for subsequent approval procedures (2) • In case SEA is mandatory for a spatial structure plan, both environmental assessment and monitoring are conducted according to ROG (4)	/
§17	Establishment of land-use plans • in case land-use plans are implemented, amended or complemented, the environmental assessment takes place according to the BauGB. Furthermore, there is no need for a SEA in case the environmental assessment according to BauGB fulfills all requirements of a SEA according to UVPG. (1) • in case a SEA is mandatory for a land-use plan, both environmental assessment and monitoring are conducted according to BauGB (2) • the environmental assessment shall be restricted to additional or severe environmental effects for subsequent approval procedures (3)	/

Source: own depiction following UVPG §§3-14 and §§16-17.

There are some special characteristics about the German implementation of the EIA and SEA directive. Besides that they are jointly implemented in one law (UVPG), as can be seen in §§ 16-17 UVPG the planning laws ROG and BauGB contain environmental assessment paragraphs which have priority regarding environmental assessment of spatial planning documents. The reason for this special characteristic is that, historically, the German legislative had already made particular land-use plans subject to environmental assessment procedures before the EU SEA Directive was implemented. The inducement was the consideration that environmental effects of a project are mainly dependent on a project's location and that the decision on potential locations for projects (with possible environmental effects) should be taken on the level of plans and not on the (subsequent) level of individual projects. Therefore, the German legislative secured the opportunity to assess potential environmental effects by finding the most suitable location for potentially hazardous projects even before any discussion on the realization of concrete individual projects within EIA procedures.

Therefore, special attention needs to be drawn to the Federal Spatial Planning Act (ROG) and the Federal Building Act (BauGB) and the therein-anchored paragraphs on environmental assessment (see following subchapters).

Environmental Assessment according to Federal Spatial Planning Act

The ROG contains two paragraphs particularly relevant for environmental assessment, § 9 on environmental assessment for spatial structure plans (*Raumordnungspläne*) and § 15 on regional planning procedures (*Raumordnungsverfahren*). The major difference between §§ 9 and 15 is that § 9 applies to plans and programs and therefore is within the scope of SEA, while § 15 applies to individual project and covers the scope of EIA.
In the following, both articles are translated and interpreted.

§ 9 ROG on Environmental Assessment

(1) When establishing spatial structure plans according to § 8 ROG an environmental assessment needs to be conducted by the competent authority, identifying the expected significant effects of the spatial structure plan on

- *humans, including human health, animals, plants and biologic diversity,*
- *soil, water, air, climate and landscape,*
- *cultural heritage and other material goods, as well as*
- *the interaction between the aforementioned protective goods*

and describing and assessing these effects in an environmental report; the environmental report contains information according to Annex I.
The scope of investigation of the environmental assessment […] and the environmental report is to be determined; public authorities touched by the environmental effects of a spatial structure plan in their environmental or health-related field of responsibility are to be involved. The environmental assessment relates to the contemporary state of knowledge and generally accepted inspection methods being appropriate proportionally to the content and level of detail of the spatial structure plan.

(2) In case of marginal changes of spatial structure plans, it may be abstained from an environmental assessment, as far as an approximate examination with respects to the criteria anchored in Annex II determined that there presumably are no significant effects on the environment. This examination is to be conducted under participation of the public authorities touched by the environmental effects of a spatial structure plan in their field of responsibility. If it is determined that there are no significant environmental effects to be expected, the considerations leading to this result are to be incorporated in the reasoning of the plan.

(3) The environmental assessment while the establishment of a spatial structure plan shall be restricted to the additional or other significant environmental effects, if other plans or programs that already were subject to an environmental assessment according to Annex I embrace parts of or the whole planning area. The environmental assessment may be combined with other examinations on the identification or assessment of environmental effects.

(4) The significant environmental effects due to the implementation of the spatial structure plans are to be monitored by the competent authority according to the Federal State planning laws […] on the basis of monitoring measures anchored in the comprising explanation according to § 11(3) ROG; especially in order to investigate unexpected adverse effects in an early stage and to be able to adopt relief measures. Public authorities touched in their fields of responsibility inform the competent authority according to sentence 1, if, according to their insights the implementation of a spatial structure plan has significant, especially unexpected adverse effects on the environment.

§ 9 ROG show many similarities with both the EU SEA Directive as well as the German UVPG. The listed protective goods as in (1) are the exact same as in the UVPG and the necessity for an environmental report is also included as in both SEA Directive and UVPG. One major difference is, that the contents to be included in the environmental report are anchored in the Annex of the ROG but are directly mentioned in § 14g UVPG. However, Annex I of § 14g UVPG are very similar in their content.

Furthermore, the information, consultation and participation of other relevant authorities are stated in § 9(2 and 4) ROG. In comparison to the EIA Directive and the UVPG, the explanations on participation processes are rather unspecific, though, and no concrete time frames are mentioned. Also public and transboundary information, consultation and participation are not included in the ROG.

Another similarity between the ROG and the UVPG is that marginal changes of the spatial structure plans do not require a separate environmental assessment if no further significant effects on the environment are to be expected. § 9 ROG also addresses the monitoring of spatial structure plans similar to § 14m UVPG but less detailed. One major difference is, that monitoring measures are not be described in the environmental report,

as designated in the UVPG, but are rather to be developed for every individual spatial structure plan.

§ 15 on Regional Planning Procedures (*Raumordnungsverfahren*)

(1) The regional planning authority of every Federal State examines in a special procedure the spatial compatibility of plans and measures relevant to regional planning according to § 1 Regional Planning Act. Herein, spatially relevant effects of plans or measures are to be examined under regional criteria; especially die cohesion with the requirements of the regional planning are to be investigated. […] The conduction of a regional planning procedure may be abstained from, if the examination of the spatial compatibility is secured otherwise.

(2) The developer of a spatially relevant plan or measure supplies the regional planning authority with all documents on the procedure, which are necessary for an assessment of the spatially significant effects of the project. In case of spatially relevant plans and measures of defence, the Federal Ministry of Defence […] decides; in case of spatially relevant plans and measures of civil protection, the competent authority decides on the nature and scope of information on the plan or measure.

(3) Public authorities touched in their field of responsibility are to be involved. In case of spatially relevant plans and measures, which may have significant effects on other Member State, participation procedures are to be conducted according to the Regional Planning Act, basing on the principles of reciprocity and equality. The public can be involved in the conduction of a regional planning procedure. In case of spatially relevant plans and measures according to (2) sentence 2, the decision on the scope of public participation is to be taken together with the therein-mentioned authorities.

(4) The decision on the necessity of a regional planning procedure is to be taken within a period of four weeks after the submission of the requited documents. The regional planning procedure is to be completed within six month after the submission of the required documents.

(5) In case of spatially relevant plans and measures of Federal authorities or other public authorities on behalf of the Federation as well as of legal persons under private law according to § 5(1) ROG it is to be decided on the introduction of a regional planning procedure after consultation with the relevant authority or person.

(6) The obligation of conducting regional planning procedures does not apply for the Federal States Berlin, Bremen and Hamburg. In case these Federal States create legal regulations on regional planning procedures, either solely or together with other Federal States, paragraphs 1-5 apply.

§ 15 contains several aspects of EIA but solely refers to projects, measures or plans, which are spatially relevant. Instead of naming requirements for an environmental impact assessment comparable to § 5 EIA Directive 2014, no specific requirements are anchored in the ROG. The scope of information is rather up to the competent authorities and to be decided within the Regional Planning Acts (cf. § 15(1-2) ROG). Compared to § 9 ROG this article instead includes both detailed participation procedures (authorities, public, transboundary) and gives concrete time schedules for conduction the regional planning procedure (cf. § 15(3-4) ROG).

Environmental Assessment according Federal Building Act

As stated in § 17 UVPG, environmental assessment for land-use plans is conducted according to the Federal Building Act (BauGB) and so is the monitoring (cf. § 17(1-2) UVPG). The following articles of BauGB are relevant for environmental assessment:

- § 1 (6) No. 7 BauGB on protective goods
- § 1a BauGB on further regulations on environmental protection
- § 2 (4) BauGB on environmental assessment and environmental report
- § 2a BauGB on reasoning for the land-use plan draft and environmental report

- § 3 BauGB, especially § 3(2) on public participation
- § 4(1) BauGB on participation of authorities
- § 4a(5) on Transboundary information and consultation
- § 4c on Monitoring

According to § 1 (6) No. 7 BauGB, the interests of environmental protection, including nature protection and landscape preservation, are to be considered whenever developing a land-use plan. The following concerns are especially to be regarded:

a) effects on animals, plants, soil, water, air, climate and their connection as well as landscape an biological diversity;
b) the aims of preservation and protection of Natura 2000 areas according to the BNatschG;
c) environment-related effects on humans and human health as well as on population;
d) environment-related effects on cultural heritage and other material goods
e) the prevention of emissions and an appropriate dealing with waste and waste water;
f) the utilization of renewable energies as well as a saving dealing with energy;
g) the illustration of landscape plans as well as other plans, especially according to water, waste and emission control laws
h) the preservation of optimal air quality in areas in which […] emission control thresholds shall not be exceeded
i) the interactions between the interests of environmental protection according to a, c and d.

The supplementary regulations on environmental protection according to § 1a are as follows:

(1) When establishing land-use plans, the following regulations on environmental protection are to be applied.
(2) land shall be used sparsely and with due consideration; in order to reduce additional land consumption, rehabilitation of land, condensation and other measures of inner development are to be used and sealing to be restricted to an indispensable measure. […]
(3) The prevention and compensation of potential significant effects on the landscape as well as the productivity and viability of the ecosystem in its components according to § 1(6) Nr. 7a are to be considered in the weighting. […]
(4) In case an area might possibly be significantly affected in its components according to § 1(6) Nr. 7b, the regulations of the BNatsSchG on the legitimacy and conduction of such interventions is to be applied.
(5) The requirements of climate protection are to be considered with measures counteracting climate change as well as measures serving climate change adaptation.

