



Collection of information and data to support the Impact Assessment study of the review of the EIA Directive

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A study for DG Environment

A Final Report submitted by GHK

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EXECUTIVE SUMMARY

Purpose of the Study

The overall objective of this study was to provide data to contribute to the determination of the likely social, environmental, economic and administrative impacts of the policy options for amending the Environmental Impact Assessment (EIA) Directive (Directive 85/337/EEC). The results of this study will be used to inform the Commission's Impact Assessment procedure in due course.

The specific objectives of the study were to:

- Quantify relevant information and data in relation to the EIA activity in the 27 Member States. This information consists of :
 - The number of EIAs carried out in the EU-27
 - The number of screening decisions taken in the EU-27
 - The costs to the developers and the public sector of applying the EIA procedures in the EU-27
 - The duration of the EIA procedures in the EU-27
- Analyse case studies of EIAs with a view to provide data and assess the following:
 - The direct and indirect costs of undertaking EIAs for the developers
 - The costs of the EIA procedures for the public administrations
 - The duration of the EIA procedures and possible impacts to the project implementation cycle
 - The benefits for the environment (qualitative and quantitative) and for employment (e.g. number of jobs relating to EIA).

The results and conclusions are therefore based on:

- the data supplied by Member States through surveys, supplemented by estimates to fill missing data gaps; and
- the completion of a number of new case studies, adding to evidence from case studies previously carried out in separate research, undertaken for DG Enterprise.

Conclusions based on data provided by the Member States

Two surveys were undertaken of Member States to collect data on the number, duration and cost of EIAs, one by the European Commission and a more recent one by GHK as part of the study. The data collected together with estimates, calculated from the data provided, to fill gaps in the data provided, have enabled the following conclusions to be drawn:

The number of EIAs carried out in the EU-27

The main findings suggest that:

- There are some 16,000 EIAs each year across the EU-27
- There has been a general increase in the number of EIAs undertaken each year from 2005 to 2008, with the exception of the UK and Estonia
- There is a strong variation in the number of EIAs undertaken annually across the MS but the number of EIAs is broadly correlated with the size of the MS population

- New Member States appear to undertake a greater proportion of development projects relating to energy, water and waste infrastructure in comparison with the 'older' MS – relating to the development stage they are currently at;
- There is very little information on the types of developers which are undertaking EIAs – and data provided exhibits no particular 'pattern' (e.g. SMEs constituting a high proportion of developers)

The number of screening decisions taken in the EU-27

It is estimated there are some 34,000 screenings for EIA each year across the EU-27.

The percentage of screenings which result in an EIA being required varies significantly (for example, 5% or less of the screenings result in EIAs in BE, LV, SK, DK compared with over 50% of screenings resulting in an EIA requirement for PL, MT and CY). It is however, difficult to distinguish what percentage of EIAs undertaken in each MS are Annex I projects and which ones are Annex II.

The costs (administrative costs and direct/indirect costs for developers) in the EU-27

The average cost of an EIA to (public and private sector) developers as a percentage of project development costs is about 1%. The average cost of an EIA based on data supplied by MS is roughly €62,000. Based on the estimated total number of EIAs per year in the EU-27, multiplied by the average cost per EIA, the total EU expenditure per annum by developers is approximately €976m. In addition there are the administration costs of the Competent Authority and the costs to stakeholders of participating in public consultation.

The duration of the EIA procedures in the EU-27

The average duration of an EIA procedure is 11.3 months, with an average of 1.2 month required for prior screening in certain MS. The average duration excluding screening is 10.1 months.

The environmental benefits of EIAs

The environmental benefits of EIAs are widely recognised across all MS, ranging from resource savings to better project design and increased public acceptance of large development projects.

Conclusions based on evidence from case study research

The direct and indirect costs of undertaking EIAs for the developers

The total project costs to developers in the case studies examined ranged from €4 million and €2.38 billion, indicating the very broad range of projects that the EIA regime covers. EIA cost as percentage of project cost ranged from 0.01% to 2.37%, suggesting that the EIA process absorbs a relatively modest cost in comparison with overall development costs.

Previous and more recent case study research indicates that in the main, the developer is responsible for the majority of costs and consequently integrates this consideration into the planning of projects and estimates of total development costs. Direct costs to the developer includes both their own time but in large part the cost of employing specialist consultants. Indirect costs include expected and unexpected delays which vary in length of time and cost. In certain case studies, these indirect costs have been noted as significant. However in general actual costs were in-line with expected costs and any discrepancies were attributed to specific delays in the overall assessment and authorisation process.

The majority of developers interviewed were experienced in the process of EIA and understood the costs involved. In general, developers seemed to suggest the EIA cost as a

percentage of the overall development cost was fairly low considering the environmental benefits that were noted in each case and the administrative burden of having to deal with different authorities for different aspects of the development application.

The costs of the EIA procedures for the public administrations

Previous case study research suggested that some of the activities that give rise to EIA are the responsibility of the public sector agencies or companies (e.g. road construction). In addition large utility organisations undertake operations requiring EIAs in areas such as water and energy projects or in the case of urban development, national developers undertake EIAs. These activities and operations generate the same type and scale of EIA requirement and hence similar levels of cost.

There are also costs associated with the administration of the EIA procedure. However, since the EIA procedure is just one element of an often complex consenting process, the specific costs are hard to separate from the wider consenting cost. This cost may in some cases, depending on MS and Competent Authority, be wholly or partly recovered through charges on the developer for processing the development application.

The duration of the EIA procedures and possible impacts to the project implementation cycle

The duration of the EIA procedures is project specific and depends on the different project characteristics including size, complexity and location. The case studies reflect these sensitivities and whilst 12-14 months seemed to be the expected amount of time to conduct the EIA process, smaller, simpler projects can take less time, with large complex projects taking up to three years. Furthermore where delays, such as those described above, were noticeable this further impacted the project implementation cycle as timing could not go ahead as planned and some projects were dependent on factors such as seasonality.

In some cases the EIA procedure was perceived to have a great impact on the duration of the project application due to the length of time necessary to complete an EIS. The process of obtaining consent in a similar development project which is not subject to EIA provides a basis for comparison, which suggests an average closer to six months, suggesting that the EIA can therefore double the time taken to secure consent. It should also be stressed that an EIA, which is normally carried out in parallel with the progressive elaboration of the project, aims at anticipating the various environmental issues and integrating these into the project. Hence, longer delays can also be rooted in a bad anticipation of environmental impacts, while a good EIA can be a means for a developer to avoid 'bad surprises'.

The additional time necessary to complete the EIA procedure has a possible impact to the project implementation cycle as external factors (for example political changes or changes in available funding or legislation) can change the context of project development.

However several case studies suggested that planning permission frequently has to be obtained separately to the EIA process and this is often a longer process. Therefore the EIA itself does not necessarily add to the time taken to receive development consent.

The benefits for the environment and for employment (e.g. number of jobs relating to EIA)

Previous and more recent case study work indicates that environmental benefits include:

- The prevention of negative environmental impacts
- The identification of appropriate measures to mitigate impacts through the design of the scheme

- Raising the profile of the environment in the decision-making process when determining development consent
- Enabling of detailed modelling and evaluation of impacts
- Deciphering the cost and benefits through different measures by option development
- Simplifying the process of environmental assessment and reducing the administrative burden of having to deal with different authorities for different aspects of the development application.

Previous case study research suggested that in certain countries EIAs have extended to include socio-economic effects such as employment effects of development. However no specific quantification of employment benefits was obtained through case study research. Few employment benefits were noted in the case studies undertaken for this study.

General conclusions

On average, the duration of the EIA procedure is about 12 months, as estimated by the analysis of information and data collected from the Member States in the first part of the study. The case studies appear to support this estimation, with the duration of EIA procedures in the case study Member State ranging 14-16 months – slightly longer than the estimate. However, it must be noted that some of these case studies were ‘complex’ cases and not regarded as ‘typical EIAs’.

As previously mentioned, the EIA represents a relatively small proportion of total development cost, estimated to be about 1%. Case studies also confirmed that the EIA as a proportion of total development cost is not significant, although in some cases, the proportion was closer to 2-3% of total development cost. Again, this is likely to reflect the complexity of the development project – for example in Ireland, a separate EIA was required for each phase of the development, and the density of some of the phases was such that potentially significant impacts on traffic in the area required in-depth studies. Despite the fact that the cost of the EIA was equivalent to 2.4% of the total project cost, and slightly above average, this cost was in line with expected costs given the scale and complexity of the project proposal and its potential ‘exposure’ to legal challenge. The case studies also highlighted the fact that developers do not generally regard the EIA as a significant administrative burden but rather a ‘necessary’ part of the process of obtaining planning permission.

The number of screenings which take place each year varies significantly between Member States, depending largely on the nature of the transposition of the Directive within the Member State. Case studies illustrated that that some developers (often the more experienced ones) choose to ‘skip’ the screening stage altogether, choosing to undertake an EIA on the assumption that one will be necessary.

The analysis of the information and data collected from the Member States suggests that in New Member States, a large proportion of the projects subject to EIA tend to be large infrastructure-based projects. Although the case studies represent a small sample of projects subject to EIA, the nature of the projects recommended by national authorities as case studies (e.g. waste processing plant in Cyprus; roads in Slovakia and the ferro alloy plant in Latvia) would suggest that this may be the case.

INTRODUCTION

Purpose of the Study

The overall objective of this study was to provide data to contribute to the determination of the likely social, environmental, economic and administrative impacts of the policy options for amending the Environmental Impact Assessment (EIA) Directive (Directive 85/337/EEC). The results of this study will be used to inform the Commission's Impact Assessment procedure in due course.

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 - The costs of the EIA procedures for the public administrations
 - The duration of the EIA procedures and possible impacts to the project implementation cycle
 - The benefits for the environment (qualitative and quantitative) and for employment (e.g. number of jobs relating to EIA).

This report sets out the results of the study in two parts:

Part A of the report presents the data and related estimates of the number of EIAs, screening decisions, costs and duration of EIAs based on data supplied by the Member States in this study and in previous surveys.

Part B of the report presents the case studies of selected development projects with details of the respective EIAs carried out. The report also draws on the results of case studies previously undertaken by GHK¹ to collect data on the costs and duration of the EIA procedure.

The main references used for the study are the following:

GHK, Technopolis (2008). Evaluation on EU legislation – Directive 85/337/EEC (environmental impact assessment, EIA) and associated amendments

Nordregio (2009), 'The Potential for Regional Policy Instruments, 2007-2013, to contribute to the Lisbon and Göteborg objectives for growth, jobs and sustainable development'

¹ GHK, Technopolis (2008). Evaluation on EU Legislation – Directive 85/337/EEC (Environmental Impact Assessment, EIA) and Associated Amendments

Pinho, McCallum, Cruz (2010), “A critical appraisal of EIA screening practice in EU Member States”, *Impact Assessment and Project Appraisal*, 28(2), June 2010 p91-107

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Supporting data is presented in a number of annexes:

Annex 1 provides a summary of the responses received from MS to the GHK EIA survey.

Annex 2 provides details of the approaches taken to estimating data to fill gaps in the data provided by Member States.

Annex 3 provides details of the differences in transposition of the screening requirements between MS.

Annex 4 provides the topic guides used to frame the case study research.

Annex 5 presents the case studies undertaken in the study.

