



Chapter 1

Introduction and Guidance to the Reader

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1 Introduction and Guidance to the Reader

1.1 The Nord Stream Project

Nord Stream AG (Nord Stream) is an international joint venture established for the planning, construction and subsequent operation of a gas pipeline through the Baltic Sea. Gazprom holds a 51 percent stake in the joint venture, BASF/Wintershall and E.ON Ruhrgas hold 20 percent each, and N.V. Nederlandse Gasunie has a 9 percent stake.

Nord Stream plans to construct two almost parallel offshore natural gas pipelines from Portovaya Bay in the vicinity of Vyborg in Russia, through the Baltic Sea, to a landfall site near Lubmin in Germany. The proposed development has been subjected to an extensive examination of the environmental and safety risks associated with the construction and operation of the pipelines.

Nord Stream is required to submit national permit applications in Russia, Finland, Sweden, Denmark and Germany for approval to construct and operate the Project. Such applications are currently underway in each of the five jurisdictions and are each accompanied by a country-specific Environmental Impact Assessment (EIA) prepared in accordance with the respective applicable national legislation. Each of these five national applications will be determined in accordance with the relevant procedures of national law for the respective countries concerned.

1.2 This Report

1.2.1 The Function of the Nord Stream Report for Consultation under the Espoo Convention

This document comprises the “Nord Stream Report for Consultation under the Espoo Convention” (hereafter “the Espoo Report” or “the Report”). The purpose of this Report is to inform affected parties and other stakeholders of the transboundary impacts that are anticipated to result from planned activities as well as from potential unplanned (accidental) events associated with the pipelines’ construction and operation. In this regard the Report’s function is to serve the objectives and comply with the requirements of the Espoo Convention on

Environmental Impact Assessment in a Transboundary Context⁽¹⁾ (hereafter "the Espoo Convention" or "the Convention").

The Espoo Convention is aimed at preventing, mitigating and monitoring environmental damage by ensuring that explicit consideration is given to transboundary environmental factors before a final national decision is made as to whether to approve a project.

The Convention defines the country in which the proposed activity takes place as the "Party of Origin" and the countries that are impacted as each an "Affected party".

For trans-national linear developments, such as trans-national pipelines, there will be more than one Party of Origin and countries that are Parties of Origin will also (where they experience impacts from a Project related activity or event occurring in another Party of Origin country) be Affected Parties. In the case of the Nord Stream Project, the twin pipelines will pass through Russia, Finland, Sweden, Denmark and Germany, hence each of these countries is a Party of Origin under the terms of the Convention. Russia has signed but not ratified the Convention but for the purposes of the Espoo Report is designated as a Party of Origin. The other littoral countries of the Baltic Sea, i.e. Estonia, Latvia, Lithuania and Poland are each an Affected party, as are Russia, Finland, Sweden, Denmark and Germany since these five countries will each be subjected to impacts from Project related activities and events that are initiated in one or more of the other countries through which the pipelines will pass. Estonia, Latvia, Lithuania and Poland being Affected Parties but not Parties of Origin are, where it is wished to distinguish them as a group from the Party of Origin countries, referred to in the Espoo Report as "Only Affected Parties".

For purposes of the Espoo Report, the countries which are Parties of Origin with respect to the Nord Stream Project are referred to as "PoO countries", while the countries that are Affected Parties are referred to as "AP countries" and countries that are Only Affected Parties are referred to as the "OAP countries"⁽²⁾.

Hence, the purpose of this Report is to provide pertinent information to the competent authorities of the five PoO countries, the four OAP countries and other stakeholders such as NGOs and members of the public of the transboundary impacts that are anticipated to result from planned activities as well as from potential unplanned (accidental) events associated with the Nord Stream pipelines' construction and operation.

(1) UNECE, Convention on Environmental Impact Assessment in a Transboundary Context (Espoo), 1991 (as amended in 2001 and 2004).

(2) These designations of convenience are defined specifically for the purposes of this Espoo Report in an attempt to minimise repetition of similar or identical arguments, thereby facilitating the succinct and transparent presentation of findings of the transboundary impact assessment process.