Environmental protection and assessment measures are also included in § 2 BauGB on the establishment of land-use plans. According to paragraph 4, the concerns of environmental protection according to § 1(6) No. 7 and § 1a are to be considered by conducting an environmental assessment and an environmental report. Detailed regulations are to be found in Annex I of BauGB. The scope of the environmental assessment shall be chosen according to the contemporary state of knowledge and generally accepted inspection methods being appropriate proportionally to the content and level of detail of the land-use plan. In § 2a it is furthermore specified that an environmental report according to Annex I BauGB shall identify and assess the interest of environmental protection as a separate part of the reasoning. (Cf. §§2-2a BauGB)

Further relevant articles are § 3 on public participation, § 4 on participation of authorities and public agencies and § 4a on transboundary participation. In all three cases of

participation, not only the draft land-use plans but also a (preliminary) report on the environmental situation needs to be provided. Similar to the SEA Directive and the German UVPG the public, other authorities and third country public and authorities are given the opportunity to comment on the draft plan and the (preliminary) environmental report. Furthermore, for transboundary information and consultation, the UVPG shall be considered. (Cf. § 3(2), § 4(1), § 4a(5) BauGB)

Regarding the monitoring of significant environmental effects, § 4c states: *The municipalities monitor the significant environmental effects, which occur due to the implementation of land-use plans, in order to investigate unexpected adverse effects in an early stage and to be able to adopt relief measures. For this purpose, the environmental report and the measures for monitoring shall be used according to Annex I No. 3b BauGB […].*

So far, this chapter presented how the EU Directives are implemented in German law (via the UVPG) and how closely environmental assessment and spatial planning are interwoven, both in environmental and planning law and procedures. The following subchapters address the specific national situations in Slovenia (see chapter 3.2) and Croatia (see chapter 3.3).

The overall research question (*is spatial planning capable of reducing vulnerability through environmental assessment?)* will subsequently be investigated in the chapter 4.

3.2. Spatial Planning and Environmental Assessment in Slovenia

3.2.1. The Slovenian Spatial Planning System

Spatial planning in Slovenia has a long tradition with legal basis in year 1967. Spatial planning is implemented on national and local level with integral approach to all levels.

In Slovenia, the state has the authority to:
- monitor the legality of spatial planning activities at lower levels,
- conduct and implement land policy,
- maintain the spatial data system,
- develop and encourage professional work in spatial planning and to
- participate in matters of spatial planning and management at the international level.

The Ministry of the Environment and Spatial Planning of the Republic of Slovenia has the authorities (among others) to:
- oversight the preparation of Municipal Spatial Plans and determines references and guidelines for planning local spatial arrangements;
- coordinate the preparation of National Spatial Plans (NSP) for spatial arrangements of national significance;
- issue building permits for structures of national importance.

Framework for Preparation of Spatial Plans

On the **national level** the state prepares laws, policies and other instruments in the field of spatial planning. They define the spatial planning system and provide strategic spatial development objectives and guidelines. In addition to the spatial development laws and strategic documents, the state also has the authority to perform measures concerning spatial development activities and construction, which are of national significance. Spatial planning documents in Slovenia are:
- Spatial Development Strategy of Slovenia and Spatial Order of Slovenia (2004);
- The Act Regarding the Siting of Spatial Arrangements of National Significance in Physical Space (ZUPUDPP), October 2010;
- Main difference from ZPNačrt: inclusion of EIA in NSP preparation;
- Spatial Arrangements of National Significance;
- National Spatial Plan (NSP).

The National Spatial Plan (NSP) is a spatial planning document with which the spatial arrangements of national significance are planned. The NSP is the basis for the preparation of designs for the obtaining of a building permit (in accordance with Building Construction and Civil Engineering Act – ZGO-1). EU Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) procedures (if necessary) are carried out together with the NSP (Regular Preparation Procedure). SEA and EIA procedures, if not specified otherwise by ZUPUDPP, are carried out in accordance with Environmental Protection Act (ZVO-1) and Nature Conservation Act (ZON). Spatial arrangements of national significance are road, railway, air transport, maritime and river transport infrastructure, border crossings and transport terminals,

energy industry infrastructure for electricity, natural gas and oil supply, nuclear facilities and mining, public and state authorities' communication network, environment protection meteorology and water infrastructure, defense of the state and protection against natural and other disasters, spatial arrangements in the area of marine water land, spatial arrangements in the protected areas for nature conservation and of cultural monuments.

On the **local level**, local communities have the original right to spatial management and planning of their territories, with exception of spatial development activities which are under direct jurisdiction of the state. A local community is obliged to perform activities in the field of spatial planning and management, as well as planning pursuant to the adopted laws, standards, and criteria. Their principal task in connection with spatial management and planning is concern for rational, mixed, and sustainable land use, as well as economical use of land plots in accordance with the principles of high quality living, working, recreation, and a healthy environment. In decision-making procedures, they are responsible for the direct participation of all the involved and interested parties. They also care for and maintain the identity of the community by considering and protecting the natural and built characteristic features.
Spatial planning documents on the local level are:

- Spatial Planning Act (ZPNačrt), April 2007;
- Spatial Arrangements of Local Importance;
- Municipal Spatial Plans (MSP),
- Municipal Detailed Spatial Plans (MDSP).

A municipal spatial plan (MSP) is a spatial planning document which determines the objectives and references of spatial development of a municipality, plans spatial arrangements of local importance and determines the conditions for the placement of structures into physical space; it contains the strategic and operational part. A MSP is a basis for the preparation of a project for the acquisition of a building permit under regulations on construction (ZGO-1). Only SEA procedure (if necessary) is carried out together with the MSP. If EIA procedure is needed, it is carried out after adoption of the MSP.

3.2.2. Laws and Regulations on Environmental Assessment in Slovenia

As written on the website of the Ministry of the Environment and Spatial Planning, to realize the principles of sustainable development, integrity, prevention and cooperation, the Environmental Protection Act defines procedures under which the impacts of plans and activities affecting the environment in Slovenia and neighboring countries or other EU Member States and parties to the Protocol on Strategic Environmental Assessment (SEA) to the Convention on Environmental Impact Assessment (EIA) in a Transboundary Context are examined.[5]

The Environmental Protection Act lies down that the following assessments should be carried out for plans and activities affecting the environment that can have a significant impact on the environment:

[5] http://www.mop.gov.si/en/areas_of_work/environmental_impact_assessments/

- comprehensive environmental impact assessments, which is based on SEA,
- environmental impact assessments, which is based on EIA and
- environmental impact assessments in a transboundary context for plans with transboundary impact.

Comprehensive environmental impact assessments

A comprehensive environmental impact assessment was on the territory of the European Union introduced in 2001 by Strategic Environmental Impact Assessment Directive 2001/42/EC and was transferred into Slovenian legislation with the Environmental Protection Act 2004.

Determination of whether plans could have a significant impact on the environment is governed, in particular, by the provisions of the Decree on categories of projects for which an environmental impact assessment is mandatory (Uradni list RS (Official Gazette of the Republic of Slovenia), Nos. 78/06 and 72/07, 32/09), defining the types of activities affecting the environment for which environmental protection assessment is mandatory and the types of activities affecting the environment for which environmental protection assessment is mandatory above the specific threshold.

Protected areas for which the effects of the plans are to be assessed are protected areas according to regulations related to nature conservation, including protection in national, regional and landscape parks, strict nature reserves, nature reserves and natural monuments along with all acts designating natural sites of special interest still in force. Moreover, protected areas also include Natura 2000 sites, including special protection areas and special areas of conservation stipulated in the Decree on special protection areas (Natura 2000 sites) (Uradni list RS, Nos. 49/04, 110/04, 59/07 and 43/08).

The objective of a comprehensive environmental impact assessment is to prevent or at least to considerably reduce activities that may have important harmful effects or consequences on the environment and protected areas, thus realizing the principles of sustainable development, integrity and prevention.

The procedure for a comprehensive environmental impact assessment is defined in the Environmental Protection Act and is carried out for plans provided that:

- they define or envisage an activity affecting the environment for which an environmental impact assessment needs to be carried out;
- assessment of the acceptability of impacts on the protected areas according to the regulations governing nature conservation is required;
- the responsible ministry estimates that their implementation could have an important effect on the environment.

In the procedure for comprehensive environmental impact assessment, the effects of the plan are evaluated on the basis of the environmental report. The procedure is conducted by the ministry responsible for the environment. It also includes cooperation between all national authorities within their ministries and organizations, as well as public information and participation. The participation of the public is governed by the Environmental Protection Act, which lays down a 30-day public presentation of the environmental report.

National authorities and local communities must, prior to the preparation of the plan and in the specified manner, inform the ministry responsible for the environment thereof. Non-compliance with legal obligations may result in invalidity of plans.

Environmental impact assessment

Environmental impact assessment is carried out for activities that may have a considerable impact on the environment. Based on the environmental impact assessment carried out, the competent authority issues environmental protection consent. The procedure for environmental protection assessment and the issue of environmental protection consent is laid down in the Environmental Protection Act and is conducted by the Environmental Agency of the Republic of Slovenia.