Annex 6 reproduces the details of the case studies previously undertaken in GHK’s 2007 study on the EIA Directive².

The study presents the views of the Consultant and does not necessarily coincide with those of the European Commission or the 27 Member States.

² Ibid.

PART A: DATA AND ESTIMATES OF THE NUMBER, COST AND DURATION OF ENVIRONMENTAL IMPACT ASSESSMENTS BASED ON DATA SUPPLIED BY MEMBER STATES

1 DATA COLLECTED FROM MEMBER STATES

1.1 Overview of the Member State Responses (April-September, 2010)

This section provides an overview of the information and data on EIAs collected from the 27 Member States, as well as an initial analysis of the information and data collected. Table 1.1 provides an overview of the data provided and available from each Member State. Table 1.2 presents the data received. Annex 1 provides a summary of the responses and non-responses by MS.

Table 1.1: Data Availability by MS

MS	No. of EIAs	No. of Screenings	EIAs by Sector	EIAs by Developer Type	Info on Costs	Info on Benefits
AT	✓	✓	✓	x	x	✓
BE ³	✓	✓	✓	✓	✓	✓
BG	x	x	x	x	x	x
CY	✓	✓	✓	✓	✓	✓
CZ	✓	✓	✓	x	✓	✓
DE	✓	✓	x	x	x	x
DK	✓	✓	x	x	✓	✓
EE	✓	x	x	x	✓	✓
ES	✓	x	x	x	x	✓
FI	✓	✓	✓	✓	✓	✓
FR	✓	✓	✓	x	✓	✓
GR	✓	x	✓	✓	✓	✓
HU	✓	✓	✓	x	✓	✓
IE	✓	x	x	x	✓	✓
IT	x	x	x	x	x	x
LT	x	x	x	x	x	x

³ The data for Belgium is composed of three separate data sets for the three Belgian regions, which have implemented the EIA directive in different manners

MS	No. of EIAs	No. of Screenings	EIAs by Sector	EIAs by Developer Type	Info on Costs	Info on Benefits
LU	x	x	x	x	x	x
LV	✓	✓	✓	✓	✓	✓
MT	✓	✓	✓	x	✓	✓
NL	✓	x	x	x	x	x
PL	✓	✓	x	x	x	x
PT	x	x	x	x	x	x
RO	x	x	x	x	x	x
SE	x	x	x	x	x	x
SI	x	x	x	x	x	x
SK	✓	✓	✓	✓	✓	✓
UK	✓	x	x	x	x	x

Source: GHK Survey, EC (2009) Survey

The study has taken on board data received from Member States up to 21 September 2010.

Table 1-2: Overview of information and data received from Member States

MS	Number of EIAs by year				% of EIAs undertaken by type of development			% of EIAs undertaken by type of developer			Data used
	2005	2006	2007	2008	Infrastructure	Development	Other	SME	Large business	Public authority	
AT	30	30	30	n/a	22	44	34	n/a	n/a	n/a	GHK survey 2010
BE	156	175	186	214	24	49	27	7	42	51	GHK survey 2010
CY	98	78	89	119	47	33	20	69	4	27	GHK survey 2010
CZ	112	107	108	139	38	25	37	n/a	n/a	n/a	GHK survey 2010
DE	1000	1000	1000	1000	n/a	n/a	n/a	n/a	n/a	n/a	GHK survey 2010
DK	n/a	125	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	GHK survey 2010
EE	90	80	85	65	n/a	n/a	n/a	n/a	n/a	n/a	GHK survey 2010
ES*	n/a	1054	n/a	n/a	64	0	36	n/a	n/a	n/a	GHK report 2008
FI	23	37	37	53	67	5	28	28	50	22	GHK survey 2010
FR	n/a	3800	3600	4200	20	42	38	n/a	n/a	n/a	GHK survey 2010
GR	467	400	445	386	80	10	10	10	5	85	GHK survey 2010
HU	n/a	189	124	142	48	18	34	n/a	n/a	n/a	GHK survey 2010
IE	n/a	n/a	n/a	197	n/a	n/a	n/a	n/a	n/a	n/a	GHK survey 2010
LV	7	12	11	15	54	11	36	29	62	9	GHK survey 2010
MT	7	11	10	11	39	33	28	n/a	n/a	n/a	GHK survey 2010
NL	94	139	122	137	n/a	n/a	n/a	n/a	n/a	n/a	GHK report 2008 and GHK survey 2010
PL	2200	2200	2200	2200	n/a	n/a	n/a	n/a	n/a	n/a	EC study 2009
SK	519	500	809	852	37	44	19	43	26	31	GHK survey 2010
UK	435	346	310	243	n/a	n/a	n/a	n/a	n/a	n/a	GHK survey 2010

* includes screenings and 'simplified EIAs' for Annex II projects (Spanish regional transposition)

1.2 Likely changes to MS implementation of the EIA procedure

During the information and data collection stage, a number of Member States indicated that the EIA procedure within their respective countries had either recently been significantly amended, or was scheduled to be changed in the near future, which impacts on the validity of the data provided. These Member States are as follows:

Poland: The previous law – ‘*Environmental Protection Act of 27 April 2001*’ – raised concerns from the European Commission in relation to infringement of the EIA Directive. It has been replaced by the Act of 3 October 2008 on the ‘Provision of Information on the Environment and its Protection, Public Participation in Environmental Protection and Environmental Impact Assessments’ which came into force in November 2008. The change in this law means that information on the number of EIA procedures from 2005-2008 is not likely to reflect the actual status of EIA in Poland. The new legislation streamlined EIA procedures and shortened durations, establishing a new administrative authority – the General Director for Environmental Protection, with 16 regional directors to support operations at a regional level.

Netherlands: as from the 1st of July 2010, the Dutch EIA system has changed. The changes are mainly procedural, which will not influence the numbers of EIAs or screenings carried out. The changes will probably affect the costs for EIA (in total), since some procedural steps have been removed or simplified. No further detail about the changes is available.

France: The French legal framework for EIA is to be significantly modified in 2010-2011. A framework Law («*Loi portant engagement national pour l’environnement*») has been adopted and published in France on 13 July 2010. This Law will be implemented through Ministerial Decrees; no further details are available.

Belgium (Flanders): A review of the EIA procedure in the Flanders region is currently ongoing. No further details are currently available on the nature of possible changes.

1.3 Estimating Data Gaps

The lack of response from certain MSs was always anticipated, with a requirement for approaches to estimate data for MS not providing complete responses.

1.3.1 Statistical Analysis

Two relationships were explored between the number of EIAs and MS characteristics:

- The number of EIAs and the level of GDP/capita (adjusted for PPP), on the basis that MS with higher income levels would have higher development rates and higher environmental regulations;
- The number of EIAs and the size of population on the basis that larger MS would have higher numbers of development projects.

There does not appear to be a strong correlation between the level of development of a Member State as indicated by GDP in purchasing power terms and the number of EIAs being undertaken. The analysis indicates a correlation coefficient (R-Squared) of 0.21.

Comparing the number of EIAs with the population size of the MS suggests a stronger correlation, with a correlation coefficient (R-squared) of 0.42. This correlation allows a statistical approach to estimating data for MS providing no response, for the number of EIAs and for the number of Screening Decisions, based on MS populations.

More analysis is provided in Annex 2.

1.3.2 *Comparing MS with Similar Types of Development*

The lack of responses means that there is insufficient data to allow a statistical analysis. Instead the approach has tried to identify 'like for like' MS, based on similar states of economic and social development and hence with potentially similar types of development project. This analysis is developed in Annex 2.

In summary, the analysis suggests that the most common types of projects with potentially significant environmental impacts in the 'newer' Member States tend to be infrastructure-related projects, namely those related to energy, transport, water management and waste management. Most of the major development projects (i.e. subject to EIA) in the older, more established MS appear to be related to urban and industrial development concerns (such as retail parks or shopping centres).

2 ANALYSIS OF DATA RECEIVED

2.1 The Number of EIAs Undertaken in Member States

Data has been received from 17 Member States. In addition, we have used data from the EC questionnaire distributed to Member States in 2009 for PL - (which did reply to the EC questionnaire but did not reply to the GHK 2010 questionnaire). For NL, we have used estimates calculated from the GHK 2008 study on EIA undertaken for DG Enterprise.

Table 2-1: Number of EIAs conducted from 2005-2008 for MS respondents to the surveys⁴

MS	Number of EIAs by year				Average annual number of EIAs (2005-2008)	% of transboundary EIAs (overall, 2004-05 to 2008) ⁵
	2005	2006	2007	2008		
AT*	30	30	30	n/a	23	35
BE*	156	175	186	214	183	11
CY*	98	78	89	119	96	0
CZ*	112	107	108	139	117	10
DE*	1000	1000	1000	1000	1000	0.01
DK*	n/a	125	n/a	n/a	125	n/a
EE*	90	80	85	65	80	3
ES*	n/a	1,054	n/a	n/a	1054	n/a
FI*	23	37	37	53	38	5.3***
FR*	n/a	3800	3600	4200	3867	0.001
GR*	467	400	445	386	425	0
HU*	n/a	189	124	142	152	0.02
IE*	n/a	n/a	n/a	197	197	n/a
LV*	7	12	11	15	11	0
MT*	7	11	10	11	10	0
NL***	94	139	122	137	123	n/a
PL***	4000	4000	4000	4000	4000	0.002
SK*	519	500	809	852	670	0.01
UK*	435	346	310	243	334	0.004
EU-19					12,505	

*GHK Survey; **EC (2009) Survey; ***updated data provided by national authorities in December 2010

⁴ The data received from UK, ES and FR in the GHK 2010 survey differs quite markedly from the estimated number of EIAs for these MS in the last GHK study on EIAs (2007). This study estimated that the UK conducted 700 EIAs per year (based on 2005 estimate); ES over 1,000 at the regional level and 5-6,000 a year for FR. The DE estimate received in the 2010 survey was similar to the estimate made in the 2008 study (over 1,000 per year)

⁵ Updated with statistics received from the Secretariat of the Espoo Convention in September 2010

The data indicates that there are approximately a little over 10,700 EIAs in the EU each year excluding those MS which failed to provide data.

The data provided by MS (as opposed to estimates) suggests that the number of EIAs being undertaken in most Member States is increasing, with the exception of the UK and Estonia, which are experiencing declines in EIAs. Numbers which are constant over the four years signify an average estimate provided by the MS for each year.

Table 2.2 presents the average number of EIAs undertaken by MS, using estimates based on a correlation with population for those 8 MS that had not provided data to any survey. This suggests that for the EU-27 as a whole there are almost 16,000 EIAs each year.

Table 2-2: Average annual numbers of EIAs by MS: raw and estimated data (shaded rows: estimates based on correlation between population and average annual EIAs)

Member State	Average number of EIAs per year (2005-2008)
AT	23
BE	183
BG	249
CY	117
CZ	96
DE	1000
DK	125
EE	80
ES	1054
FI	38
FR	3867
GR	425
HU	152
IE	197
IT	1548
LT	142
LU	70
LV	11
MT	10
NL	123
PL	4000

PT	323
RO	596
SE	288
SI	108
SK	670
UK	334
EU-27	15,829

2.1.1 *Transboundary EIAs*

The percentage of EIAs which are transboundary is extremely low (about 1% on average) for those countries which did provide data. However, a few anomalies arise when this data is supplemented with data recently received by the Commission from the Secretariat of the Espoo Convention⁶ - in Austria, Belgium, the Czech Republic and Finland, over 10% of EIAs were transboundary projects in the 2005-2008 period. This observation is not surprising vis-a-vis Austria and the Czech Republic – both countries are landlocked and share borders with each other. The vast majority of the transboundary EIAs originating in Belgium involve only the Netherlands as an affected party. Similarly, most transboundary EIAs of Finnish origin involve only Sweden, with a few involving further multiple parties such as Estonia, Lithuania, Germany, Poland, Norway and the Russian Federation.