1.2.2 The Espoo Report in the context of national EIA approval processes

Each of the five Party of Origin countries is subject to a discrete application from Nord Stream, which is being progressed together with the Espoo consultation process, and each of the five national application processes is supported by discrete stand alone EIA documentation that has been prepared and presented in accordance with the requirements of the country concerned. These national differences notwithstanding, the five national EIAs share an approach to impact assessment, which is based on a thorough understanding of the baseline environment, and in particular the sensitivities of the Baltic Sea for the respective national jurisdictions. In this respect, the five national EIAs are supported by not only the extensive network of Baltic Sea data that has been assembled under HELCOM and other institutions, but also by bespoke country-specific field surveys, which have been commissioned by Nord Stream to underpin the respective national EIAs.

This Nord Stream Espoo Report, however, while incorporating the methodologies of impact assessment (in particular, methods of assigning levels of significance to impacts) that are in accordance with EIA best practice, including guidance issued by the EU, focuses specifically on the rigorous and systematic identification and communication of potential transboundary impacts in order to meet the objectives and specific provisions of the Espoo Convention. For practical reasons, the Espoo Report does not replicate all of the detailed material that is required of the national EIAs (such as national legislative provisions and detailed country-specific baseline descriptions), focussing instead on providing sufficient background information (including baseline) to facilitate the identification of transboundary impacts of the entire project in a single document. Where a level of detail beyond that provided in the Espoo Report is required, the reader is referred to the national EIA documentation, which (subject to national provisions for public disclosure) is being made available for public review in a similar way as is being done for the Espoo Report.

1.2.3 The rationale for a dedicated Espoo Report

The objective of the Espoo Convention is the identification and communication of potential transboundary impacts to stakeholders via the application of impact assessment. For most projects involving transboundary impacts, the EIA Report that is prepared as part of the national planning application serves also the function of the Espoo Convention.

In the case of Nord Stream, however, it is necessary to identify transboundary impacts based on the consistent application of common criteria along the entire 1,222 km of the pipelines' route passing through five countries ⁽¹⁾. Since each of the five national EIAs has been prepared by (different) independent consulting companies, utilising assessment methods and significance criteria, which have been agreed bilaterally with the respective national authorities to meet the needs of the respective jurisdictions, it is recognised that the national EIAs, while providing the basis for a rigorous assessment of impacts within their respective jurisdiction, do not provide the basis for a consistent appraisal of impacts across the five jurisdictions that the pipelines will traverse, and hence do not offer the means for a consistent appraisal of transboundary impacts experienced across the nine littoral States of the Baltic Sea.

The role of the Espoo Report is therefore specifically focussed on the identification of potential transboundary impacts along the entire offshore pipelines length, based upon the consistent application of a systematic and rigorous methodology of impact identification and assessment, and in particular, the application of a single set of criteria for assessing the significance of impacts.

1.3 Guidelines to using this document

1.3.1 Overview of the Espoo Report documentation

Nord Stream's commitment to providing stakeholders with a comprehensive Report, which rigorously identifies all potential transboundary impacts and conveys their significance in a consistent manner along the entire 1,222 km length of the pipelines, has inevitably led to an extensive compendium of documentation. Nord Stream recognises that under the Espoo Convention, transparent communication of findings is as important an objective as is the rigorous assessment of impacts. With this in mind, Nord Stream has sought to provide stakeholders with an insight into how this Espoo Report is structured and how various stakeholders with different priorities and interests may most effectively navigate the documentation to obtain the information that is of their primary interest.

(1) The scope of the assessment presented in this Espoo Report covers the entire offshore length of the twin pipelines from their landfall in Russia to their landfall in Germany. It specifically excludes the short onshore or "dry" sections in Russia and Germany since construction and operation of these dry sections will not give rise to significant transboundary impacts. These dry sections of the pipelines are however described in the Description of the Project (**Chapter 4** of this Report) in order to provide context, and they are fully assessed in the national EIAs of the Russian and German sections of the Nord Stream Project.