The Environmental Protection Act transposes the provisions of Directive 2011/92/EU into the Slovenian legislation, especially in Articles 50, 51 and 51a. The Environmental Protection Act specifies that prior to the implementation of interventions which can have a significant impact on the environment next procedures must be carried out:

- Environmental impact assessments or
- Preliminary procedures for determining whether an intervention in the environment has a significant environmental impact or not. If the impact is significant then it is necessary to carry out an environmental impact assessment and obtain an environmental consent.

Types of intervention in the environment for which an assessment of the impact on the environment or the preliminary procedure laid down is required, is regulated by the Decree on activities which are subject to an environmental impact assessment (Uradni list RS, št. 51/14 in 57/15).
The Decree replaces Decree already established, for which the European Commission in infringement procedure against the Republic of Slovenia No. 2012/2162 concluded that it is not fully compliant with all the provisions of Directive 2011/92/EU and Annexes I, II and III of this Directive and legal practice, because it omits the preliminary procedure and the thresholds are too high. The newest Decree eliminates the finding of infringement of the European Commission and enables a complete transfer of the provisions of Directive 2011/92/EU into Slovenian territory. At the same time the decree is important to reduce the environmental load and integration of the environment in various development areas, such as agriculture, mining, manufacturing, energy, environmental infrastructure, transport infrastructure, urban planning and construction, tourism, sport and recreation. By adopting the decree from 4th July 2014, the government edited the alleged violation of the European Commission and prevented the formation of new violations. Furthermore, it enabled easier absorption of EU funds in the new financial perspective for possible project applicants, who will have to perform an environmental impact assessment or preliminary procedure, as this is a prerequisite for the absorption of European funds (Ex-ante conditionality).

The procedures of environmental impact assessment and preliminary procedures are implemented by the Environmental Agency of the Republic of Slovenia.[6]

[6] Adapted from:
http://www.mop.gov.si/si/delovna_podrocja/presoje_vplivov_na_okolje/presoja_vplivov_na_okolje/

Environmental impact assessment in a transboundary context

The procedure for assessing transboundary impact on the environment are carried out for plans, programs and projects that could have a significant impact on the environment in neighboring countries or other EU Member States and contracting parties to the Protocol on Strategic Environmental Assessment (SEA) to the Convention on Environmental Impact Assessment (EIA) in a Transboundary Context.

Transboundary assessments are carried out for:

- plans in the context of a comprehensive environmental impact assessment (according to SEA);
- programs in the context of a comprehensive environmental impact assessment (according to SEA);
- projects in the context of an environmental impact assessment (according to EIA);
- equipment and installations within the process of obtaining environmental permits.

The process of transboundary assessment is carried out for plans or projects in other countries, if they could have significant cross-border effects within the territory of the Republic of Slovenia:

- Slovenian public can get involved if neighbor country informs RS about transboundary effects or if RS requests the process of environmental impact assessment or strategic assessment process, which takes place in another country. The material is put up for discussion for at least 30 days, in which the Slovenian public can comment and express opinion.
- The opinion on the plan or project is finalized and prepared by the Ministry of the environment and forwarded to the competent authority of another country.[7]

Environmental Assessment in Spatial Planning Law

With Spatial Planning Act, in the law of Republic Slovenia, the requirements of Directive 2001/42/EC, relating the obligation to ensure the quality of environmental reports, are transferred.
Stated act, in Article 3 specifies that the objective of spatial planning is to enable a coherent spatial development by addressing and coordinating the various needs and interests of the development of public benefit in the fields of environmental protection, nature conservation and cultural heritage, protection of natural resources, defense and protection against natural and other disasters. Further it is defined that interventions in space and spatial arrangements should be designed so that, among other things, it offers protection against natural and other disasters.

Spatial planning takes place at the state and municipal level, whereby responsibility of the state and municipalities and procedures for adopting, are defined in the second chapter (articles 11-69).

[7] Adapted from: http://www.mop.gov.si/si/delovna_podrocja/presoje_vplivov_na_okolje/cezmejna_presoja_vplivov_na_okolje/

The state has jurisdiction over:

1. determining the objectives of the spatial development of the country,
2. the definition of starting points, guidelines and rules for spatial development planning at all levels,
3. planning of spatial arrangements of national significance,
4. participation in drafting the municipal and inter-municipal spatial planning documents and
5. to review the legality of spatial planning at the municipal level.

The municipality has jurisdiction over:

1. determining the objectives and guidelines for spatial development of the municipality,
2. determine the land use and the conditions for the placement of spatial development;
3. planning of spatial arrangements of local importance.

Institutions performing spatial planning in the preparation of inter-municipal and municipal spatial acts participate so that on the basis of their development policies, strategies and programs, in accordance with sectoral laws, those drafting the spatial documents at their request:

- submit their development needs relating to space;
- provide expert basis for developmental needs for spatial planning documents from their scope of work;
- provide all available information relating to the space, as well as possible guidance, recommendations and explanations of their work areas.

Institutions performing spatial planning, participate in the preparation of spatial planning documents also by issuing guidelines and opinions to the inter-communal and municipal spatial acts.

The spatial arrangements are planned with the spatial planning documents. The spatial planning documents determine policies for interventions in the environment, the range of possible interventions in space and the conditions and criteria for their implementation.
Spatial planning documents are national/state, municipal and inter-municipal spatial planning acts.
State spatial planning documents are State strategic plan and State spatial plan.
Municipal spatial planning documents are municipal spatial plan and detailed municipal spatial plan. Inter-municipal spatial planning document is regional spatial plan.

For spatial planning documents under Spatial Planning Act, except for the national strategic plan, is required to carry out a procedure of comprehensive environmental impact assessment in accordance with the provisions of stated Act and the provisions of the law governing the protection of the environment, whereby the revision of the environmental report is not needed.

In the process of drafting national strategic spatial plan, a draft shall be prepared and the ministry responsible for the environment shall also ensure preparation of a report on the impact of the implementation of this plan.
The report on the impact shall describe and evaluate the impacts of the national strategic spatial plan on economic and social development of the country and achieve

environmental objectives, in extent that it relates to the environmental aspect, contains a description and evaluation of the effects of the implementation of the national strategic spatial plan to achieve environmental objectives, in accordance with the Law on Environmental Protection.
To the draft the ministries and municipalities may submit proposals in and comments. After consideration of proposals in and comments a final proposal is prepared. The national strategic spatial plan is adopted by the National Assembly of the Republic of Slovenia on the proposal of the government by decree.

The process for the preparation of the municipal spatial plan starts with the publication of the Mayor's decision in the official gazette and the World Wide Web, and with it being sent to the Ministry and neighboring municipalities. The municipality prepares a draft of the municipal spatial plan and sends it to the Ministry, together with the status display of space. The municipality invites the holders of spatial planning to submit a first opinion to the planned spatial arrangements. The competent spatial planning stakeholders, in accordance with regulations governing the protection of the environment, participate in the process of a comprehensive environmental impact assessment. In the first opinion they give their evaluation on the likelihood of significant impacts of municipal spatial plan on the environment as regards their competence.
The ministry responsible for environmental protection, in accordance with the law governing the protection of the environment, on the basis of the municipality's application and attached opinions, in writing communicate to municipality whether for municipal spatial plan should be carried out a comprehensive environmental impact assessment.
When for the municipal spatial plan should be carried out a comprehensive environmental impact assessment, the municipality ensures environmental report.
In the process of drafting municipal spatial plan municipality must enable public participation.
Having regard to the views on the comments and suggestions of the public, a municipal spatial plan proposal is prepared. If for the municipal spatial plan a comprehensive environmental impact assessment must be carry out, a municipality attach to that proposal an environmental report.

Detailed requirements of the Directives are regulated under the provisions of the following Decrees:

- Decree on criteria for determining the likely significance of environmental effects of certain plans, programmes or other acts and its modifications in the environmental assessment procedure (Uradni list RS, št. 9/09)
- Decree on environmental encroachments that require environmental impact assessments (Uradni list RS, št. 51/14, 57/15)
- Decree laying down the content of environmental report and on detailed procedure for the assessment of the effects on certain plans and programmes on the environment and (Uradni list RS, št. 73/05)

In spatial planning decisions in practice, it is necessary to follow the requirements set out in Decree on protective forests and forests with a special purpose (Uradni list RS, št. 88/05, 56/07, 29/09, 91/10, 1/13 in 39/15).

When preparing project documentation, for the calculation of statics of objects, the European Standards: SIST EN 1991-1-4 is used; therein is a special section devoted the impact of wind on structures.

By the planning of roads, buildings etc. which are built in areas where strong winds are present, conceptual design (idejna zasnova) and conceptual project (idejni project) against the wind are made.

Municipality Ajdovščina, in the issued location information indicates also the wind speed for the plot on which the information relates.

It can be concluded that in Slovenia, comprehensive environmental impact assessment is required for any municipal spatial plan, according to the Spatial Planning Act. In several decrees it is ensured that both EIA and SEA are implemented and conducted according to the EU Directives.
Unlike in Germany, in Slovenia the influence of environmental protection on spatial planning seems to be greater than vice versa. This circumstance shall be further interpreted in chapter 4.

The following subchapter addresses the specific national situations in and Croatia (see chapter 3.3).

The overall research question (*is spatial planning capable of reducing vulnerability through environmental assessment?)* will subsequently be investigated in the chapter 4.

3.3. Spatial Planning and Environmental Assessment in Croatia

3.3.1. The Croatian Spatial Planning System

The Croatian spatial planning system stems from the same branch as the Slovenian spatial planning system, as the countries were joined in the state of Yugoslavia when spatial planning regulations were first developed. The Croatian spatial planning system is therefore very similar to Slovenia's with some differences due to territorial and political specifications.