2.2 **Number of Screening Decisions**

Data was received from 10 Member States (from both the 2009 EC survey and the 2010 GHK survey) on the number of screening decisions undertaken annually. Screening refers to the determination by the competent authority of whether an EIA will need to be carried out, which applies only to Annex II projects. Table 2-3: below indicates the proportion of screenings which require an EIA (known as a 'positive screening') for the respondent Member States. It suggests that the share of screenings which are positive ranges quite broadly across Member States, from a very low percentage (e.g. 2% in Latvia) to high (90% in Cyprus).

Table 2-3: Average numbers of screenings undertaken annually by MS: raw data

Member State	Average number of screenings per year (2005-2008)	Average share (%) of screenings requiring EIAs per year ⁷
AT*	96	17
BE*	2337	1
CY*	58	90
CZ*	1610	4
DE*	2200	10
DK*	2500	5

⁶ Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991): see <http://www.unece.org/env/eia/>

⁷ Based on the total number of positive screenings undertaken from 2005-2008 as a percentage of the total number of screenings undertaken in each Member State from 2005-2008

FI*	36	43
HU*	613	15
LV*	710	2
MT*	62	25
PL**	4400***	50
SK*	476	3
Total	15,098	19

Source: *GHK Survey; **EC (2009) Survey; *** in 2010, the Polish authorities reported that 14,300 screening decisions were taken. NB: No screenings conducted by FR; SK and FI estimates based on actual data provided for each year between 2006-2008 on total number of screening decisions and those which required an EIA.

Table 2.4 adds to the data in Table 2.3 by including the estimated number of screenings for those MS that did not provide data, based on correlations with population. This suggests that the total number of screenings is some 34,000 each year.

It must be noted that information on screenings from the EC 2009 survey was provided differently. MS respondents indicated the number of screenings undertaken per year and the total number of EIAs, but did not indicate what proportion of the screenings (which applies only to Annex II projects) was positive. We therefore estimated the average share (%) of screenings requiring EIAs per year (Table 2.4) by calculating the total number of EIAs as a proportion of the total number of screenings. However, this is likely to be an overestimate in some cases, because some of the EIAs that were undertaken in the MS were likely to be Annex I projects that did not require a screening at all. It is not possible to distinguish these from Annex II projects which were positively screened.

Table 2-4: Average annual number of screenings by MS: raw and estimated data (shaded rows: estimates based on correlation between population and average annual screening numbers – excluding France)

Member State	Average number of screenings per year (2005-2008)	Average share (%) of screenings requiring EIAs per yr
AT	96	17
BE	2337	1
BG	1031	n/a
CY	58	90
CZ	1610	4
DE	2200	10
DK	2500	5
EE	830	n/a
ES	2236	n/a*
FI	36	43

FR	0	n/a
GR	1146	n/a
HU	613	15
IE	928	n/a
IT	2695	n/a
LT	895	n/a
LU	802	n/a
LV	710	2
MT	62	25
NL	1312	n/a
PL**	4400	50
PT	1127	n/a
RO	1476	n/a
SE	1081	n/a
SI	851	n/a
SK	476	3
UK	2745	n/a
EU-27	34,253	n/a

* As regards Spain, there are data only from Central State Administration. According to these, the number of screening decisions per year is around 200, out of which 50 are 'positive screening' decisions (i.e. an EIA is required for the project).

** In 2010, the Polish authorities reported that 14,300 screening decisions were taken.

NB: No screenings conducted by FR

Figures for the average share of screenings requiring EIAs each year may be overestimates for Member State data based on the EC (2009) survey (especially PL), owing to measurement issues. While we have been able to extrapolate average annual screening numbers for those Member States where no data is available, based on population estimates, we cannot do the same with any consistency to arrive at average proportions of screenings requiring EIAs each year in those Member States. This explains the data gaps in the third column of Table 2-4.

2.3 Breakdown of EIA by Sector

A number of Member States were able to provide a more detailed sectoral breakdown of the number of EIAs undertaken, by type of development (e.g. energy-related, industrial development, waste management, extractive industries etc). This information is presented in Table 2-5. These categories were then grouped into three main headings:

- Infrastructure: covers energy, transport, water management and waste management

- Development: covers urban and industrial development concerns
- Other: accounts for all categories not covered by the above two headings (such as recreation, agriculture, mining, extraction, military concerns etc)

Table 2-5: Sectoral breakdown of EIAs by Member States

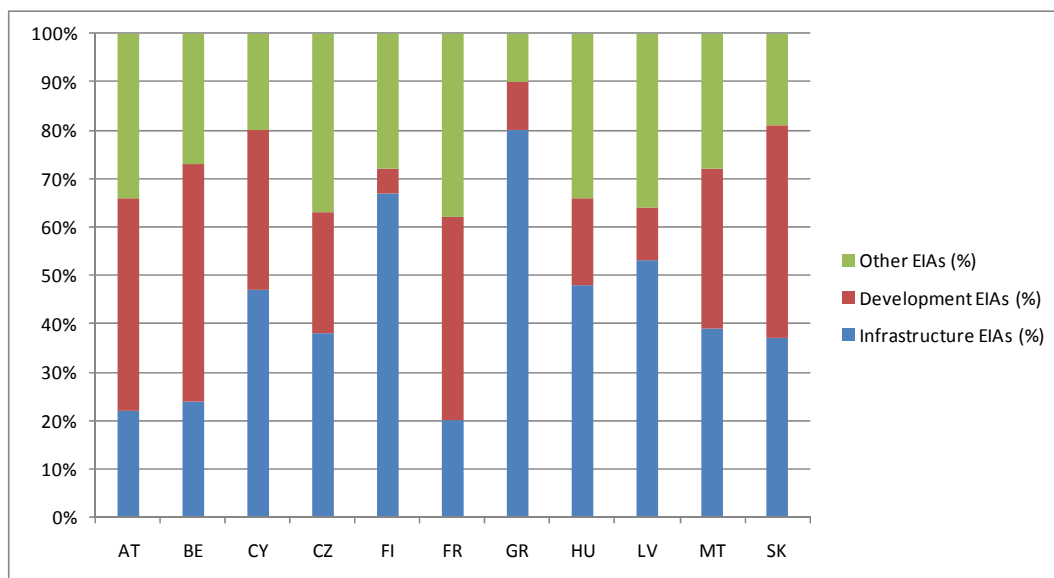
MS	% of EIAs – Infrastructure	% of EIAs – Development	% of EIAs - Other
AT	22	44	34
BE	24	49	27
CY	47	33	20
CZ	38	25	37
FI	67	5	28
FR	20	42	38
GR	80	10	10
HU	48	18	34
LV	53	11	36
MT	39	33	28
SK	37	44	19

NB: In FR, agricultural projects covered by 'Development' category – grouped with industrial projects under 'Development', no breakdown available

It is problematic to estimate the main types of development subject to EIAs in those Member States which did not respond to any survey, as unlike the previous two exercises (estimating number of EIAs and screening decisions), statistical analysis cannot be used to 'gap-fill'.

Figure 2-1 below illustrates the share of EIAs by broad sector for those MS which provided information on the sectoral nature of EIAs undertaken. This suggests considerable variation between MS in the mix of projects even at a broad level.

Figure 2.1: Share (%) of EIAs by Sector, 2005-2008 (based on average annual EIA numbers, 2005-2008)



Since 16 Member States did not provide any breakdown, we have attempted to identify a method to allow an estimate of which types of development are likely to be subject to EIA in those MS which did not provide information on the sectoral breakdown of the EIAs. The method is based on the use of a NordRegio study⁸ for DG Regional Policy in 2009. This grouped each of the 27 Member States into one of six 'development paths'. Member States' inclusion within a particular development path was based on having similar states of economic and social development and hence potentially similar types of development activity with the possibility of having similar types of project, at least at a broad level project type. Assuming data is available on the sectoral breakdown of EIAs for at least one Member State in each of the six groups, we can use this as a proxy for estimating the sectoral breakdown of EIAs in non-respondent countries in the same group. The analysis is developed further in Annex 2.

Applying this method and using the actual data provided by the MS on sectoral breakdown (Table 2-5) was used to estimate the likely proportions of EIAs by broad sector in those MS which did not provide data on this. MSs were grouped into the six development paths. Where there was actual data available for more than one MS within a development path 'grouping', an average was calculated for the likely sectoral breakdown of EIAs for all MS in that grouping. For example, for one particular development path, four of the eight MS provided actual data on the sectoral breakdown of EIAs in their country. This was used to calculate an average⁹ that could then be applied to those MS which did not respond to the survey. In one Group, none of the MS had provided data; and hence there was no proxy available to estimate the sectoral breakdown for the rest of the Group.

The results are shown in Table 2-6.

⁸Nordregio (2009), 'The Potential for Regional Policy Instruments, 2007-2013, to contribute to the Lisbon and Göteborg objectives for growth, jobs and sustainable development'

⁹ Note that this average is not population-weighted

Table 2-6: Share (%) of EIAs by Sector MS (Proxy data obtained from country groupings (based on development paths) is shaded)

MS	% of EIAs – <i>Infrastructure</i>	% of EIAs – <i>Development</i>	% of EIAs – <i>Other</i>
AT	22	44	34
BE	24	49	27
BG	37	44	19
CY	47	33	20
CZ	38	25	37
DE	38	33	30
DK	Not estimated		
EE	53	11	36
ES	21	43	36
FI	67	5	28
FR	20	42	38
GR	80	10	10
HU	48	18	34
IE	Not estimated		
IT	21	43	36
LT	53	11	36
LU	Not estimated		
LV	53	11	36
MT	39	33	28
NL	38	33	30
PL	37	44	19
PT	53	22	25
RO	37	44	19
SE	38	33	30
SI	53	22	25

SK	37	44	19
UK	21	43	36

Note: See Annex 2 for further details of this analysis. There are no available estimates for IE, DK and LU based on the development path analysis, because there was no data available for any of the MS belonging to this particular 'Development Group.' Note that this must only be treated as a proxy and that some estimates could not be made due to lack of comparative data.

The above estimates would appear to suggest that the 'newer' Member States (namely those belonging to the EU-12) and some Cohesion Member States (Greece and Portugal) are undertaking a significantly higher proportion of infrastructure-based projects, which relate mainly to energy, transport, water management and waste management. The analysis suggests that around 35-55% of EIAs conducted within the NMS are for infrastructure projects. This contrasts with the older Member States, which in the main, exhibit higher rates of development projects relating to urban and industrial development.

These estimates would appear to be logical given that newer Member States share similar states of economic and social development, and are likely to reflect expenditure on infrastructure in line with fulfilling cohesion objectives.