- Considerable effort has been invested in the *Non-Technical Summary (NTS)* by containing its length and the use of everyday language to maximise the potential to communicate effectively to the general public the pertinent aspects of the project and its transboundary impacts
- Consultation has identified certain issues, which are of particular concern to stakeholders. Nord Stream has prepared a suite of key issues papers that address these areas of stakeholder concern, thereby saving stakeholders from having to navigate through the full set of documentation. The following Key Issues Papers have been produced:
 - Munitions: Conventional and Chemical
 - Fish and Fisheries
 - Maritime Safety
 - Seabed Intervention Works and Anchor Handling
 - Natura 2000
 - Cultural Heritage
- Summaries of the five national EIA reports have been included within the Espoo Report documentation so as to assist stakeholders wishing to obtain a high level national perspective
- For stakeholders seeking to ascertain the rigor of the Espoo assessment process and/or the complete findings of the assessment of transboundary impacts, a full account of the project context, project description, assessment process and assessment findings is presented in the main report, within a conventional EIA Report format. The Espoo documentation package is depicted in **Figure 1.1**

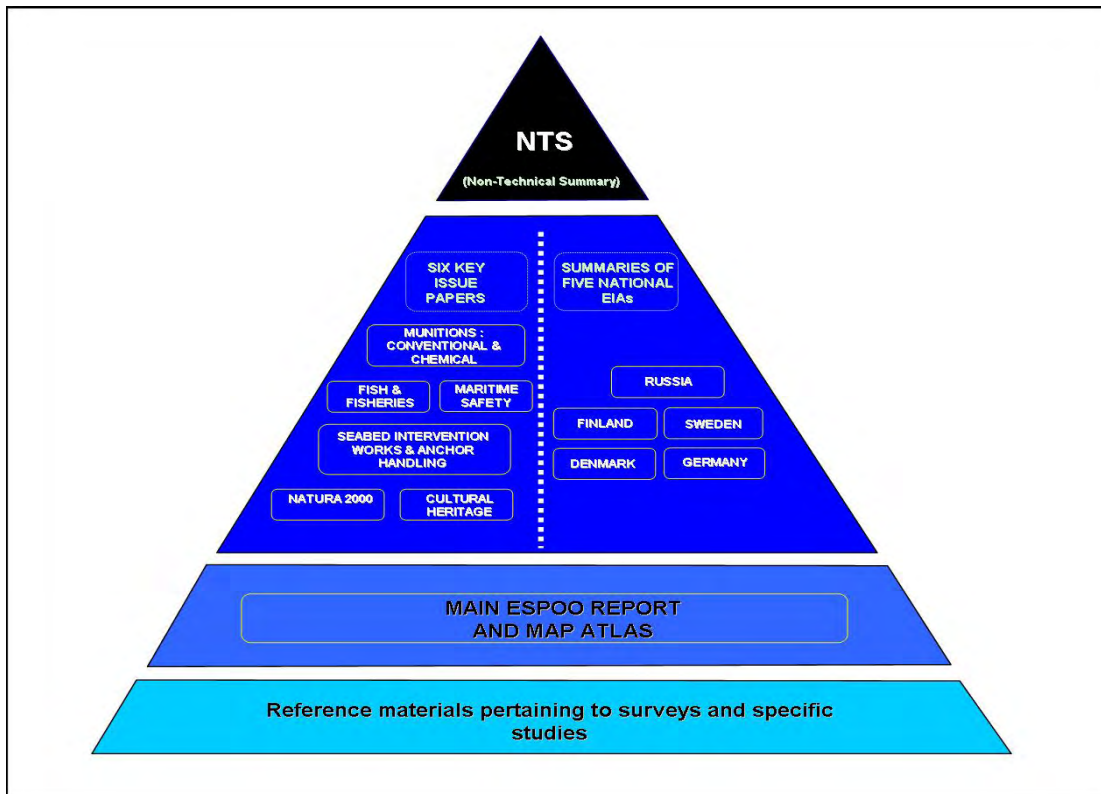


Figure 1.1 The components of the Espoo Report Package

The NTS and each of the six Key Issues Papers have each been designed to be stand alone documents, which provide a complete overview of the topic they address without the need for referencing of any support material.

The Espoo Report (the Main Report) on the other hand, comprises a number of linked chapters that are reliant on extensive cross referencing in serving the purpose of describing the process and presenting the findings of a comprehensive assessment of transboundary impacts.

1.3.2 Structure of the Nord Stream Espoo Report (the Main Report)

The Espoo Report (the Main Report) is structured along the broad lines of a conventional EIA Report as set out below.