The Croatian spatial planning system consists of subjects, documents, regulations and laws with functions of tracking and predicting the spatial state concerning land usage and resources, defining conditions and type of development, proposing and executing spatial development plans. Three levels of spatial planning are employed in Croatia – national, regional (on county level) and local (city/town/municipality level). On the national level, the governing body is the Ministry of Environmental Protection and Spatial Planning and on the regional and local level, governing bodies are the County spatial planning offices and municipal spatial planning office, which is governed within the local government administration.

Framework for Peparation of Spatial Plans

The legal framework for spatial planning consists of laws and regulations concerning the spatial planning system. Laws concerning spatial planning are:

- Physical Planning Act (Zakon o prostornom uređenju) (OG 153/13)
  which is the principal law governing spatial planning. Its first two articles define the scope of the law:
  Article 1
  This Act regulates the physical planning system: aims, principles and subjects of physical planning, spatial monitoring and physical planning area, planning requirements, adoption of the Spatial Development Strategy of the Republic of Croatia, spatial plans including the process of development and adoption thereof, implementation of spatial plans, building land development, property postulates of building land development and supervision.
  Article 2
  Physical planning provides the conditions for use (governance), protection and management of the space of the Republic of Croatia (hereinafter: the State), as a particularly valuable and limited national asset, and also creates the prerequisites for social and economic development, environment and nature protection, building excellence and rational use of natural and cultural goods.
- Building Act (Zakon o gradnji) (OG 153/13)

Articles 1 and 2 of the Physical Planning act give regulations on how to facilitate plans and actions regarding spatial planning. The most important regulations are:

- Regulation concerning content of project (Pravilnik o obveznom sadržaju idejnog projekta) (OG 55/14, 41/15, 67/16)
- Mandatory content and scope of building documentation regulation (Pravilnik o obveznom sadržaju I opremanju projekata građevina) (OG 64/14, 41/15, 105/15, 61/16)

- Regulation on contents of report on spatial planning state and mandatory indicators (Pravilnik o sadržaju I obveznim prostornim pokazateljima izvješća o stanju u prostoru) (OG 48/14, 19/15)
- Regulation concerning standard of spatial planning plans (Pravilnik o sadržaju, mjerilima kartografskih prikaza, obveznim prostornim pokazateljima I standardu elaborata prostornih planova) (OG 106/98, 39/04, 45/04-addendum, 163/04, 148/10-ceased validity, 9/11)
- Regulations on municipality with option of reduced spatial planning (Pravilnik o općinama koje mogu donijeti prostorni plan uređenja općine smanjenog sadržaja I sadržaju, mjerilima kartografskih prikaza I obveznim prilozima toga plana) (OG 135/10)
- Regulation concerning national spatial planning plan (Pravilnik o državnom planu prostornog razvoja) (OG 122/15)
- Regulation concerning issuing approval for doing jobs in spatial planning (Pravilnik o izdavanju suglasnosti za obavljanje stručnih poslova prostornog uređenja) (OG 136/15)

The above mentioned laws and regulations are the bases for developing and conducting spatial plans. In Croatia, spatial plans are differentiated into three levels concerning scope and detailing of plans. Top most level is national plans, upon which lesser plans are developed. The content and scale of plans are defined in regulations (OG 55/14, 41/15, 67/16, 122/15, 106/98, 39/04, 45/04, 163/04, 148/10).

- Strategy of Spatial Development of Republic of Croatia (Strategija prostornog razvoja Republike Hrvatske). It is a plan on 1:250 000 and 1:500 000 scale. It is top most spatial development document and all lesser documents must abide it. The purpose of this plan is to set guidelines for long term spatial development and coordination of spatial development measures.
- National Spatial Plan (Program prostornog uređenja Republike Hrvatske). The scale of this plan is 1:250 000 up to 1:500 000. The National Spatial Plan defines measures and activities for conducting the spatial strategy and harmonizes ground rules, criteria and rules of spatial planning on national, regional and local level on time scale of eight years.
- Spatial plans of special defined area (PROSTORNI PLANOVI PODRUČJA POSEBNIH OBILJEŽJA). These plans concern nationwide relevant areas, such as national parks, significant natural parks, tourist zones, military compounds etc. These special areas confine to the spatial strategy and the National Spatial Plan but acknowledge special natural, landscape and heritage values of location. Along with spatial plans, they contain programs of environmental protection, definition of usage and requirements for area.

Lesser spatial planning documents are divided into regional and local documents. Regional plans are developed by the county authority and local plans are developed by the city or municipality administration. There is an option for reduced content of local spatial plan. The municipalities where that option is viable are defined in special regulation (“Regulations concerning municipalities where reduced plans are viable” (ad lib translation) OG 135/10). The regulations also define propositions for plan makers and method for developing plans (OG 129/16, OG 136/15)

Regional spatial planning documents are:

1. County spatial development plan (Prostorni plan uređenja županije) in scale of 1:100 000.
2. Spatial development plan of city Zagreb (Prostorni plan uređenja grada Zagreba) in scale of 1:100 000.
3. Spatial development plans of specially defined regions (Prostorni planovi područja posebnih obilježja) in scale of 1:100 000. These plans are made for areas inside counties with features like national wide plans but with lesser significance. These areas are defined in regional spatial development plans.

Local spatial planning documents are:

1. City, town of municipality spatial development plans (Prostorni plan uređenja velikog grada, grada ili općine) in scale of 1:25 000.
2. Urbanistic plans (Urbanistički plan uređenja) in scale of 1:2 000 or 1:1 000.
3. Detailed spatial development plan (Detaljni plan uređenja) in scale of 1:1 000 or 1:500.

The division between regional and local plans coincides with administrative borders of the region or municipality. To keep track of land usage and resources, a four-year report concerning the state of spatial planning (Izvještaj o stanju u prostoru) is written and adopted by the body defined for spatial planning. The reports contain analyses of the current and predicted states of spatial planning, based on indicators and previously adopted documents in accordance with regulation on contents of report on spatial planning state and mandatory indicators (Pravilnik o sadržaju I obveznim prostornim pokazateljima izvješća o stanju u prostoru) (OG 48/14, 19/15). The reports also evaluate the harmonization of documents with the current status and suggest changes in documents or define new measures of land usage and environmental protection.

3.3.2. Laws and Regulations on Environmental Assessment in Croatia

In Croatia, the implementation of environmental impact assessment is prescribed pursuant to the Environmental Protection Act (OG 80/13, 153/13. 78/15) (EPA) and Regulation on environmental impact assessment (OG 61/14) (REIA). Through the adoption of these regulations the procedure has been systematically regulated and harmonized with the corresponding EU Directives: Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment, amended by Council Directive 97/11/EC of 3 March 1997 and by Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003. Furthermore, the adopted regulations are based on the provisions of the international treaty which was ratified by the Republic of Croatia through the adoption of the Act on the Ratification of the Convention on Environmental Impact Assessment in a Transboundary Context (Official Gazette IT No. 6/96).

The environmental impact assessment, its evaluation and acceptability are assessed by the Advisory Expert Committee for the Environmental Impact Assessment Procedure (further: Committee) on the basis of the Environment Impact Study (EIS). Members of the committee can only be persons listed in the List of persons eligible to be appointed members and deputy members of committees in procedures of strategic assessment, environmental impact assessment of projects and establishment of integrated

environmental requirements (OG No. 126/09, 65/12). Committee members are appointed among scientific and expert professionals, representatives of bodies and/or persons determined pursuant to a special regulation, representatives of local and regional self-government units, and representatives of the Ministry. The committee is appointed by the Ministry for projects determined in the List of projects from Annexes I and II of the Regulation on environmental impact assessment (Official Gazette No. 64/08, 67/09), and by the administrative body in the county or the City of Zagreb for projects from Annex III of the REIA. The committee performs its work in sessions and upon having established that the EIS is complete and well-founded in expert terms, it proposes to the competent authority that the public hearing on the study should be carried out. After the conducted public hearing, the committee delivers its opinion on project acceptability and submits it to the competent body for issuance of a decision which is the mandatory content of future permits for project implementation.

Environmental Impact Assessment (EIA)

The legal framework

Legal framework for EIA procedure consists of these laws:

- Environmental Protection Act (OG 80/13, 153/13, 78/15)
- Regulation on Environmental Impact Assessment (OG 61/14)
- Regulation on Information and Participation of the Public and Public
- Concerned in Environmental Matters (OG 64/08)
- Act on Ratification of the Convention on EIA in a Transboundary
- context (Espoo Convention) (OG-IT 6/96)
- General Administrative Procedure Act (OG 47/09)

Two levels of competent bodies are realizing the above listed legal framework. On the national level, the competent body is the Ministry of Environment and Nature Protection. On the regional level, the county or the city of Zagreb is defining the competent body. Along with these institutions, other involved institutions are the concerned environmental authorities (ministries, state administration and expert organizations and public sector) and regional and local authorities.

EIA Procedure

In REIA, Annex I states that EIA is mandatory for projects. For those projects, the nature impact assessment is carried out within same procedure in coordination with Nature Protection Directorate. Annex II defines the screening procedure in which it is up to the Ministry of Environmental and Nature Protection to decide if EIA is needed or not. Annex III defines the procedure on the regional level. Annex IV defines the mandatory contents of the Environmental Report (Environmental impact study) which is an integral part of the application.

EIA procedure in Croatia is executing in steps described in following table. Subsequently, each step is described in detail.