2.4 Breakdown of EIAs by Type of Developer

Six Member States (FI, LV, SK, BE, CY, GR) were able to provide a breakdown of these figures by type of developer, and no specific pattern was detected here.

Table 2-7: Breakdown of EIAs undertaken in 2008 by type of developer

	Breakdown of EIAs undertaken by type of developer (%), 2008		
Member State	SME (0-249 employees)	Large (>250 people)	Public authority
FI	30	50	20
LV	67	33	n/a
SK	18	47	35
BE (FL) ¹⁰	n/a	n/a	14
CY	76	8	16
GR	10	5	85

2.5 Costs of EIA and Staff Numbers

The data provided by MS is somewhat limited and summarised in Table 2-8. Key estimates are that:

¹⁰ No information provided for the other Belgium regions. Flanders region stated that 13 of 96 EIAs were undertaken by public authorities, but did not provide any further detail.

- The average number of days to process an EIA is 32 days (ranging from 5 days in Czech Republic to 100 days in Denmark)
- The average cost to developers to undertake an EIA is €53,053 (ranging from €2,500 in Ireland to €200,000 in Netherlands)
- EIA costs to the developer are approximately 1% of project costs (ranging from 0.1% in the UK to 2.5% in France)
- The average number of staff employed by the MS to process EIAs is 52 persons (ranging from 3 in Malta to 160 in Greece) (note it is not known the balance of full-time and part-time persons)
- The average annual number of EIAs per staff member is 4 (ranging from 1 in Czech Republic to 7 in Slovakia)

Table 2-8: Cost and Employment Data for Member State Respondents

Member State	No. of days to process an EIA	Cost to developers (€)	% of total project cost	No. of staff (at the national and regional levels)	No. of EIAs per staff
Belgium	22	35,000		30	6
Cyprus		25,000	1.0%		
Czech Republic	5			80	1
Denmark	100	22,820		45	3
Estonia	25	35,000	1.0%	19	4
Finland		90,000	0.5%	15	3
France	8	50,000	2.5% ¹¹		
Germany	10				
Greece	30		1.0%	160	3
Ireland	7-35	70,000 – 250,000 (average: 16,000)	0.5%		
Latvia	30			22	6
Malta	80	55,000	1.5%	3	3
Netherlands		200,000	1.0%		
Poland				290 (50 at national level and 240 at regional level)*	
Slovakia		3,320		90	7
Spain		18,000**			
United Kingdom		100,000	0.1% ¹²		
Average for respondents	32	53,053	1.0%	75	4

Source: Data supplied by Member States and GHK 2008 study¹³.

*Data provided in 2010 by national authority

** Stated by the Regional Ministry of Environment of the Region of Madrid in GHK 2008 study

¹¹ Estimate of percentage of project cost incurred by developers on EIA procedures based on an input by the French Association of Private Companies to the EC survey (2009) – EIA costs amount to 1 to 5 per cent of the total project costs, on average, in France. **Note this figure is not shared by the French administration.**

¹² A new study is ongoing; the preliminary findings suggest that the figure is close to 1%.

¹³ GHK, Technopolis (2008) Evaluation on EU Legislation – Directive 85/337/EEC (Environmental Impact Assessment, EIA) and Associated Amendments.

Data on the duration of the EIA procedure is a little more comprehensive, as illustrated in Table 2-9 below. This suggests that the average duration for an EIA process is 11.3 months, with an average prior screening duration (where applicable) of 1.2 months. Excluding screening, the average duration is 10.1 months.

Table 2-9: Average duration of the EIA procedure by stage (months)

Member State	Screening	Scoping	Environmental Study	Public Consultation	Final Decision	Total
Austria ¹⁴				1.50		11.00*
Belgium	1.00	1.00	6.3 ¹⁵	1.00	3.00	12.30
Cyprus	1.00	1.00	6.00	1.00	1.50	10.50
Czech Republic	0.50	0.50	3.00	2.50	1.00	7.50
Denmark	3.00	1.00	12.00	2.00	3.00	21.00
Estonia	0.75	1.00	1.00	1.00	1.00	4.75
Finland	1.50	3.00	6.00	2.00	2.00	14.50
France		1.50		4.00	2.00	7.50
Germany		2.50	9.00	2.00		13.50
Greece	1.00	2.00	1.00	2.00	1.00	7.00
Ireland		0.43**				
Latvia	0.75	1.00	2.00	0.75	2.00	6.50
Malta	1.00	0.75	6.00	0.75	2.00	10.50
Poland***	1.00	1.00		0.75	2.00	
Slovakia	1.00	0.50	0.75	0.75	2.00	5.00
Spain****	3.00	3.00	18.00		3.00	27.00
United Kingdom	0.10	0.50	0.75			
Average duration for respondents (months)	1.20	1.29	5.46	1.57	1.96	11.325
				Sum of Average Duration by Stage		11.325 months

Main source: Data collected from EC questionnaires (2009)

* Austria: Based on footnote 14, average duration of months was calculated as 11 months (average of 10 and 12 months).

**Based on range of 0.1 – 0.75 months, average was taken (0.425 months)

*** Information is based on the maximum timeframes required under the Polish legislation. In practice, those timeframes can be lower or higher.

**** Information is based on the maximum timeframes required for projects to be approved by the Central State Administration. In practice, those timeframes can be lower or higher.

¹⁴ It should be stressed that the Austrian law provides for an integrated consent procedure, which includes all relevant environmental legislation, including EIA. The average duration of 10 to 12 months is based on the analysis of 56 development consent procedures which were completed between 1/1/2005 and 1/3/2009.

¹⁵ Based on average of the GHK questionnaire responses received from the three Belgian regions (7 months for Brussels; 4 months for the Flanders regions; 8 months for Walloon).

2.6 Environmental Benefits of EIA

Responses to the GHK survey indicate that all Member States believe that there are significant environmental benefits from the EIA Directive. These benefits largely relate to:

- *Resource savings:* the EIA process facilitates a better integration of environmental concerns into the design of projects, saving public and private resources in terms of both money and time (e.g. reduces the likelihood of projects having to appeal against rejection on the grounds of environmental impacts). The costs of undertaking an EIA are seen as 'negligible' in comparison with the potentially high costs of unanticipated environmental issues or liabilities which may arise at a later stage
- *Better project design:* the EIA process facilitates a more structured consideration of environmental concerns and project design is improved early on from inputs both by environmental consultants and through public participation, resulting in reduced environmental impacts through modification
- *Increased public acceptance of development projects:* the EIA process formalises public participation, allowing the public to contribute to the design of the project, which generally increases the acceptability of large-scale projects

2.7 Conclusions

Analysis of the data provided allows us to draw the following conclusions:

2.7.1 The number of EIAs carried out in the EU-27

The main findings suggest that:

- There are some 16,000 EIAs each year across the EU-27
- There has been a general increase in the number of EIAs undertaken each year from 2005 to 2008, with the exception of the UK and Estonia
- There is a strong variation in the number of EIAs undertaken annually across the MS but the number of EIAs is broadly correlated with the size of the MS population
- New Member States appear to undertake a greater proportion of development projects relating to energy, water and waste infrastructure in comparison with the 'older' MS – relating to the development stage they are currently at;
- There is very little information on the types of developers which are undertaking EIAs – and data provided exhibits no particular 'pattern' (e.g. SMEs constituting a high proportion of developers)

2.7.2 The number of screening decisions taken in the EU-27

It is estimated there are some 34,000 screenings for EIA each year across the EU-27.

The percentage of screenings which result in an EIA being required varies significantly (for example, 5% or less of the screenings result in EIAs in BE, LV, SK, DK compared with over 50% of screenings resulting in an EIA requirement for PL, MT and CY). It is however, difficult to distinguish what percentage of EIAs undertaken in each MS are Annex I projects and which ones are Annex II.

2.7.3 The costs (administrative costs and direct/indirect costs for developers) in the EU-27

The average cost of an EIA to (public and private sector) developers as a percentage of project development costs is about 1%. The average cost of an EIA based on data supplied by MS is roughly €62,000. Based on the estimated total number of EIAs per year in the EU-27, multiplied by the average cost per EIA, the total EU expenditure per annum by

developers is approximately €976m¹⁶. In addition there are the administration costs of the Competent Authority and the costs to stakeholders of participating in public consultation.

2.7.4 *The duration of the EIA procedures in the EU-27*

The average duration of an EIA procedure is 11.3 months, with an average of 1.2 months required for prior screening in certain MS. Excluding screening the average duration is 10.1 months.

2.7.5 *The environmental benefits of EIAs*

The environmental benefits of EIAs are widely recognised across all MS, ranging from resource savings to better project design and increased public acceptance of large development projects.

¹⁶ Considering, as mentioned above, that about 16,000 EIAs are conducted in the EU-27 each year, with an average EIA costing about €62,000, the total expenditure incurred by developers in the EU-27 each year on EIAs is about €750m (15,829 multiplied by 61,678 = €976.3m).

PART B: CASE STUDY RESEARCH OF SELECTED DEVELOPMENT PROJECTS AND THE USE OF THE EIA PROCEDURE

3 CASE STUDY FINDINGS ON THE COSTS AND BENEFITS OF THE USE OF THE EIA PROCEDURE

3.1 Selection of Case Studies

As part of the national surveys, Member States were asked to suggest case studies that might be representative of the types of projects and related environmental issues to which the EIA Directive has been applied. The case studies were intended to provide a more in-depth insight into costs borne by developers and public administrations in complying with and implementing the EIA Directive, the duration of EIA procedures and the benefits of the EIA Directive for the environment and employment. From the suggestions of Member States, eight case studies were selected, in consultation with the Commission services, to provide a cross section of MS, and the types and scale of development project. These case studies were selected to reflect, to the extent possible:

- The diversity of national EIA regimes (e.g. federal/regionalised, centralised Member States, “old” v. “new” Member States).
- The variety of projects listed in the Directive (Annex I and II, various project categories, type of developers e.g. SMEs, large enterprises, private developers, public administrations).

The findings are also based on the case study research previously carried out in 2007, presented in Annex 6.

3.2 Case Studies Undertaken as Part of this Study

The main findings of each case study are summarised in Table 3.1. Details of each case study are provided in Annex 5.

The table presents the case studies which were selected:

Table 3-1: Case studies selected

Country	Project Name	Type	Remark
BELGIUM (Flanders)	Tessenderlo Chemistry	Plant for the treatment and production of chemicals	Completed and included in this report
IRELAND	Mixed use development, Dun Laoghaire, Co Dublin	Mixed-use development (mainly residential)	Completed and included in this report

LATVIA	Fero-alloy plant	Fero-alloy plant	Completed and included in this report
SLOVAKIA	Highway D3 Skalité – border Slovak Republic/Poland	Highway	Completed and included in this report
CYPRUS	Waste disposal or management installations	Waste disposal installation	Completed and included in this report
CZECH REPUBLIC	Continuation of mining activities of OKS a.s. and Dolu Karvina in mining areas of ČSA	Mining /extraction	OKS declined to take part; another case study on gas pipeline has been completed and is included in this report
HUNGARY	Electric transmission line between Hévíz and Szombathely	Electric transmission line	Completed and included in this report
DENMARK	Kappel Wind Park – erecting seven new wind mills in Kappel, Lolland	Windmill	Completed and included in this report

3.3 Findings from Current and Previous case studies

3.3.1 Costs of the EIA Procedure

Table 3.2 provides a summary of findings from the previous case study research to identify the costs of the EIA procedure. We also include the results from the new case studies where equivalent data has been provided.