- **Chapter 1 Introduction and Guidance to the Reader** provides the rationale and context for the Espoo Report documentation and provides guidance to the reader as to how the various components of the documentation are put together and sets out the structure of the Main Report

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- **Chapter 2** *Information about Nord Stream* presents a brief history and the rationale for constructing a sub sea pipeline that effectively connects the natural gas networks of Western Europe to the vast natural gas fields of Russia
 - **Chapter 3** *Legal Framework and Public Consultation* summarises Nord Stream's involvement in stakeholder engagement to-date. It focuses on negotiations to secure the required permits for construction and operation in each PoO country as well as the company's engagement with the competent authorities and other stake holders in the PoO and the OAP countries to fulfil the objectives and requirements of the Espoo Convention
 - **Chapter 4** *Description of the Project* seeks to provide a description of pertinent aspects of the design, construction and operation of the proposed pipelines in sufficient detail to enable all pertinent sources of environmental and socioeconomic impacts to be identified. All relevant safeguards and mitigation measures that have been incorporated into the project design specification are described
 - **Chapter 5** *Risk Assessment* summarises the findings of a comprehensive assessment of risks posed to the environment and the public resulting from planned activities and reasonably foreseeable unplanned events arising during construction and operation of the pipelines. The widely recognised quantified risk assessment (QRA) procedures that have been adopted (where appropriate) to quantify the level of risk are described
 - **Chapter 6** *Alternatives* presents an overview of the analysis of technical and routing alternatives that has been undertaken to reach the current design concept. A number of these technical and routing alternatives have been considered, evaluated and determined in response to the international consultation process
 - **Chapter 7** *Impact Assessment Methodology* commences with a description of the process that has been adopted for screening potential impacts and for establishing the scope and extent of the Nord Stream Espoo Report. It continues with a detailed description of the rigorous methodology that has been developed to systematically assess the significance of all identified impacts associated with the proposed Project
 - **Chapter 8** *Baseline* provides a description of pertinent aspects of the environmental and socioeconomic baseline that have the potential to impact or be impacted by the proposed pipelines. In this regard the description of the baseline focuses specifically on the pipelines corridor and the adjacent environment within the zone of potential material impact
 - **Chapter 9** *Impact Assessment and Mitigation Measures* presents a comprehensive assessment of the significance of all identified impacts arising from all planned activities and reasonably foreseeable unplanned (accidental) events, during the construction, pre-commissioning and commissioning and operational phases, along the entire pipelines length, taking full consideration of all safeguards and mitigation measures that have been

incorporated into the design of the Project. **Chapter 9** is based on a thorough understanding of the Project description as presented in **Chapter 4** and the sensitivity of the baseline environment as described in **Chapter 8**, utilising the impact assessment methodology delineated in **Chapter 7**

- **Chapter 10 Natura 2000** identifies the Natura 2000 sites that have the potential to be impacted by construction and operation of the Nord Stream Project. Within the constraints of publically available information, the findings of the national appropriate assessments are summarised based on each site's designation criteria
- **Chapter 11 Transboundary Impacts** screens each impact which is identified in **Chapter 9** as a significant impact for its potential to extend across a designated EEZ boundary and hence for it to be classified as a transboundary impact. Each transboundary impact is described within the context of the PoO country where the impact is initiated and the AP country (or countries) where the transboundary impact is experienced, thereby complying with the relevant provisions of the Espoo Convention in accordance with the UNECE's guidance on implementation of the Convention ⁽¹⁾
- **Chapter 12 Environmental Management and Monitoring** describes Nord Stream's HSE management system and proposed management plans for ensuring timely implementation of all commitments, including all permit conditions. The company's intent to negotiate constructively with the relevant national authorities to agree an effective monitoring programme which will seek to both validate the findings of the various EIA processes (including that described in this Espoo Report) and compliance with all permit conditions is stated. Nord Stream's commitment to take reasonable steps to rectify any deviations and non-conformances identified as a result of monitoring and to report publically on its monitoring on a regular basis is also clearly stated
- **Chapter 13 Gaps and Uncertainties** identifies pertinent gaps and uncertainties in the Espoo Report findings

Nord Stream's *Map Atlas* comprises an extensive compendium of maps and charts which are extensively referred to in the Main Report.

Key data sources referenced in this Espoo Report that are not widely available via public search (such as modelling reports, risk assessments, safety studies etc) will be made available via Nord Stream's website (information classified as confidential or potentially sensitive may be subject to restrictive access). This includes reports and results of the extensive number of baseline surveys that have been commissioned by Nord Stream to support the overall EIA programme.

(1) United Nations Economic Commission for Europe. Guidance on the practical application of the Espoo Convention. http://www.unece.org/env/eia/guidance/documents/practical_guide.pdf (accessed January 28th, 2009).