Tab. 5: EIA procedure in Croatia

Action	Party	Notes
Screening	Ministry of Environmental and Nature Protection	the procedure to determine whether or not an EIA is required
Scoping	Ministry of Environmental and Nature Protection	the procedure where a developer can request advice on the impacts to be assessed in the EIA
Preparation of environmental report	Authorized institution	The "Report" (including a non Technical summary)
Request and environmental report	Developer / MENP	
Review of the study	EIA committee	
Information and consultation	Public	
Finalization of the study	Authorized institution	
Decision	Ministry of environmental and nature protection	Takes account to fenv. Report and consultations End of EIA process

Screening

Screening procedure is performed as case-by-case analysis in line with set criteria and/or criteria prescribed in Annex V of REIA. For screening to be conducted a request must be submitted in which is included:

- Information on the developer
- Description of the location
- Description of the characteristics of the project, including considered alternatives
- Description of the likely significant effects of the project on the environment
- Proposal of environmental protection measures

Another key aspect of screening procedure is to inform the public about request. During the information process, reviewing the opinions of other responsible bodies and opinions and concerns of public is also performed.
On the end of screening procedure, a decision is provided to carry out or not to carry out EIA. Decision is based on reasons which also must be presented. Public must be informed about decision, also.

Scoping

Scoping procedure is not mandatory. The request for scoping must consist of same data as request for screening. Request is submitted to bodies or persons designated by special regulation for obtaining their opinion. Public is informed, in same way as in screening procedure. As result, instructions on the content of the Environmental Report are given. The instructions do not affect the right to request supplement of the Report content in the course of the EIA procedure. The public must be informed about instructions.
Environmental Report is made by companies authorized for professional environmental protection activities. The regulation is defining which organizations can make environmental reports. The report is based on updated, authentic and available information. The Environmental Report is the result of:

- Scoping
- Mandatory content – as prescribed in Annex IV of REIA

- In case if project has significant impact on ecological network (i.e. Natura 2000) the Environmental Report must include a chapter elaborating effects projected to the ecological network.

Advisory Expert Committee (AEC) is appointed for each individual project. Competent body is determining composition and number of members of AEC, depending on type of projects. The members are listed in Official Gazette. The members are scientific and expert employees, representatives of bodies and/or persons designated by special regulations, representatives of local and regional government units and representatives of Ministry.

Informing the public and public participation

Competent bodies have to inform the public of:

- EIA procedure
  - the request
  - the decision on submitting Environmental Report for public debate
  - the decision on environmental acceptability of the project
- screening
  - the request
  - the decision
- Scoping
  - the request,
  - the instruction on content of Environmental Report

Methods of information dissipation is web page of competent bodies, public notices in the press, official journals and relevant notice boards.
Direct public participation in EIA procedure is during the public debate. These debates include public inspection and public hearing. The debate must be opened for at least 30 days. The public and public concerned participate in the public debate in a way as right of access to public inspection, ask questions during the public hearing, having the right to enter proposals and objections into the book of comments, submitting proposals and objections into the minutes during the public hearing, submitting written proposals and objections to the competent body. The opinions, objections and suggestions of the public and public concerned must be reviewed prior to issuing decision.

Decision

The Decision on Environmental Acceptability will be adopted only after competent body reviews the AEC's opinion on the acceptability of the project, opinions, objections and proposal of the public and public concerned submitted during the public debate and results of any transboundary consultations. The decision can be challenged in the Administrative Court.

Strategic Environmental Assessment (SEA)

SEA procedure in Croatia is regulated in the following regulations:

- Environmental protection Act (OG 110/07)
- Regulation on strategic environmental assessment of plans and programmes (OG 64/08)

- Ordinance on the committee for strategic assessment (OG 70/08)
- Regulation on information and participation of the public and public concerned in environmental matters (OG 64/08)
- Ordinance on the committee for strategic assessment (OG 70/08)
- List of persons eligible to be appointed members and deputy members of committees in procedures of strategic assessment, environmental impact assessment of projects and establishment of integrated environmental requirements (OG 126/09, 65/12)

Through the aforementioned regulations the procedure has been aligned with the provisions of the Directive 2001/42/EC on Environmental Assessment of Plans and Programs and the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention).

Art. 56 of the Environmental Protection Act determines that strategic environmental assessment has to be carried out for plans and programs adopted at the national and local (regional) level in the field of agriculture, forestry, fisheries, energy, industry, mining, transport, telecommunications, tourism, waste management and water management and for spatial plans of counties and the Physical plan of the City of Zagreb (excluding its amendments). However, in case of amendments to plans and programs subject to strategic assessment a procedure has to be carried out in which a decision is made about the necessity of implementing the strategic assessment. The evaluation of the need for strategic assessment of amendments to plans or programs at the national level is carried out by the bodies competent for the implementation of strategic assessment, in cooperation with the Ministry when the evaluation is not under the competence of the Ministry. The evaluation of the need for strategic assessment of amendments to plans or programs at the county level is carried out by the body competent for the implementation of strategic assessment.

SEA Procedure

Strategic assessment at the national level is carried out by the Ministry or the ministry competent for the sector for which the plan or program is being adopted. At the regional level the procedure is carried out by the competent administrative body in the county or the City of Zagreb, in cooperation with the competent administrative department in the county or the City of Zagreb, depending on the area for which the plan or program is being adopted.

Although, the transposition of the EU SEA Directive was done properly, the situation with the implementation of the procedure can currently be stated as insufficient. Apparently, although the SEA procedure is envisaged in Croatian legislation since (2007) not one procedure is finished yet. According to the information from the Ministry of Environment Protection and Nature, there are 12 ongoing procedures, six full SEA procedures and six evaluations of the need for strategic assessment. Additionally, only one procedure is at the very end of the whole process, meaning that only the final decision is still missing. The Ministry indicates that there are few problems with this procedure: lack of administrative capacity for this process, lack of cooperation between different administrative bodies, lack of knowledge of competent authorities and lack of interest from the public (including NGOs) for SEA procedure.

Strategic assessment is carried out during the development of the draft proposal of the plan or program, prior to the establishment of the final proposal and its submission into the adoption procedure. Strategic impact study is prepared in the procedure of strategic assessment. Strategic assessment is carried out on the basis of the results set out in the strategic impact study. The strategic impact study must contain the chapters and contents as prescribed in Annex I of Regulation on strategic environmental assessment of plans and programs (O.G. No. 64/08). When the opinion of the body competent for nature protection establishes that the plan and program may have significant effects on the ecological network, the content of the strategic impact study must also include a chapter identifying the effects of the plan or program on the ecological network, pursuant to special regulations governing nature protection. In the procedure of determining the content of the strategic impact study, the competent body must obtain the opinion of the bodies and/or persons designated by special regulations on the content and scope of information that has to be covered by the strategic impact study, relating to the area under the competence of that body and/or persons.

The strategic impact study defines, describes and assesses expected significant effects on the environment which may be caused by the implementation of a plan or program, and its reasonable alternatives related to environmental protection that take into account the objectives and scope of the plan or program in question. The body competent for the implementation of strategic assessment must submit the strategic impact study and the draft proposal of plan and program for an opinion by the bodies and/or persons designated by special regulations.

Prior to defining the draft proposal of the plan or program to be submitted for public debate, including public inspection and public display, the draft plan and program must be reviewed and the results of the strategic assessment study evaluated by the Advisory Expert Committee (hereinafter: the Strategic Assessment Committee; SAC) which issues an opinion thereupon. The SAC of each plan or program is appointed by the head of the body competent for carrying out strategic environmental assessment. The composition and number of members of the SAC is determined depending on the scope and other features of the plan or program for which a strategic assessment is carried out.
The members of the committee are appointed from the list of persons selected by the Minister from among scientific and expert employees, representatives of regional and local self-government, representatives of the state's four administration bodies, representatives of legal persons with public authorities and representatives of the Ministry. It is determined that, prior to submission into the adoption procedure, when defining the final proposal of the plan or program, it is mandatory to take into account the results of strategic assessment, opinions of bodies and/or persons designated by special regulations and to review the objections, proposals and opinions of the public as well as the results of any transboundary consultations if mandatory under the Environmental protection Act (O.G. No. 110/07), which have been made with regard to the draft proposal plan or program, and the opinion of the Ministry.

The strategic assessment procedure is concluded by the report of the body competent for the implementation of strategic assessment. It must contain information on the manner in which environmental protection issues have been integrated in the plan or program, the results of that procedure and the environmental protection measures and method of monitoring the implementation of measures which are included in the content of the plan or program as well as the method of monitoring the significant environmental impacts of the adopted plan or program.

Public information and participation

The obligation to inform the public and to ensure public participation in procedures of strategic environmental assessment of plans and programs is determined by Article 137 (1) of the Environmental Protection Act. Pursuant to paragraph 2 of the same Article, it is defined that the period of time determined for informing the public shall not be shorter than 30 days. The manner of informing the public and the public concerned in the aforementioned procedures is determined in detail by the Regulation on Information and Participation of the Public and Public Concerned in Environmental Matters (Official Gazette 64/08).

Pursuant to this regulation, the public shall be informed on the aforementioned procedures in the following manner: As a rule, the competent body provides and publishes the information on its web pages. The competent body, given the complexity and nature of the subject matter on which it is obliged to provide information in accordance with the Act and Regulation, except by means of its web page, may also provide such information through other means of informing that are more appropriate in a specific case given the local community or individual citizen, specifically: public notices in the press, public notices in the official journal of a local or regional self-government unit, public notices on the notice board at a particular location, notices in other means of public information, i.e. electronic media, etc. When the information procedures regulated pursuant to the Act and this Regulation are used to inform the public concerned, the competent body must publish the information by displaying it on the notice board at a particular location, as well as in the local or regional press.

In the procedure of strategic environmental assessment of plans and programs the public must be informed of:

1. the decision on initiating the strategic assessment and developing the strategic impact study,
2. the decision on determining the content of the strategic impact study,
3. the decision on submitting the strategic impact study and the draft proposal of the plan or program for public debate,
4. the procedure relating to potential transboundary effects of a plan or program and the procedure of participation in the strategic assessment in another country,
5. the report of the competent body concerning the performed strategic assessment and the adopted plan or program.