Table 3-2: Exemplar EIA Related Costs for Selected Projects

Project Title and Brief Description	Project Investment Cost (€m)	Direct EIA Cost to the Developer (€k)	EIA Cost as % Of Project Cost (%)
Transmission line of 400 kV between Hévíz and Szombathely (HU)	3.7	80	2.16
Ferro-Alloy Plant,(LV)	5	44	0.88
BritNed Interconnector – Land Components, UK	6	81	1.35
Le Garoussal Zone D'Aménagement Concerte (ZAC), (F)	15	9	0.06
Mixed-use development in Former Dun Laoghaire Golf Club Lands (IE)	20	474	2.37
Wind farm in Kappel, Municipality of Lolland (DK)	227	227	0.1
Tessenderlo Chemistry, Flanders Region, (B)	25	400	1.60
Regeneration of mining areas/creation of new water infrastructure, (D)	30	250-500	0.83-1.67
Maranchon Wind Farm, (ES)	40-45	21	0.05
Chlorine and MCA Plant Delfzijl, (NL)	200	400-500	0.2 - 0.25
D1 Highway – Section Prešov západ – Prešov juh (Prešov West – Prešov – South), (SK)	376	44	0.01
High-Pressure Gas Pipeline, (CZ)	400-600	100	0.015 - 0.025
BritNed Interconnector, (NL)	600	500	0.08
Liquid Natural Gas Terminal Eemshaven, (NL)	800-900	800	0.09 -0.1
Greater Gabbard Offshore Windfarm, (UK)	1,050-1,330		Estimated <1%
Bretagne-Pays de La Loire High Speed Line Extension, (F)	2,380	158	0.01

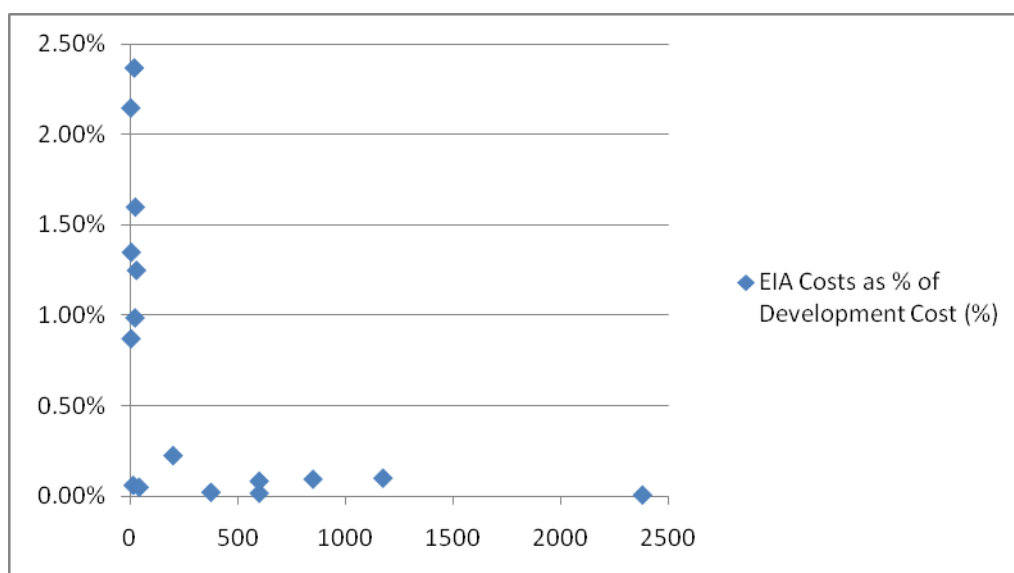
Source: Case Studies, Annexes 6 and 7

The case studies support the typical range of costs of EIA as a share of development cost identified from the national data supplied by Member States which suggested a range of costs from 0.01% to up to 2.37% of development costs.

These cases tend to show that the costs of the EIA procedure are proportionately more expensive as a share of development costs for smaller projects (see Figure 3.1). Whilst the average EIA cost as a share of development cost for all the case studies is 0.7%, ranging from 0.01% to 2.37%, the average for projects of €20m or less is 1.36%. In contrast, for projects over €20m the average cost is 0.4%, and for projects over €30m the average cost is 0.07%, ten times lower than the average for all cases and twenty times lower than the average for smaller projects (€<20m).

As there is no data available on the size distribution of projects that require an EIA, it is not possible to use the case study findings to estimate the 'average size' of an EU project requiring an EIA, and hence not possible to estimate the overall average cost of an EIA.

Figure 3.1: EIA Costs as % of Project Development Costs by Size of Project (€m)



Source: Case study data (See Table 3.2 above)

The finding underpins the case for reviewing the possibility for a more streamlined process across MS for project proposals where development costs are less than say €10m, to avoid disproportionate costs to small developers, recognising not all small development projects are brought forward by small enterprises. Such an approach carries the risk of 'salami slicing' of projects to benefit from such a procedure, but the costs associated with phasing projects to fall below a cost threshold (and so benefit from the streamlined approach) is likely to outweigh any cost savings from a streamlined approach.

3.3.2 **Costs to the Public Sector**

Previous case study research suggested that some of the activities that give rise to EIA can be undertaken by the public sector (e.g. road transport). In addition, large utility organisations undertake EIAs in areas such as water and energy projects or in the case of urban development, national developers undertake EIAs. However, in both the previous and more recent case study research it is evident that the largest component of overall cost of EIA is borne in all Member States studied by the developer itself and are consequently

integrated into the planning and estimates of total development costs. This is in contrast to SEA where such costs are borne by the public sector.

The table below illustrates (for the Member State case studies) the costs to public administration of dealing with the EIA procedure:

Table 3-3: Exemplar EIA Administration Costs and Staff Requirements for Selected Projects

Project Title and Brief Description	No. of person-hours required to process EIA ¹⁷	No. of staff (at national and regional levels)
Transmission line of 400 kV between Hévíz and Szombathely (HU)	90	n/a
Ferro-Alloy Plant, (LV)	n/a	n/a
Mixed-use development in Former Dun Laoghaire Golf Club Lands (IE)	n/a	n/a
Wind farm in Kappel, Municipality of Lolland (DK)	560	n/a
Tessenderlo Chemistry, Flanders Region, (B)	140 - 210	21
D1 Highway – Section Prešov západ – Prešov juh (Prešov West – Prešov – South), (SK)	80 - 120	n/a
High-Pressure Gas Pipeline, (CZ)	112	n/a
Solid Domestic Waste Holistic Processing Unit, Koshii, (CY)	n/a	n/a

3.3.3 Duration of the EIA Procedure - EIA Time Requirements

The actual length of time of the EIA procedure varies depending on the size and complexity of the project and the environmental sensitivity of the project location. However, there is general agreement from the case studies that the preparation of the EIA process up to submission of the EIS takes on average between 6 and 12 months. The EIA process for smaller, simpler projects can take less time, while for large complex projects the process can take longer, up to three years in exceptional cases. The time taken to complete the EIA procedure excludes the time spent on pre-application / pre-screening discussions. This activity is not confined to EIA discussions, but will include environmental issues.

The recent case studies conducted in Denmark, Hungary and Czech Republic revealed that the EIA process (from notification, scoping, EIS, external opinion, 2 public proceedings and final opinion) took 14 months and this seemed to be a normal amount of time for the majority of projects across Member States. The EIA process in Belgium and Latvia took slightly longer at a year and a half and for the project in Slovakia, the EIA process lasted approximately 3 years, from 1999 until mid 2002. The developer here noted that each phase of the EIA process typically lasts 6-12 months depending on the results of project scoping.

¹⁷ Where estimates given in person-days or person-months, these were converted based on 7 person-hours in one day; 20 person-days in one month

In the case of Ireland, the EIA procedure was perceived to have a great impact on the duration of a project application due to the length of time necessary to complete an EIS, which was estimated by stakeholders to be approximately 12 months. The process of obtaining consent in a similar development project which is not subject to EIA is estimated by the environmental consultant to average six months (EIA is therefore thought to double this duration).

The table below illustrates (for the Member State case studies) the average duration of each stage of the EIA procedure.

Table 3-4: Exemplar Duration (Months) of EIA Procedure by Stage for Selected Projects

Project Title and Brief Description	Screening	Scoping ¹⁸	Environmental Study	Public Consultation	Final Decision	Total
Transmission line of 400 kV between Hévíz and Szombathely (HU)	n/a	7 (inc screening)	1	n/a	6	14
Ferro-Alloy Plant, (LV)	0	9 (inc screening)	7.5	n/a	2	18.5
Mixed-use development in Former Dun Laoghaire Golf Club Lands (IE)	n/a	n/a	12	n/a	2	n/a
Wind farm in Kappel, Municipality of Lolland (DK)	n/a	n/a	n/a	n/a	n/a	n/a ¹⁹
Tessenderlo Chemistry, Flanders Region, (B)	0	3	5 to 6	n/a	n/a	16
D1 Highway – Section Prešov západ – Prešov juh (Prešov West – Prešov – South), (SK)	0	4 (inc screening)	5	5	1	30
High-Pressure Gas Pipeline, (CZ)	0	1.5	3	5.5	4	14
Solid Domestic Waste Holistic Processing Unit, Koshii, (CY)	n/a	n/a	3 to 4	1	n/a	n/a

¹⁸ Note that this column refers to the duration of the stage prior to the EIS and does not usually separate out the screening stage from scoping. It also includes 'notification' of the EIA.

¹⁹ The EIA process initially commenced in 2006 and DONG Energy produced an EIS but due to the changing political climate and the impending Municipal Reform the plan was put on hold. The process was re-initiated in April 2009 and in May 2010 the proposal for planning document (Kommuneplantillæg) was published. It is unclear what the duration of each stage of the EIA was from the case study and the case has been referred to the agency for environmental complaints (Naturklagenævnet), which is currently processing the complaint. The EIA for Kappel Wind Farm followed the standard procedure and no delays were encountered during process due to additional requirements on behalf of the competent authority or developer shortfalls. However, as the EIA was embedded within the wider planning process, it is not possible to provide further detail in the table.

Source: Case Studies

Generally, the following issues are identified in the selected MS case studies as leading to a more prolonged EIA process:

- the need for extensive surveying, environmental analysis and mapping, which may be needed to ensure adequate quality of the data to be used in the environmental impact study e.g. as in the Belgium (Flanders) case study
- the scale of consultation processes – both in terms of public participation and in terms of consulting experts internally for the type of additional information required for an EIS (e.g. consulting ‘noise’ specialists within the planning department to provide detail on what information they require from the EIS) e.g. as in the Ireland case study,
- requests to provide additional information after the start of the formal authorisation procedures,
- poor quality of EIA necessitating further work,
- the complexity of matters or interests affected, e.g. as in the Belgium (Flanders) case study
- the need for co-ordination with other assessment and authorisation procedures and authorities.

