

# ESPON ARTS

## Assessment of Regional and Territorial Sensitivity

Applied Research 2013/1/17

Final Report | Version 31/05/2011



This report presents an overview of the results and the analytical approach applied by the project. This Applied Research Project was conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

Information on the ESPON Programme and projects can be found on [www.espon.eu](http://www.espon.eu)

The ESPON website provides the possibility to download and examine the most recent documents produced by finalised and ongoing ESPON projects.

This basic report exists only in an electronic version.

© ESPON & ÖIR, BEST, OTB, PBL 2011.

Printing, reproduction or quotation is authorised provided the source is acknowledged and a copy is forwarded to the ESPON Coordination Unit in Luxembourg.

## List of authors

ÖIR – Austrian Institute for Regional Studies and Spatial Planning

- Erich Dallhammer
- Bernd Schuh
- Joanne Tordy

Dipartimento BEST, Politecnico di Milano

- Roberto Camagni
- Camilla Lenzi

OTB Research Institute, Delft University of Technology

- Bas Waterhout
- Wil Zonneveld

PBL – Planbureau voor de Leefomgeving, Netherlands Environmental Assessment Agency

- David Evers
- Joost Tennekes

# Table of contents

<b>A</b>	<b>Executive summary</b>	<b>8</b>
<b>B</b>	<b>Report</b>	<b>18</b>
<b>1</b>	<b>Main results, trends, and impacts</b>	<b>18</b>
<b>2</b>	<b>Key analysis and findings</b>	<b>21</b>
2.1	Introduction	21
2.2	The standard TIA quick check tool and the procedure	22
2.2.1	The conceptual model: how does a policy affect the development of regions?	23
2.2.2	Dealing with discrete cause/effect chains (branching)	24
2.2.3	Which types of regions are affected? (regional exposure)	24
2.2.4	What is the intensity of exposure on different fields? (exposure matrix)	24
2.2.5	What is the territorial impact on regions? (Territorial Impact Matrix, TIM)	25
2.2.6	Do the results make sense? (plausibility and quality check)	26
2.2.7	Which regions are affected in which fields? (mapping the results)	26
2.2.8	What are the policy implications? (adaptive capacity discussion)	26
2.2.9	How to communicate the results (write-up)	26
2.3	The methodology behind the TIA quick check	27
2.3.1	The conceptual model of a directive	27
2.3.2	The statistical and assessment tools	27
2.4	Territorial/regional impact of EU directives	31
2.5	Using the tool for an advanced TIA quick check	32
2.6	The result of the tests Territorial/regional sensitivities of EU directives	33
2.6.1	Selection of case study directives	33
2.6.2	General analysis of selected case study directives	34
2.6.3	In depth analysis of selected case study directives	43
2.7	Governance	63
2.7.1	TIA in European countries	63
2.7.2	Impact Assessment procedure in the Commission relevance for TIA	64
2.7.3	Governance as an explaining factor for territorial impact	64
2.7.4	Developing a separate governance filter?	66
2.7.5	Governance as part of the ARTS methodology	67
<b>3</b>	<b>Options for policy development</b>	<b>68</b>
<b>4</b>	<b>Issues for further analytical work and research</b>	<b>69</b>

<b>C</b>	<b>Scientific report</b>	<b>73</b>
<b>1</b>	<b>Introduction</b>	<b>73</b>
<b>2</b>	<b>Territorial Impact Assessment: the general approach</b>	<b>75</b>
2.1	Main objectives of the research project	75
2.2	Concept and definitions	76
<b>3</b>	<b>The analytical approach</b>	<b>78</b>
3.1	The selection process of the directives to be analysed	78
3.2	The conceptual model of a directive	80
3.3	The statistical and assessment tools	81
3.3.1	The Directive/Exposure Matrix	82
3.3.2	The Regional Exposure Matrix	84
3.3.3	The Regional Sensitivity Matrix	85
3.4	The Territorial Impact Matrices.	86
3.5	Aggregation of Impacts	89
3.6	Empirical definition of exposed regions and regional sensitivities	91
<b>4</b>	<b>Detailed results of the Case Study Directives</b>	<b>100</b>
4.1	Directive establishing a framework for Community action in the field of water policy	100
4.2	Directive on the control of major-accident hazards involving dangerous substances (so-called Seveso II Directive)	107
4.3	Directive on the promotion of the use of biofuels or other renewable fuels for transport	115
4.4	Directive on environmental liability with regard to the prevention and remedying of environmental damage	124
4.5	Directive on the interoperability of electronic road toll systems in the Community	125
4.6	Directive on the recognition of professional qualifications	126
4.7	Directive on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection	139
4.8	Directive on the establishing a framework for Community action to achieve the sustainable use of pesticides	151
4.9	Directive on the energy performance of buildings	161
<b>5</b>	<b>Detailed results of three Case Study Directives including their in-depth analysis</b>	<b>170</b>
5.1	Directive relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air	170
5.1.1	Logical chain and exposure	170
5.1.2	The regions affected by the directive	172

5.1.3	The territorial impact of the directive	176
5.1.4	Insights for policy options	181
5.2	Directive relating to the assessment and management of environmental noise	182
5.2.1	Logical chain and exposure	182
5.2.2	The regions affected by the directive	185
5.2.3	The Territorial impact of the directive	189
5.2.4	Insights for policy options	198
5.3	Directives on the promotion of clean and energy-efficient road transport vehicles	199
5.3.1	The logical chain and exposure	199
5.3.2	The regions affected by the directive	200
5.3.3	The Territorial impact of the directive	204
5.3.4	Insights for policy options	204
<b>6</b>	<b>Governance as a factor for explaining territorial impact</b>	<b>210</b>
6.1	A legal perspective on explaining governance	212
6.2	Development stages of EU directives	214
6.3	Transposition	215
6.4	Implementation and enforcement	221
<b>7</b>	<b>Roadmap for policy implementation and on the further research avenue to follow</b>	<b>223</b>
7.1	Options for policy implementation	223
7.2	Further data requirements and ideas of territorial indicators, concepts and typologies as well as on further developments linked to the database and mapping facilities.	224
<b>8</b>	<b>Points for further consideration providing the thoughts of the TPG</b>	<b>225</b>
<b>9</b>	<b>Dissemination activities</b>	<b>227</b>
9.1	Activities conducted till May 31 <sup>st</sup> 2011	227
9.2	Further activities planned	228
9.2.1	The dissemination in the scientific community	228
9.2.2	The dissemination in the policy makers' community	228

<b>Annexes to the Scientific report</b>	<b>229</b>
A1 List of indicators developed and datasets provided to the ESPON Database	229
A2 List of tables, figures and maps	231
A3 List of missing indicators and data	235
A4 List of abbreviations and glossary	237
A5 Additional maps not included in the core text of the report	238
A6 Governance questionnaire	253
A7 TIA quick check – Standard Version	259
A8 TIA quick check – Advanced Version	272
A9 Directive/Exposure Matrix	283
A10 Regional Exposure Matrix	285
A11 Bibliography	289