In the evaluation of the need for strategic assessment, the public shall be informed of the decision issued in that procedure. As a rule, the information on the above acts such as: decisions, assessments and reports are made available by publishing those acts on the web page. If the nature of the act – because it contains technical and cartographic representations – does not permit its publication in its entirety, the summary of the act without technical and cartographic representations shall be published. The summary shall contain the relevant statement and explanation of the act, if contained in the act. Notice on conducting of a public hearing must be published on the official website of the Authority and coordinator of the public debate in the newspapers for at least eight days before the public hearing. Following the publication of notice on the public debate, the subject of the public debate is put on public insight for a minimum of 30 days. During the public insight the Authority organizes public presentation.

In accordance with the provisions of the Environmental Protect Act, in the early phase of the decision-making procedure for environmental issues relating to the relevant activity

of the developer or the operator, the public and public concerned must be appropriately, timely and efficiently informed of their right to participate in the procedure of strategic environmental impact assessment. In the procedure of strategic assessment of plans and programs, the public can participate in:

1. the development of the strategic impact study – determining the content; by written opinions and proposals to the competent body within the period set in accordance with the Regulation,
2. the public debate on the strategic impact study and the draft proposal of the plan or program; in accordance with the provisions of the Act and Regulation that regulate the manner of conducting the public debate, except in the case of the strategic environmental assessment of a physical plan, when public participation is regulated in accordance with the provisions of the law governing physical planning.

In a public debate, the public and other participants in the public debate such as bodies and/or persons designated by special regulations, local and regional self-government units and other bodies (hereinafter: public debate participants) can submit opinions, proposals and objections in relation to the subject of public debate within the period and in the manner prescribed by Regulation. The subject of public debate may be the strategic impact study with the draft proposal of the plan or program. The public debate, including public inspection and public display in the procedure of strategic assessment shall be coordinated and performed by the competent body.
The public shall participate in the public debate in a way as to:

- have the right of access to public inspection of the subject of public debate,
- ask questions during the public display on the proposed solutions, which are answered by the persons referred to in Article 19 of the Regulation on strategic environmental assessment of plans and programs (O.G. No. 64/08), orally or in writing according to the request of the public debate participants,
- have the right to enter proposals and objections into the book of comments which shall be placed next to the subject case on which the public debate is performed,
- submit proposals and objections into the minutes during the public display,
- submit written proposals and objections to the competent body within the period set in the notification on the public debate.

The competent body shall prepare a report on the performed public debate. In the case that, based on the accepted opinions, proposals and objections submitted in the public debate, the subject of public debate is changed in such extent that the new solutions are not in conformity with the significant determinants of the subject of public debate on the basis of which it was developed, a repeated public debate shall be performed. If the repeated public debate refers to the changes proposed in the first public debate, the period of public inspection may be shorter than the prescribed period in the Regulation on strategic environmental assessment of plans and programs (O.G. No. 64/08), but not shorter than eight days. The notification on the repeated public debate shall be published in the manner prescribed by the provision of Article 16 of the Regulation.
New proposals and objections relating to the amended part of the subject of public debate may be submitted only in reference to the changes resulting from the accepted proposals submitted in the first public debate. Repeated public debate may be performed no more than two times, after which the decision on new preparation of the subject of public debate shall be issued.

4. Discussion: Is Spatial Planning Capable of Reducing Vulnerability through Environmental Assessment?

As presented in the previous chapters, spatial planning and environmental assessment procedures are closely interwoven in both planning and environmental law. However, the key question to be answered is:

- *Is spatial planning capable of reducing vulnerability through environmental assessment?*

In order to answer this question, first general potentials and restraints are discussed, before the specific situations in the three Wind Risk partner countries are compared.

As already stated in the introduction of this report, spatial planning decides about future land uses, which is why the discipline essentially influences the vulnerability of areas. More specifically, spatial planning is especially capable of influencing the vulnerability components exposure and adaptive capacity, as illustrated with the following examples.

Exposure	e.g. by prohibiting building permissions in flood prone areas
Adaptive Capacity	e.g. by increasing urban green spaces and decreasing sealing in order to enable quick infiltration of precipitation in case of extreme events

The most important instrument for implementing spatial planning measures with the aim of reducing the exposure and increasing the adaptive capacity of an area, are plans and programs. As land-use plans have a high-spatial resolution[8] they are a suitable instruments for addressing location-based vulnerabilities.

Environmental assessment is a systematic procedure that bases on EU Directives and is therefore implemented in national law in all EU Member States. The aim of environmental assessment is to identify, describe and assess potentially significant adverse effects on the environment, which may result from the establishment of a project, plan or program. In other words, environmental assessment shall ensure that spatial plans and individual projects within a certain spatial area do not have adverse effects on the environment. These adverse effects on the environment are to be assessed according to specific procedures, addressing various protective goods. These protective goods, to some extent, reflect the possible vulnerabilities of the environment.

To conclude, spatial planning and environmental assessment are closely interwoven. Whenever a spatial plan or program is set up, an assessment of the potentially significant adverse effects on the environment (and specific vulnerability parameters) needs to be conducted. As projects can generally also be considered spatially relevant, the same close connection between spatial planning and environmental assessment applies to them.
Therefore it can be stated, that there is a theoretical capability of spatial planning to reduce vulnerabilities. In the following, the EIA and SEA Directives are to be investigated article by article on their suitability of reducing vulnerabilities.

[8] Binding local land-use plans are even parcel-specific (meaning they illustrate specific properties).

4.1. European Perspective on Reducing Vulnerability through Environmental Assessment

The following table contains the potentials and restraints for reducing vulnerability by applying the EIA and the SEA Directives. This table is not intended to be exhaustive but is rather to be understood as a basis for further discussion.

Tab. 6: Potentials and restraints for reducing vulnerability by EIA and SEA

Subjects and EU Directive	Potentials for Reducing Vulnerability	Restraints for Reducing Vulnerability
EIA 2011 Art. 5 **Scope: Info on Project**	The information on the project to be provided embraces measures to avoid or remedy significant environmental effects. These could be used for adaptation purposes, e.g. increasing the structural resilience of buildings or increasing green structures.	The information to be provided only has minimum standard and are of rather descriptive character. A more specific target would increase an early debate on vulnerability reduction and increase of adaptation measures. ➢ see recommendations below
EIA 2011 Art. 6 **Participation**	Participation procedures ensure an active involvement of authorities, public agencies and the public. The aim is to reflect on a project from different (disciplinary) perspectives and to embrace all concerns. Participation processes therefore are a potential for the reduction of vulnerability, as possible effects are assessed from various perspectives, e.g. spatial planning, health care, water management, landscape planning, etc.	
EIA 2011 Art. 7 **Transboundary Participation**	see Art. 6 EIA 2011	
EIA 2011 Art. 8 **Consideration**	In the step of consideration all information and statements gathered are weight among themselves and against each other. The consideration is necessary in order to secure the ability of taking a (planning) decision. The consideration can be understood as both an opportunity for vulnerability reduction as well as a restraint because it is in the power of the authority to weigh certain aspects more important than others. ➢ see recommendation	
EIA 2011 Art. 9 **Decision**	In the decision, measures on avoiding or remedying effects on the environment can be determined. If done so, vulnerability aspects can potentially be considered, which is to be understood as a potential.	But if no measures on avoiding or remedying effects on the environment are necessary (or determined), either the vulnerability is low or other aspects were weighed of higher priority.

EIA 2014 Art. 5 **Scope: EIA Report**	With the introduction of an EIA report, a broadening of scope takes place, e.g.: • reasonable alternatives are to provided; • climate change is to be considered; • risks from severe accidents and/or disasters are to be considered in environmental assessment procedures. These changes can be understood as a potential for vulnerability reduction, as especially with the inclusion of climate change and accidents/disasters the vulnerability of an area is to be made subject of environmental assessment. ➢ see recommendations	The reasonable alternatives are to be developed by the developer and might therefore be led by economic interest. ➢ see recommendations A definition of what 'severe accidents and/or disaster' are and how these shall be included is missing. ➢ see recommendations
EIA 2014 Art. 6 **Participation**	see EIA Directive 2011 Art. 6	see EIA Directive 2011 Art. 6
EIA 2014 Art. 7 **Transboundary Participation**	see EIA Directive 2011 Art. 7	see EIA Directive 2011 Art. 7
EIA 2014 Art. 8 **Consideration**	see EIA Directive 2011 Art. 8	see EIA Directive 2011 Art. 8
EIA 2014 Art. 8a **Scope of Consideration + Monitoring Parameters**	The introduction of monitoring procedures in the amended EIA gives the opportunity to regularly assess the potential negative effects and to arrange adaptation measures if needed.	
EIA 2014 Art. 9 **Decision**	see EIA Directive 2011 Art. 9	
EIA 2014 Art. 9a **Conflict of Interest**		
SEA 2001 Art. 5 **Scope: Environmental Report**	The environmental report is of great scope and ensures an involvement of other authorities in the scoping phase, which can be seen as a possibility for vulnerability reduction as from the beginning the broadest involvement of disciplines is secured. ➢ see recommendations	
SEA 2001 Art. 6 **Participation**	see EIA Directive 2011 Art. 6	see EIA Directive 2011 Art. 6
SEA 2001 Art. 7 **Transboundary Participation**	see EIA Directive 2011 Art. 7	see EIA Directive 2011 Art. 7

SEA 2001 Art. 8 **Consideration**	see EIA Directive 2011 Art. 8	see EIA Directive 2011 Art. 8
SEA 2001 Art. 9 **Decision**	The decision step in the SEA embraces a publication of monitoring measures to be implemented. This gives the opportunity to regularly assess the potential negative effects and to arrange adaptation measures, reducing the vulnerability, if needed.	
SEA 2001 Art. 10 **Monitoring**	It can be seen as a possibility for reducing vulnerabilities that monitoring is a separate article in the SEA Directive.	A restraint is though, that there is no authority designated to conduct the monitoring. ➢ see recommendations

Source: own depiction.