The case studies also highlight a number of wider parameters external to the EIA regime which also tend to ‘prolong’ the EIA process and the wider planning permission process. These include:

- **Cyprus:** major delays from pressure created by landowners and political considerations caused a year of delays, and were considered far more problematic than any delay directly linked to the EIA
- **Denmark:** political changes affected the project and put the process on hold. Local residents also objected to the development through the Agency for Environmental Complaints (which is tasked with confirming the initial environmental assessment). It was noted that even if an EIA had not been required for the project (which would apply, for example, to windmills below 80 metres in height), a technical report would have been required that would have had similar content to an EIA. The EIA itself is therefore very unlikely to have had much impact on delays.
- **Hungary:** The key external factor in this case study related to the conflict between concepts of existing county-level land-use plans and environmentally feasible options for the transmission lines. Due to the complexities associated with modifying land-use plans once they had been approved, the option that was finally approved for the transmission line was in line with land use plans of the county but was in fact less ‘environmentally friendly’ than other options. Another issue related to a lack of understanding of legal aspects of the process by the local competent authority.
- **Latvia:** Although an EIA was completed, the planning permission for this project was never granted. This has mainly been attributed to resistance from nearby landowners, who opposed industrial activity in their local neighbourhood. Furthermore, the financial incentives required by the city council to give approval were considered ‘insufficient’. The country more generally appears to be experiencing a lack of technical specialists, and have had to hire EIA-related specialists from Ukraine and Georgia.

3.3.4 Delays observed during the EIA Procedure

The interaction between the EIA procedure and the broader assessment and authorisation procedures prevents clear definition of the delays attributable to the time to secure project consent. In addition, there is variation depending on the nature of the project and project location. It should also be noted that often much of the information provided by the EIA and public consultation would be required in any event by the broader regulations governing development consent.

It should also be stressed that an EIA, which is normally carried out in parallel with the progressive elaboration of the project, aims at anticipating the various environmental issues and integrating these into the project. Hence, longer delays can also be rooted in a bad anticipation of environmental impacts, while a good EIA can be a means for a developer to avoid 'bad surprises'.

However, delays do occur to the EIA procedure with an unforeseen and incidental effect on the time required to secure development consent. According to the MS case studies, delays can result from a range of factors:

- Poor levels of co-operation with the CA during the EIA procedure (e.g. Spain high speed train line case study), although more a disagreement between the competent authority and Ministry of Environment on the need for a new EIA as a result of modifications to the project)
- Political unwillingness to consider the project (e.g. Denmark, Hungary case studies)
- Inadequate staff resources of the CA leading to delays and poor advice / instructions (e.g. Hungary case study; Netherlands Britned case study – lack of capacity to write project guidelines; Poland case study on transboundary sewage; UK urban development scheme case study)
- Uncertainty over the applicability of thresholds and delays in screening decisions (compounded where the CA feels unqualified to determine and consults other agencies) (e.g. UK Britned case study)
- Uncertainty and difficulties in defining relevant alternatives (e.g. NL Britned case study)
- Ambiguity over the scope of the EIA with subsequent revisions and delays to agreed scope (in particular when no scoping has taken place) (e.g. UK Britned case study)
- Scoping and associated studies unduly influenced by the concern of legal challenge (e.g. Germany quarry case study)
- The time taken to undertake studies (e.g. of wildlife and habitats surveys), generally regarded as not significant for the decision but which have to be undertaken prior to decision-making (partly driven by requests from statutory consultees) (e.g. Belgium (Flanders) case study; Germany mining case study; France high speed line case study)
- Uncertainty over the consultation procedure, and respective responsibilities between the CA and developer (e.g. UK Britned case study and confusion over who the competent authority was; UK windfarm case study experienced last minute objections by statutory consultees, which led to a six month delay)

- Lack of clear timetables and/or failures to respect agreed timetables for different stages (e.g. UK Britned case study – competent authority did not respect agreed deadlines)
- Ensuring that the project was harmonised with land development plans of the relevant counties, as was the case with the transmission line project in Hungary, resulting in 2-3 months of delay specifically attributable to the EIA process.
- Additional time was spent in the beginning of the project on finding and receiving technology descriptions and relevant information from specialists outside the EU (e.g. Latvia case study)

Since there are no formally agreed timetables for the EIA, it is difficult to distinguish between the time that might be expected to take given the nature of a project and the time that occurred in practice, as the basis of a defined period of delay. Reference to experience in the Netherlands in previous case study research suggests that for similar projects that are subject to EIA, compared to those subject to national regulations for environmental assessment but not formal EIA, the additional time taken could be between 6-8 weeks or around 20%-25% longer than the average non-EIA assessment. The additional time is required for the formal stage of public consultation, and for the independent review of the EIS.

DG TREN has separately examined, in the context of the Priority Interconnection Plan²⁰ reasons for delays in investment in trans-boundary energy infrastructure. They indicate that complexities of national development consent procedures and associated public consultation requirements, including EIA requirements, contribute to the delays in realising investment projects.

3.3.5 Benefits from the EIA Procedure

Previous case study research indicated that the main emphasis and ultimate benefit of EIA remains the prevention of negative environmental impacts. EIA also emphasises the identification of appropriate measures to mitigate impacts through the design of the scheme, and a means of giving the environment a higher standing and clearer position in the decision-making process when determining development consent.

Recent case study research²¹ suggests that benefits include the enabling of detailed modelling and evaluation of impacts to be undertaken. In Cyprus the benefits include that the Environmental Services Authority can plan conditions which would mitigate environmental costs both during the construction and operational phase of the project. The EIA was stated in several cases to be instrumental in selecting the winning option for development, that which presented the least adverse environmental impact. The developer in Denmark stressed that the EIA procedure simplifies the process of environmental assessment and reduces the administrative burden of having to deal with different authorities for different aspects of the development application. The Slovakian case study suggests that the EIA is beneficial in recommending measures to avoid, minimise or compensate for environmental damage. In particular benefits of the EIA process include informing all stakeholders, highlighting possible environmental impact and helping the developer to address issues at an early stage.

The breadth of stakeholders consulted in the national evaluations is an indication that the EIA has been a valuable tool in preventing harmful environmental impacts and has helped to increase the understanding of the significance of potential environmental impacts, as well as improving the awareness of the need for sustainable development, which has emerged more recently as an objective.

²⁰ COM(2006) 846 Final/2

²¹ For example, see the Belgium (Flanders) case study in Annex 5

Previous case study research²² suggested that the benefits of the EIA regime are determined by a range of factors that have common expression across the eight MS case studies undertaken in this study. These include:

- The levels of capacity and competence of CAs to advise and negotiate the EIA process, especially at lower administrative levels, and the quality of EIAs and resultant EIS
- The national approach to transposition, and especially procedures for screening and scoping, and the tendency to 'gold-plate' during transposition through definition of project annexes and thresholds
- The overlaps between the EIA and other environmental directives, especially SEA, IPPC and Habitats. Effective SEA has a direct influence on the nature of EIA required. IPPC and Habitats generate risks of double assessment
- The regular recourse to domestic and European law to resolve differences of interpretation of procedure
- The scope to manage consultation phases

3.4 Conclusions

3.4.1 *The direct and indirect costs of undertaking EIAs for the developers*

The total project costs to developers in the case studies examined ranged from €4 million and €2.38 billion, indicating the very broad range of projects that the EIA regime covers. EIA cost as percentage of project cost ranged from 0.01% to 2.37%, suggesting that the EIA process absorbs a relatively modest cost in comparison with overall development costs.

Previous and more recent case study research²³ indicates that in the main, the developer is responsible for the majority of costs and consequently integrates this consideration into the planning of projects and estimates of total development costs. Direct costs to the developer includes both their own time but in large part the cost of employing specialist consultants. Indirect costs include expected and unexpected delays which vary in length of time and cost. In certain case studies such as in the case of Cyprus, these indirect costs have been noted as significant (although these delays were attributable to pressure from local landowners and not attributable to EIA directly). However in general, actual costs were in-line with expected costs and any discrepancies were attributed to specific delays in the overall assessment and authorisation process.

The majority of developers interviewed were experienced in the process of EIA and understood the costs involved. In general, developers seemed to suggest the EIA cost as a percentage of the overall development cost was fairly low considering the environmental benefits that were noted in each case and the administrative burden of having to deal with different authorities for different aspects of the development application.

3.4.2 *The costs of the EIA procedures for the public administrations*

Previous case study research²⁴ suggested that some of the activities that give rise to EIA are the responsibility of the public sector agencies or companies (e.g. road construction). In addition large utility organisations undertake operations requiring EIAs in areas such as

²² GHK, Technopolis (2008). Evaluation on EU Legislation – Directive 85/337/EEC (Environmental Impact Assessment, EIA) and Associated Amendments

²³ This study and case studies from previous GHK study (GHK, Technopolis (2008). Evaluation on EU Legislation – Directive 85/337/EEC (Environmental Impact Assessment, EIA) and Associated Amendments)

²⁴ Op Cit

water and energy projects or in the case of urban development, national developers undertake EIAs. These activities and operations generate the same type and scale of EIA requirement and hence similar levels of cost.

There are also costs associated with the administration of the EIA procedure. However, since the EIA procedure is just one element of an often complex consenting process, the specific costs are hard to separate from the wider consenting cost. This cost may in some cases, depending on MS and Competent Authority, be wholly or partly recovered through charges on the developer for processing the development application.

3.4.3 *The duration of the EIA procedures and possible impacts to the project implementation cycle*

The duration of the EIA procedures is project specific and depends on the different project characteristics including size, complexity and location. The case studies reflect these sensitivities and whilst 12-14 months seemed to be the expected amount of time to conduct the EIA process, smaller, simpler projects can take less time, with large complex projects taking up to three years. Furthermore where delays, such as those described above, were noticeable this further impacted the project implementation cycle as timing couldn't go ahead as planned and some projects were dependent on factors such as seasonality.

In some cases the EIA procedure was perceived to have a great impact on the duration of the project application due to the length of time necessary to complete an EIS. The process of obtaining consent in a similar development project which is not subject to EIA provides a basis for comparison, which suggests an average closer to six months, suggesting that the EIA can therefore double the time taken to secure consent.

The additional time necessary to complete the EIA procedure has a possible impact to the project implementation cycle as external factors (for example political changes or changes in available funding or legislation) can change the context of project development.

However several case studies suggested that planning permission frequently has to be obtained separately to the EIA process and this is often a longer process (such as is the case in the Czech Republic and Latvia). Therefore the EIA itself does not necessarily add to the time taken to receive development consent.

3.4.4 *The benefits for the environment and for employment (e.g. number of jobs relating to EIA)*

Previous and more recent case study work indicates that environmental benefits include:

- The prevention of negative environmental impacts
- The identification of appropriate measures to mitigate impacts through the design of the scheme
- Raising the profile of the environment in the decision-making process when determining development consent
- Enabling of detailed modelling and evaluation of impacts
- Deciphering the cost and benefits through different measures by option development
- Simplifying the process of environmental assessment and reducing the administrative burden of having to deal with different authorities for different aspects of the development application.

Some national authorities surveyed have also stressed that EIA can avoid future costs, such as the costs of significant environmental impacts and the costs of legal procedures (including administrative costs) to repair environmental damages.

Previous case study research suggested that in certain countries EIAs have extended to include socio-economic effects such as employment effects of development. However no specific quantification of employment benefits were obtained through case study research and in terms of employment benefits, very few were noted in recent case studies undertaken.