1.3.3 Key linkages between chapters of the Espoo Report

The approach that has been adopted for the assessment of transboundary impacts presented in this Report is based on the following premises:

- The assessment of transboundary impacts (addressed in **Chapter 11**) is based upon the rigorous prior identification and categorisation (assessment of significance) of all likely impacts associated with the pipelines along their entire length as described in **Chapter 9**)
- The rigorous and systematic assessment of impacts (**Chapter 9**) is in turn based on a thorough understanding of all sources of impacts (as described in the Project Description, **Chapter 4**), the sensitivities of the Baseline Environment (**Chapter 8**) and the Impact Assessment Methodology that has been devised to assess impact significance (**Chapter 7**)

This inter dependency relationship between these five chapters is fundamental to this transboundary impact assessment process, and the reader is advised that this hierarchy of five building blocks cannot be circumvented if the integrity and logic of the findings and conclusions of the assessment process are to be preserved.

The interface between chapters is depicted in **Figure 1.2**. **Chapters 1, 2, 3, 5, 6, 10, 12** and **13** cover certain key aspects of the project history, the assessment context or the project management, but are to a greater-or-lesser extent self standing building blocks of the assessment process. **Chapters 4, 7, and 8**, however, collectively and inextricably form the bridge for the development of **Chapter 9**, which in turn provides the essential rationale for the assessment presented in **Chapter 11**.

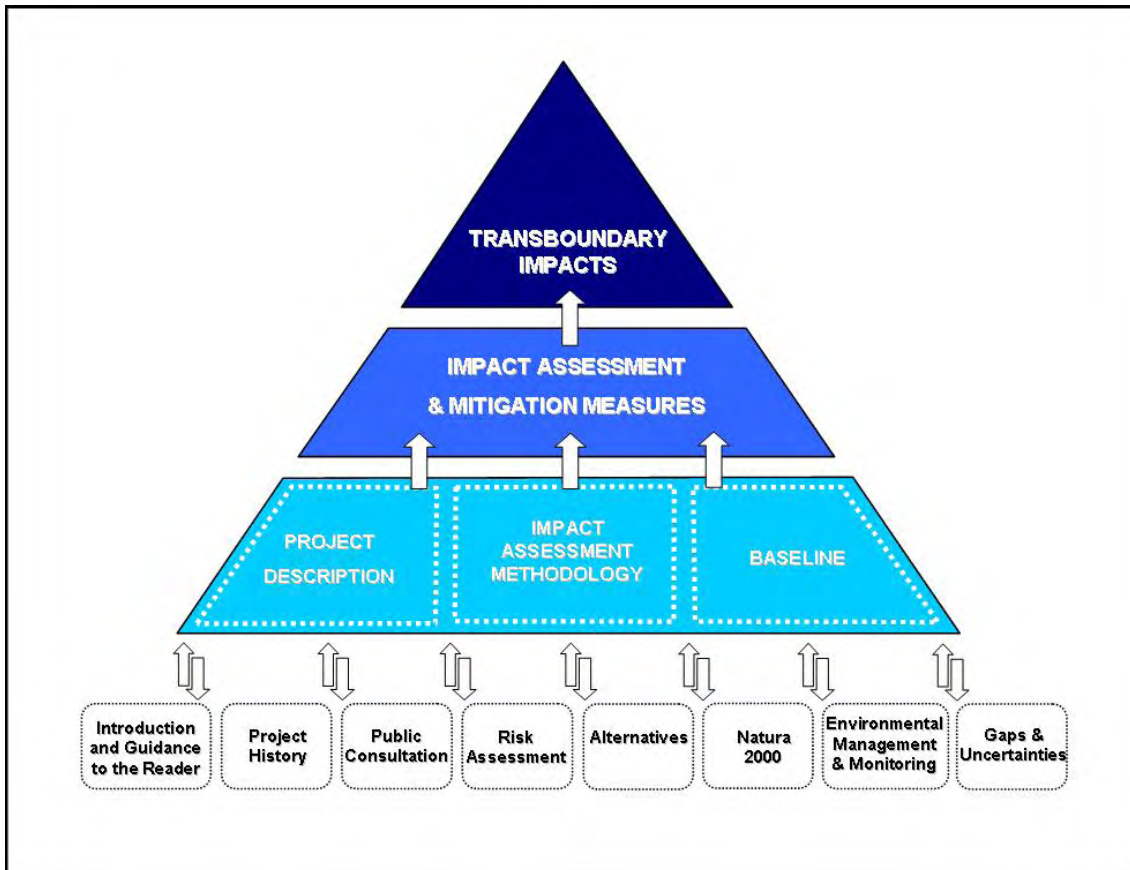


Figure 1.2 The interface between chapters of the Espoo Report

1.4 Espoo Report presentation

The extensive volume of documentation that comprises the Nord Stream Espoo Report is presented in four binders as depicted in **Figure 1.3**.