General Recommendations for EIA and SEA Directives

EIA Directive 2011

If the catalogue of information required from the developer (according to Art. 5 EIA 2011) were more specific, an early debate on vulnerability reduction could be established. It can therefore be recommended to raise the requirements of information required (→ as done by the amendment of the Directive).

Regarding the step of consideration (Art. 8 EIA 2011), the competent authority weighs all information gathered among themselves and against each other. It therefore is in the power of the authority to focus on certain vulnerability aspects or to decide that other aspects are even more relevant. If the general EU policy would focus more on the vulnerability of structures and societies, vulnerability-related statements could be stronger acknowledged.

EIA Directive 2014

The broadening of the scope of information required and their presentation in form of an environmental impact assessment report may present the greatest opportunity for including and reducing vulnerabilities, as the Directive directly addresses these. As described in chapter 2.2 it is not sufficient anymore to describe the possible significant effects of projects on climatic factors, but an assessment of the vulnerability of planned structures and objects towards climate change becomes necessary. (Cf. Statement 13 2014/52/EU) Furthermore, according to statement 15, precautionary actions regarding accidents and/or disasters in the habit of risks analyses are to be enforced. The Directive even provides the exact procedure for doing so:

i. The vulnerability of projects towards major accidents and/or natural disasters needs to be assessed by investigating exposure and resilience of the projects.
ii. The risk of occurrence for these accidents and/or disasters needs to be estimated.
iii. Implications for the likelihood of significant adverse effects on the environment need to be described. (Cf. Statement 15 2014/52/EU)

To conclude, the EIA according to the amended Directive 2014/52/EU needs to be conducted with respect to exposure, vulnerability and coping capacity.

Besides these above-mentioned possibilities of including and reducing vulnerability, two restraints can be identified accompanying the amendment of Art. 5. First, the reasonable alternatives are to be developed by the developer and might therefore be led by economic interest. It can be recommended to handle this issue as in the SEA Directive, where the competent authority provides alternatives and outlines reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) (cf. Art. 5 2001/42/EC). Second, so far a definition of what 'severe accidents and/or disaster' are and how these shall be included is missing. In practice this may lead to neglecting severe accidents and/or disasters. It is therefore recommended for both EU and the national levels to develop a catalogue with accidents and disasters to be included. If a catalogue like this would be implemented a special focus could also be set on storms.

SEA Directive

The involvement of other concerned authorities in the development of the environmental report secures a broad perspective on possible effects from the first step of the procedure. It is recommended to apply the same early consultation processes into the EIA, which, even in the amended Directive, only apply consultation procedures in case of a lack of expertise (cf. Art. 5 2014/52/EU).

Furthermore, it is recommended that a competent authority be designated to conduct the monitoring. The SEA Directive should generally state the necessity to designate a competent authority so that in national laws, specifications are possible.

4.2. Perspectives on Environmental Assessment and Spatial Planning from Germany, Slovenia and Croatia

4.2.1. Potentials and Restraints of Environmental Assessment as a Systematic Spatial Planning Approach for Vulnerability Reduction

In all three Wind Risk Prevention Project partner countries, namely Germany, Slovenia and Croatia, environmental assessment needs to be conducted whenever a spatial plan, a spatial program or a spatially relevant project is implemented or changed. As required by the EU, the environmental assessment procedures are derived and implemented according to the EU Directives EIA and SEA in all three countries.

The previous chapters showed that there are differences in the approaches of the three countries regarding environmental assessment and spatial planning. First of all, the spatial planning systems differ in the three countries. Although the spatial planning systems of Slovenia and Croatia originate from the former state of Yugoslavia, in Slovenia spatial planning is conducted on only two instead of three administrative levels. In Slovenia, spatial planning responsibilities are divided between the national and the local level. In Croatia and Germany, there is an additional regional level in between the national and local level. Structure-wise therefore the organization of spatial planning systems of Germany and Croatia are more similar than of Croatia and Slovenia.

Chapter 3 of this Wind Risk Prevention Project report showed, that so far spatial planning and environmental assessment are especially strongly interwoven in Germany. In Germany, environmental assessment is implemented as a superordinate procedure of spatial planning, anchored in spatial planning laws (ROG and BauGB).

In Slovenia and Croatia, the interlinkage between spatial planning and environmental assessment mainly bases on the SEA procedure, which needs to be conducted before the implementation of a plan or program. Furthermore it is interesting to notice that in both Slovenia and Croatia, the authority responsible for spatial planning on the national level is the Ministry of the Environment and Spatial Planning of the Republic of Slovenia, i.e. the Republic of Croatia, hinting at an administrative connection of the topics on the national level.

4.2.2. Recommendations from Germany, Slovenia and Croatia

First of all, a general recommendation that can be drawn from this report is that both EIA and SEA should be further supported in their implementation and execution within all three Wind Risk Prevention Project partner countries. Furthermore, the relevance of EIA and SEA as a systematic approach for addressing environmental issues needs to be further amplified and transposed into administrative actions.

As especially chapter 3 of this report illustrated, environmental assessment is of high priority and closely interwoven with spatial planning in Germany. The following recommendations are therefore derived from the ‘German approach’ and may be adapted by other EU Member States:

- **Joined implementation of EIA and SEA procedures.**
  A special characteristic about Germany's implementation of EIA and SEA is that they are jointly implemented in one law; the UVPG. The reason for the joint implementation of EIA and SEA is that in Germany, plans and programs are already made subject to environmental assessment before the implementation of the SEA Directive. This special characteristic reflects the importance of environmental assessment for spatial planning (see chapter 3.2.1).
  A joined implementation of EIA and SEA has the following advantages:
  - A combination of EIA and SEA secures the opportunity to assess potential environmental effects by finding the most suitable location for potentially hazardous projects within the development procedures of a spatial plan (within SEA procedures) even before any discussion on the realization of concrete individual projects (within EIA procedures).
  - A combination of EIA and SEA saves resources (time and staff) as they can be conducted in one procedure instead of two consecutive ones.

- **Screening Procedures for SEA and EIA:**
  According to § 3 of German UVPG, screening is mandatory not only for SEA but also for EIA. Therefore, § 3 UVPG determines that environmental assessment has to decide on whether EIA is mandatory according to Annex I or if projects require individual preliminary examination (either in general or due to their specific location).

- **Monitoring Procedures for SEA:**
  The German regulations on SEA explicitly assign monitoring requirements to the competent authority (cf. § 14m UVP).

- **Encourage a close connection between environmental assessment and spatial planning law in order to help environmental assessment procedures become a systematic approach for spatial planning in addressing vulnerabilities.**
  In Germany, environmental assessment and spatial planning are closely interwoven through spatial planning law. The following two examples may be copied by other Member States:
  - In §§ 16 and 17 UVPG is stated that environmental assessment procedures for spatial plans (spatial structure plans and land-use plans) shall be subject the assessment procedures as described in ROG and BauGB. Although the ROG is less specific regarding regulations than the BauGB, this circumstance can be understood as a potential for vulnerability reduction, because more detailed and more (spatially) specific regulations can be implemented. The close connection between spatial planning (law) and environmental assessment procedures ensures an early and comprehensive consideration of potential environmental effects of projects as these are especially to be considered in any spatial plan or program.[9]

[9] Of course it also needs to be considered, that this close connection results in a need for amending not only the UVPG, but also on ROG and BauGB if the EU SEA and EIA Directives are amended. The national amending procedures might therefore be even more extensive than on the European level, as potentially several laws need to be amended.

- In the German BauGB all articles with general prescriptions (§§1-4c) contain relevant information on how to include environmental assessment into spatial planning procedures. These regulations are very detailed and either refer to the UVPG or exceed it in the requirements. With these general prescriptions it can be ensured that environmental assessment is fitted within spatial planning procedures and the respective time schedules. Especially suitable for considering and reducing vulnerabilities is § 1(6) No. 7 BauGB, which determines that measures on climate protection and climate change adaptation are to be included in the environmental assessment report. This paragraph is even suitable for including vulnerabilities towards storm, e.g. is it imaginable to include a measure that city trees should not be planted close to the driveways of fire brigades, hospitals or other emergency units in order to prevent that in case of a summer storm, these trees fall, block the driveways and prevent the units from operating.

5. Conclusions

This report focused on recommendations from a spatial planning perspective on how to reduce vulnerabilities. As stated in the introduction, the aims was to investigate on whether spatial planning is capable of systematically addressing vulnerabilities, although these are location-based and differ according to the location. The overall research question was:

- *Is Spatial Planning Capable of Reducing Vulnerability through Environmental Assessment?*

The approach chosen in this report was to investigate environmental assessment as a systematic procedure, closely linked with spatial planning. It was shown that the EU Directives on Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) offer various possibilities of addressing vulnerabilities. Furthermore, the national implementations of the EU Directives were presented. It was shown that in all three countries, spatial planning and environmental assessment are somehow interwoven.