ANNEX 1: SUMMARY OF RESPONSES TO THE GHK EIA SURVEY

Member State	Status	Source data used	Remarks
Austria	Response received	2010	note some data received by the EC from national authorities in December 2010
Belgium	Response received	2010	
Bulgaria	No response		5 follow-up calls made
Cyprus	Response received	2010	
Czech Republic	Response received	2010	
Denmark	Response received	2010	
Estonia	Response received	2010	
Finland	Response received	2010	
France	Response received	2010	note some data received by the EC from national authorities in December 2010
Germany	Response received	2010	
Greece	Response received	2010	
Hungary	Response received	2010	
Ireland	Response received	2010	
Italy	No response		5 follow-up calls made
Latvia	Response received	2010	
Lithuania	No response		4 follow-up calls made
Luxembourg	No response		5 follow-up calls made
Malta	Response received	2010	
Netherlands	No response – data from DG		5 follow-up calls made; note some data received by the EC

	ENTR		from national authorities in December 2010
Poland	No response - Data from EC survey	2009 (EC)	5 follow-up calls made; note some data received by the EC from national authorities in December 2010
Portugal	No response		5 follow-up calls made
Romania	No response		3 follow-up calls made
Slovenia	No response		5 follow-up calls made
Slovakia	Response received	2010	
Spain	Response received	2010	note some additional updates in data received by the EC from national authorities in December 2010
Sweden	No response		5 follow-up calls made
United Kingdom	Response received	2010	

ANNEX 2: APPROACHES TO ESTIMATING DATA GAPS

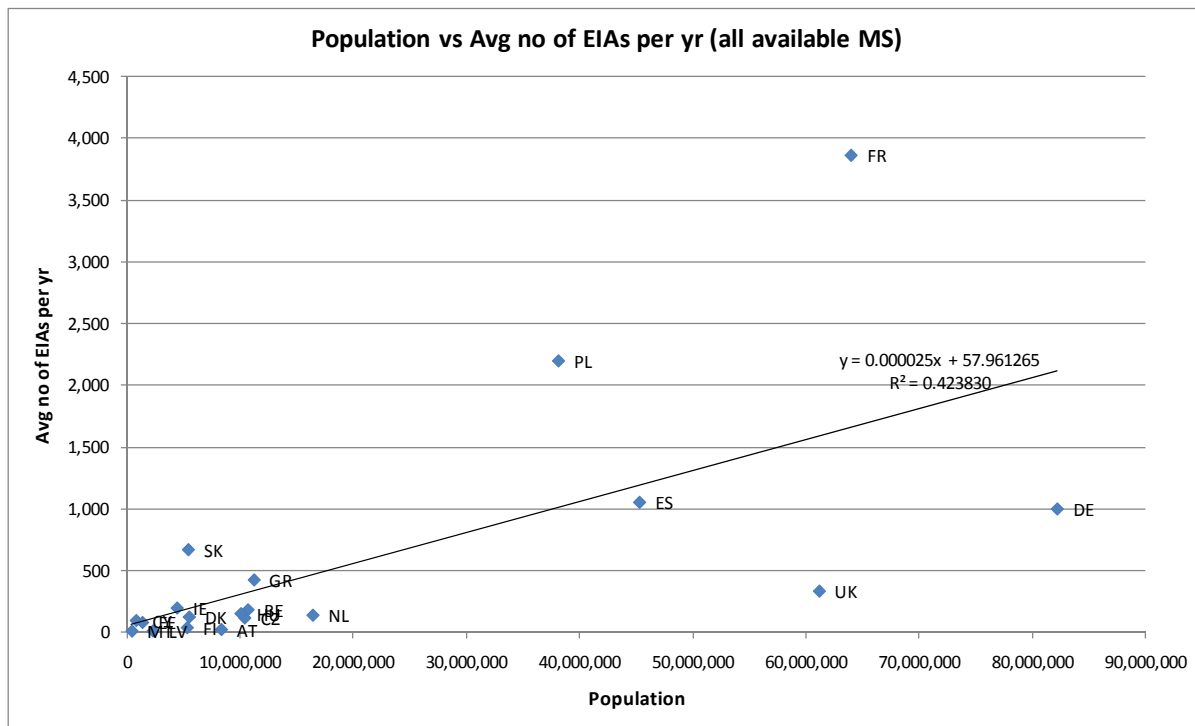
Statistical Analysis – Estimating the Number of EIAs

The data collection exercise and experience from previous studies has shown that the required data is not systemically captured and collated by Member States. Even larger, more established Member States such as Germany have a significant lack of data with regards to the number of EIAs conducted, as they do not have a system in place for collecting such information.

In order to 'fill in' the gaps for those Member States which did not provide any data, we have undertaken some further analysis of the data which has been received (as well as figures provided by the responses to the EC questionnaire in 2009), to see if we can apply proxies such as population or GDP per capita to estimate, for example, the number of EIAs being undertaken in a specific Member State.

Using population as a proxy for development activity requiring EIAs

Figure 1-1: Estimated Relationship between the Number of EIAs and Member State Population Size²⁵



Source: EIA data from Surveys (n=17), Population data from Eurostat (2008)

As shown above, plotting population figures (Eurostat, 2008) against the average number of EIAs undertaken per year (2005-2008) for the Member States for which data is available indicates a reasonable correlation, with an R-squared of 0.42, which indicates that roughly two-fifths of the variation in average annual EIA numbers is accounted for by differences in population across Member States. There are a few outliers, some of which can be accounted for given the nature of the EIA framework in various Member States. France, for instance, does not have a separate screening procedure in place, meaning that an EIA is required for all project proposals; in addition, the surface of the French territory (648,000 km², including overseas territories where the EIA regulation is also in force) is an additional factor to take into account which explains the high number of EIAs.

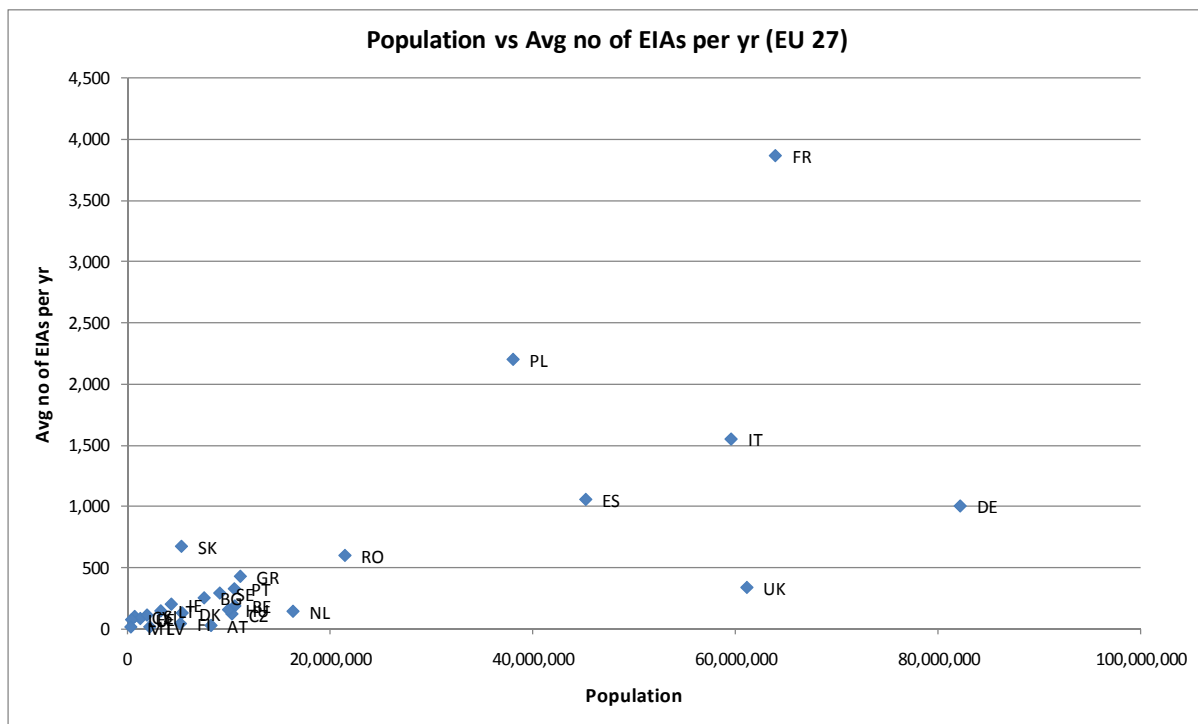
The data indicates that below a population level of about 20 million, average annual EIA numbers vary between 10 and 300. On the other hand, for Member States with significantly

²⁵ Essentially, the use of a linear relation between EIAs and population hinges on the assumption of linearity between the two variables i.e. that an increase in the population induces a proportional increase in the number of EIAs. This assumption is particularly suitable for the EU, which is characterised by a relatively low variation in the pattern of economic development. The reader needs to be aware that the assumption of linearity is not a necessity. In fact, the relationship between EIA can be substantially different, and assume various forms, which are generally specified according to the assumption of the modelling. For instance, a logarithmic relationship ($EIA = \ln(\text{population})$) implies a marginally decreasing increase in EIA as population increases. Similarly, an exponential case ($EIA = (\text{population})^k$, where k is a real number) assumes that the number of EIAs increases fairly quickly with an increase in the level of population. The change of functional relationship between variables can give substantially different results, and the reader should remember this whilst interpreting the results presented in this Annex. As an example, we compared the results presented in this final report with the same analysis using a logarithmic and exponential relationship. Results clearly show that the use of a different functional form changes the goodness of fit of the fitted equation (reported as the value of the R-squared). This is particularly high (hence fitting better) in the case of an exponential relationship (R-squared is 0.58), whilst performing the worst in the case of a logarithmic relation (R-squared is 0.34). The average of the number of EIAs will change as a consequence of the new fitted equation: in the linear case, the average number of EIAs is 520; this becomes 472 assuming an exponential relationship (9% lower) and 532 in the logarithmic case compared to the same baseline (2% higher).

higher population levels, 1000 or more EIAs are undertaken each year on average, with the UK being the only exception to this trend (334 EIAs per year on average).

Using the equation generated by this linear trend to estimate average annual EIA numbers for the ten Member States for which no data is available (using Eurostat population figures) generates the data in the graphs below.