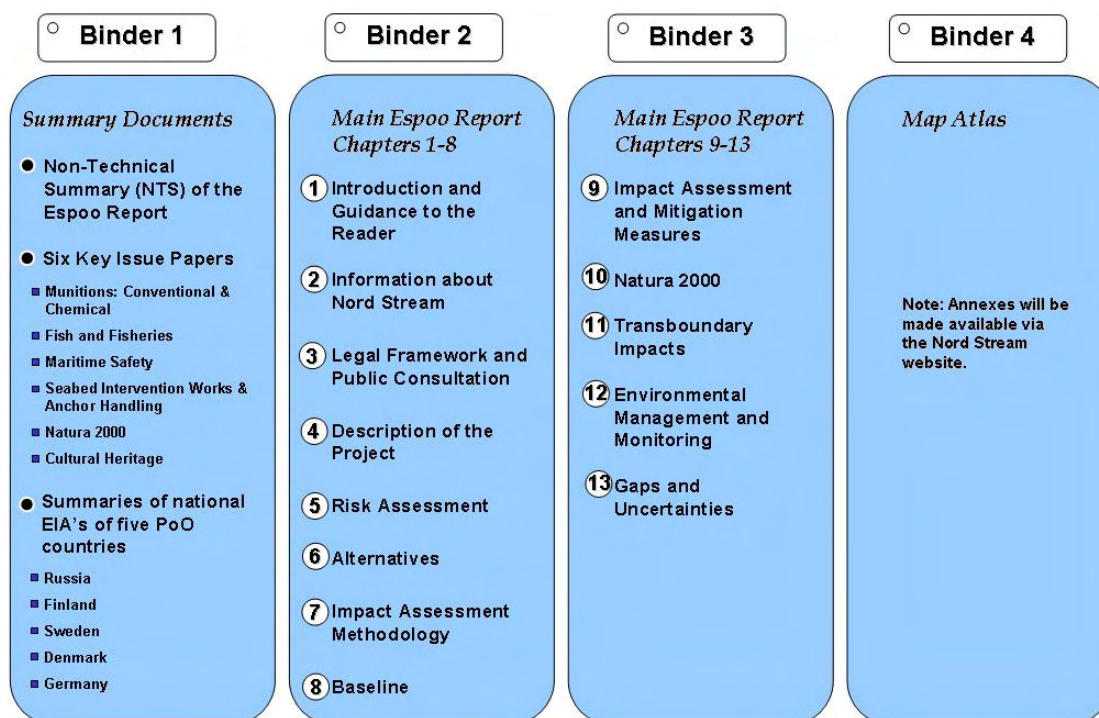


Figure 1.3 Espoo Report: Arrangement of Binders

1.5 Report Authors and Contributors

The international consultancy firm Environmental Resources Management (ERM), a company with an extensive track record of undertaking EIAs of offshore oil and gas and pipeline projects and with offices in Russia and Germany have been the principal authors of this Nord Stream Espoo Report. However, significant contributions have been provided by Rambøll of Denmark, Institut für Angewandte Ökologie (IfAÖ) of Germany, PeterGaz of Russia and other international environmental services companies, research institutes and individual experts, most of which are based in at least one of the five PoO countries. The Map Atlas was principally prepared by Rambøll.

1.6 References

UNECE. 1991 (as amended in 2001 and 2004). United Nations Convention on Environmental Impact Assessment in a Transboundary Context. Espoo.

United Nations Economic Commission for Europe. Guidance on public participation in Environmental Impact Assessment in a Transboundary Context.

United Nations Economic Commission for Europe. Guidance on the practical application of the Espoo Convention. http://www.unece.org/env/eia/guidance/documents/practical_guide.pdf (accessed January 28th, 2009).