Nonetheless, this report showed that so far spatial planning in average of the three countries has only partly influence on environmental assessment and this influence is mainly restricted to SEA procedures. Therefore it can be concluded, that spatial planning is currently not fully capable of systematically reducing vulnerabilities, e.g. towards storms. Nevertheless, sophisticated approaches on a systematic implementation of environmental assessment into spatial planning procedures already exist within the EU (see e.g. chapter 3.1) and could be extended to other Member States. It needs to be stated though that the 'German approach' strongly depends on the three-level planning system consisting of national level, regional level and local level. For countries like Slovenia, where there are only two levels of spatial planning, new approaches might need to be developed.

As an outlook it can be recommended that the national authorities in the EU deal with the amendments of the EIA directive in an early stage, preferably before the implementation of Directive 2014/52/EU in national law until May 2017. Especially the questions on how to embrace climate change and severe accidents and/or disasters into the scope of environmental reports will be challenging. This is even more complicated due to the fact that there is no definition or catalogue on accidents/disasters on the European level. Concluding, instructions or recommendations would be desirable.

Concluding it can be stated, that spatial planning as a comprehensive discipline can be well capable of addressing vulnerabilities and that environmental assessment is a suitable procedure for systematically approaching differing location-based vulnerabilities. A major advantage of environmental assessment is that both on the level of projects as well as on the level of plans and programs, measures can be implemented and vulnerabilities reduced. Nonetheless, it has to be kept in mind that the prerequisite for addressing vulnerabilities via spatial planning is knowledge on these vulnerabilities. This insight further stresses the importance of the Wind Risk Prevention Project.

6. References

German Subchapters

Literature:

Deutsche Rückversicherung (Hrsg.) 2015: Sturmdokumentation 2014 Deutschland. Düsseldorf. Online PDF: http://www.deutscherueck.de/fileadmin/user_upload/Sturmdoku_2014_WEB.pdf

DWD [Deutscher Wetterdienst] (unpublished) 2015: Extremes Gewitter NRW – Pfingsmontag, 9. Juni 2014.

Gesamtverband der Deutschen Versicherungswirtschaft e.V. [GDV] (ed.) (2015): Naturgefahrenrepot 2015. Die Schaden-Chronik der deutschen Versicherer in Zahlen, Stimmen und Ereignissen. September 2015; Berlin.

Greiving, S.; Ubaura, M.; Tesliar, J. (eds.) (2016): Spatial planning and resilience following disasters: International and comparative perspectives, Policy Press.

Hendler, R. (2012): §69 Bau-, Raumordnungs- und Landesplanungsrecht im föderalen System der Bundesrepublik Deutschland. IN: I. Härtel (ed.): Handbuch Föderalismus – Föderalismus als demokratische Rechtsordnung und Rechtskultur in Deutschland, Europa und der Welt. Springer-Verlag: Berlin, Heidelberg.

Turowski, G. (2005); Raumplanung (Gesamtplanung). In: Handwörterbuch der Raumordnung, ARL, Hannover, pp. 893-898.

Websites:

Website ARL 2016: Raumplanung, Raumordnung, Raumenwicklung. http://www.klima-und-raum.org/raumplanung-raumordnung-raumentwicklung (accessed 13.07.2016)

Website EC [European Commission] 2016a: Environmental Assessment. http://ec.europa.eu/environment/eia/index_en.htm (last updated 08.06.2016; accessed 18.07.2016)

Website EC [European Commission] 2016b: Environmental Impact Assessment – EIA. http://ec.europa.eu/environment/eia/eia-legalcontext.htm (last updated 08.06.2016, accessed 18.07.2016).

Website EC [European Commission] 2016c – Environmental Impact Assessment. Review of the EIA Directive. http://ec.europa.eu/environment/eia/review.htm (last updated 08.06.2016, accessed 18.07.2016).

Website EC [European Commission] 2016d: Strategic Environmental Assessment – SEA. http://ec.europa.eu/environment/eia/sea-legalcontext.htm (last updated 08.06.2016, accessed 18.07.2016).

Website UBA 2016: Umweltprüfungen. https://www.umweltbundesamt.de/themen/nachhaltigkeit-strategien-internationales/umweltpruefungen# (accessed 26.07.2016).

Legislation:

BauGB
Baugesetzbuch in der Fassung der Bekanntmachung vom 23. September 2004 (BGBl. I S. 2414), das zuletzt durch Artikel 6 des Gesetzes vom 20. Oktober 2015 (BGBl. I S. 1722) geändert worden ist.

Directive 2011/92/EU of the European Parliament and the Council
on the assessment of the effects of certain public and private projects on the environment; 13 December 2011.

Directive 2014/52/EU of the European Parliament and the Council
amending Directive 2011/95/EU on the assessment of the effects of certain public and private projects on the environment; 16 April 2014.

Directive 2001/42/EC of the European Parliament and the Council
on the assessment of the effects of certain plans and programmes on the environment; 27 June 2001.

ROG
Raumordnungsgesetz vom 22. Dezember 2008 (BGBl. I S. 2986), das zuletzt durch Artikel 124 der Verordnung vom 31. August 2015 (BGBl. I S. 1474) geändert worden ist.

UVPG
Gesetz über die Umweltverträglichkeitsprüfung in der Fassung der Bekanntmachung vom 24. Februar 2010 (BGBl. I S. 94), das zuletzt durch Artikel 2 des Gesetzes vom 21. Dezember 2015 (BGBl. I S. 2490) geändert worden ist.

Slovenian Subchapters

Websites:

Websites of the Ministry of the Environment and spatial planning of Republic of Slovenia:
http://www.mop.gov.si/si/delovna_podrocja/presoje_vplivov_na_okolje/cezmejna_presoja_vplivov_na_okolje/
and
http://www.mop.gov.si/si/delovna_podrocja/presoje_vplivov_na_okolje/celovita_presoja_vplivov_na_okolje/
and
http://www.mop.gov.si/si/delovna_podrocja/presoje_vplivov_na_okolje/presoja_vplivov_na_okolje/
and
http://www.mop.gov.si/si/delovna_podrocja/presoje_vplivov_na_okolje/usposabljanje/

Legislation:

Uredba o merilih za ocenjevanje verjetnosti pomembnejših vplivov izvedbe plana, programa, načrta ali drugega splošnega akta in njegovih sprememb na okolje v postopku celovite presoje vplivov na okolje *(Uradni list RS, št. 9/09) - Decree on criteria for determining the likely significance of environmental effects of certain plans, programmes or other acts and its modifications in the environmental assessment procedure*

Uredba o okoljskem poročilu in podrobnejšem postopku celovite presoje vplivov izvedbe planov na okolje *(Uradni list RS, št. 73/05)-Decree laying down the content of environmental report and on detailed procedure for the assessment of the effects on certain plans and programmes on the environment*

Uredba o posegih v okolje, za katere je treba izvesti presojo vplivov na okolje *(Uradni list RS, št. 51/14 in 57/15)-Decree on environmental encroachments that require environmental impact assessments*

Uredba o varovalnih gozdovih in gozdovih s posebnim namenom *(Uradni list RS, št. 88/05, 56/07, 29/09, 91/10, 1/13 in 39/15) - Decree on protective forests and forests with a special purpose*

Zakon o prostorskem načrtovanju *(Uradni list RS, št. 33/07, 70/08 – ZVO-1B, 108/09, 80/10 – ZUPUDPP, 43/11 – ZKZ-C, 57/12, 57/12 – ZUPUDPP-A, 109/12, 76/14 – odl. US in 14/15 – ZUUJFO)- Spatial Planning Act*

Zakon o urejanju prostora *(Uradni list RS, št. 110/02, 8/03 – popr., 58/03 – ZZK-1, 33/07 – ZPNačrt, 108/09 – ZGO-1C in 80/10 – ZUPUDPP) - Spatial Management Act*

Zakon o varstvu okolja *(Uradni list RS, št. 39/06 – uradno prečiščeno besedilo, 49/06 – ZMetD, 66/06 – odl. US, 33/07 – ZPNačrt, 57/08 – ZFO-1A, 70/08, 108/09, 108/09– ZPNačrt-A, 48/12, 57/12, 92/13, 56/15, 102/15 in 30/16) - Environmental Protection Act*

Croatian Subchapters

Literature:

A. Barisic, ENVIRONMENTAL IMPACT ASSESSMENT – CROATIA, TRANS-EUROPEAN NORTH-SOUTH MOTORWAY (TEM) 17 December 2015, Vienna, Austria, Presentation.

Justice and Environment 2012: Implementation of the EIA Directive in Croatia, Case Study.

Justice and Environment 2012: Implementation of the SEA Directive in Croatia, Case study.
N. Mikulic, Environmental Assessment in Republic of Croatia, Presentation.

The implementation of the Environmental Impact Assessment on the basis of precise examples, Final report, 2012.

Legislation:

Pravilnik o državnom planu prostornog razvoja NN 122/15

Pravilnik o izdavanju suglasnosti za obavljanje stručnih poslova prostornog uređenja NN 136/15

Pravilnik o obveznom sadržaju I opremanju projekata građevina NN 64/14, 41/15, 105/15, 61/16

Pravilnik o obveznom sadržaju idejnog projekta NN 55/14, 41/15, 67/16

Pravilnik o općinama koje mogu donijeti prostorni plan uređenja općine smanjenog sadržaja I sadržaju, mjerilima kartografskih prikaza I obveznim prilozima toga plana NN 135/10

Pravilnik o sadržaju I obveznim prostornim pokazateljima izviješća o stanju u prostoru NN 48/14, 19/15

Pravilnik o sadržaju, mjerilima kartografskih prikaza, obveznim prostornim pokazateljima i standardu elaborata prostornih planova NN 106/98, 39/04, 45/04-addendum, 163/04, 148/10-ceased validity, 9/11)

Zakon o gradnji NN 153/13

Zakon o prostornom uređenju NN 153/13