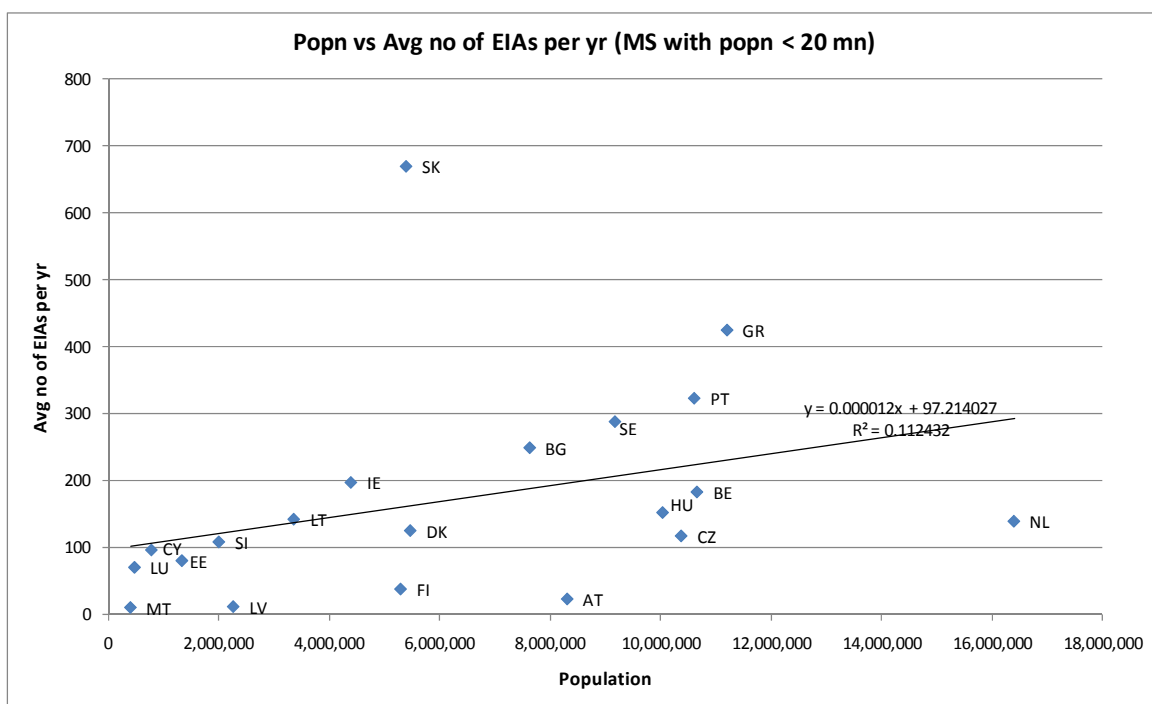
Figure 1-2: Estimated Number of EIAs for All Member States



The estimated number of EIAs for smaller MS with a population less than 20 million (Figure 1.2) and larger MS over 20 million population (Figure 1.3a) is shown separately below.

In the case of smaller MS the resulting relationship between population size and the actual / estimated number of EIAs (Figure 3a), indicates an R-squared of 0.1 with Slovakia an outlier with a relatively high number of EIAs given its size.

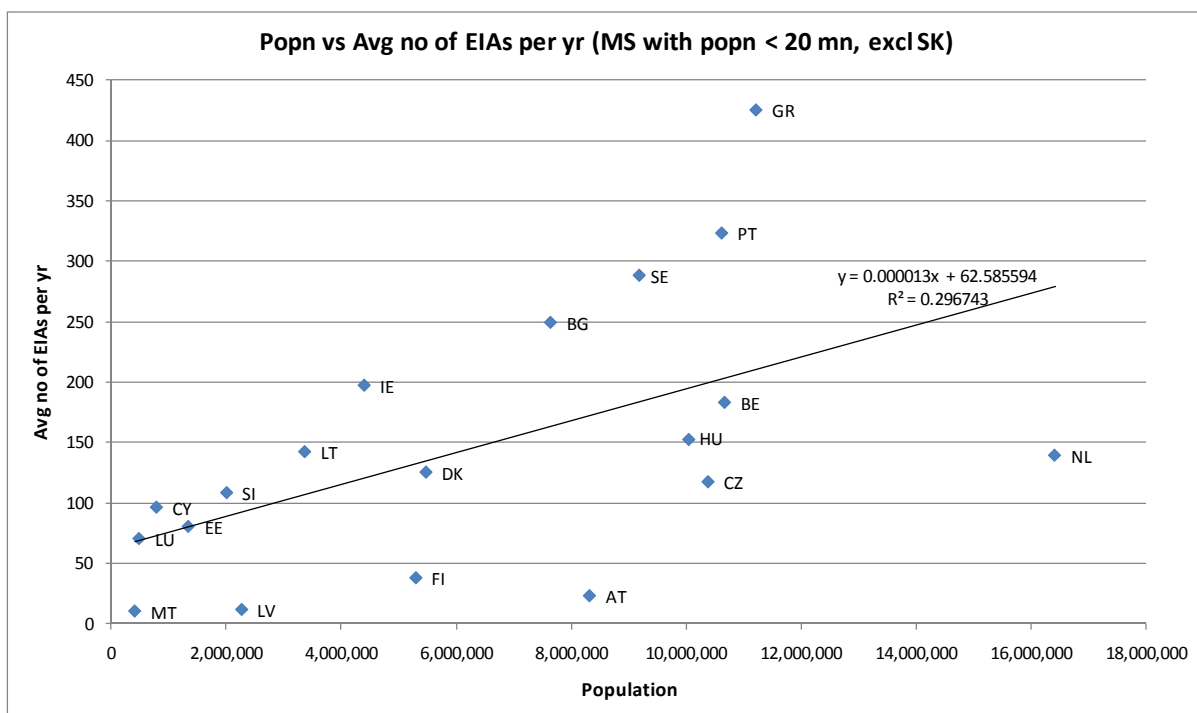
Figure 1.3a: Estimated Number of EIAs for MS with Population Less than 20 million



Source: Data as estimated in Figure 2

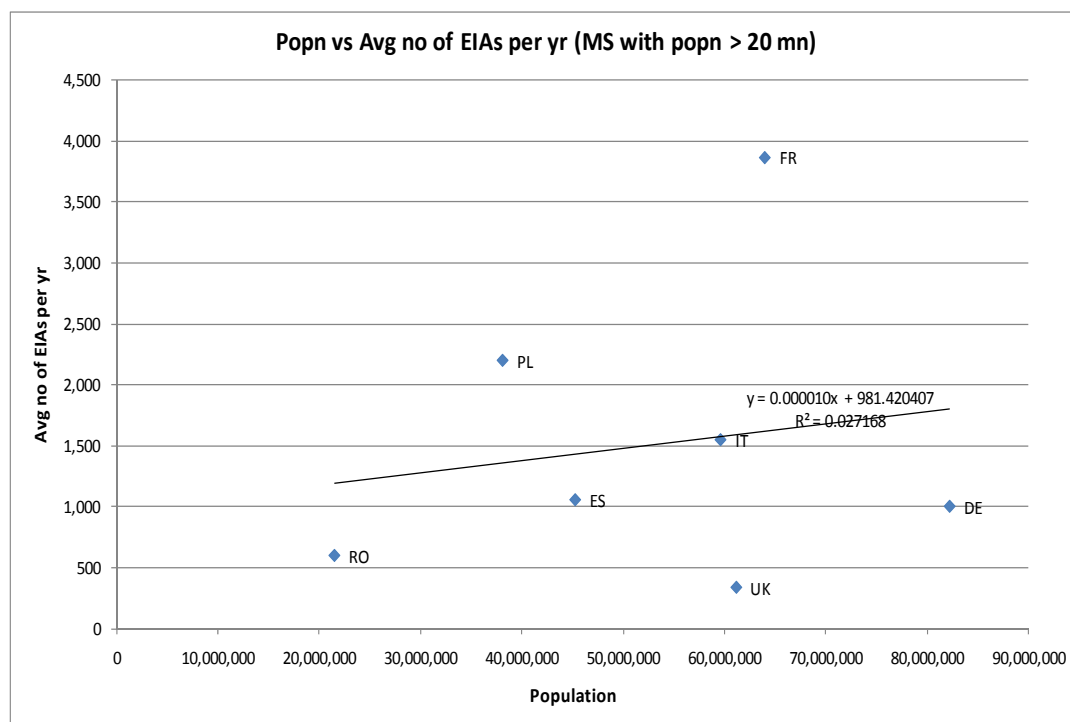
Deleting Slovakia from the dataset on which Figure 1.3a is based generates Figure 1.3b, with an improved R-squared estimate of almost 0.30.

Figure 1.3b: Estimated Number of EIAs for MS with Population More Than 20 million (excluding SK)



The actual / estimated number of EIAs for the seven MS with a population over 20 million has a very weak statistical relationship between number of EIAs and population (R-squared of 0.03).

Figure 1.3c: Estimated Number of EIAs for MS with Population More Than 20 million



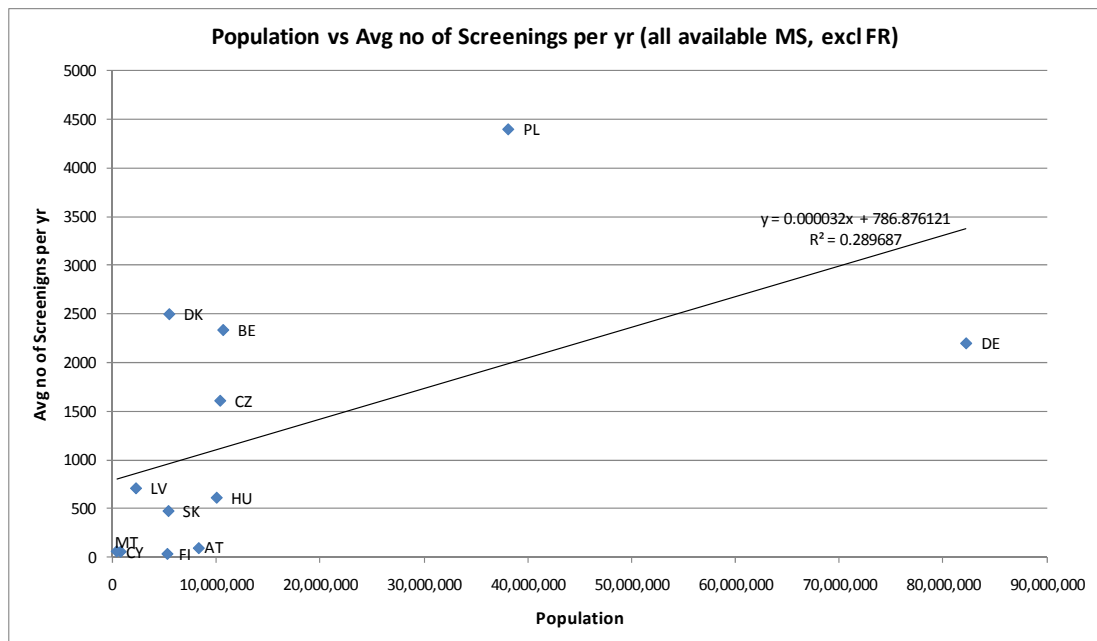
Using GDP per capita as a proxy

An alternative might be to plot the relationship between per capita GDP (in Purchasing Power Standards, as measured by Eurostat) and the average number of EIAs undertaken annually per million inhabitants for each Member State (a statistic which accounts for population differences across the Member States) for which data is available. However, this yields a scatter plot with a weak negative relationship and an R-squared estimate of 0.21, which is substantially less conclusive than our estimate in the population-EIA numbers trend (above). On extrapolation to the Member States for which no data is available, the trend line slopes upwards, with the R-square number declining to 0.14. This result is not significantly modified by splitting Member States into groupings (e.g. EU 15 vs. EU 12 Member States, or Member States with a per capita GDP exceeding 20,000 PPS vs. the rest). We therefore discard per capita GDP as a proxy, and retain the EIA-number estimates generated using population figures for Member States where no data on EIA numbers is available.

Statistical Analysis – Estimating the Number of Screenings for EIAs

We have repeated the same approach to estimate the average annual number of screenings conducted by Member States for which no data is available. Based on the data provided by 12 Member States the correlation between population and screening numbers (Figure 1.4: Estimated Relationship between the Number of Screenings and Member State Population Size) below, yields an R-squared estimate of almost 0.30.

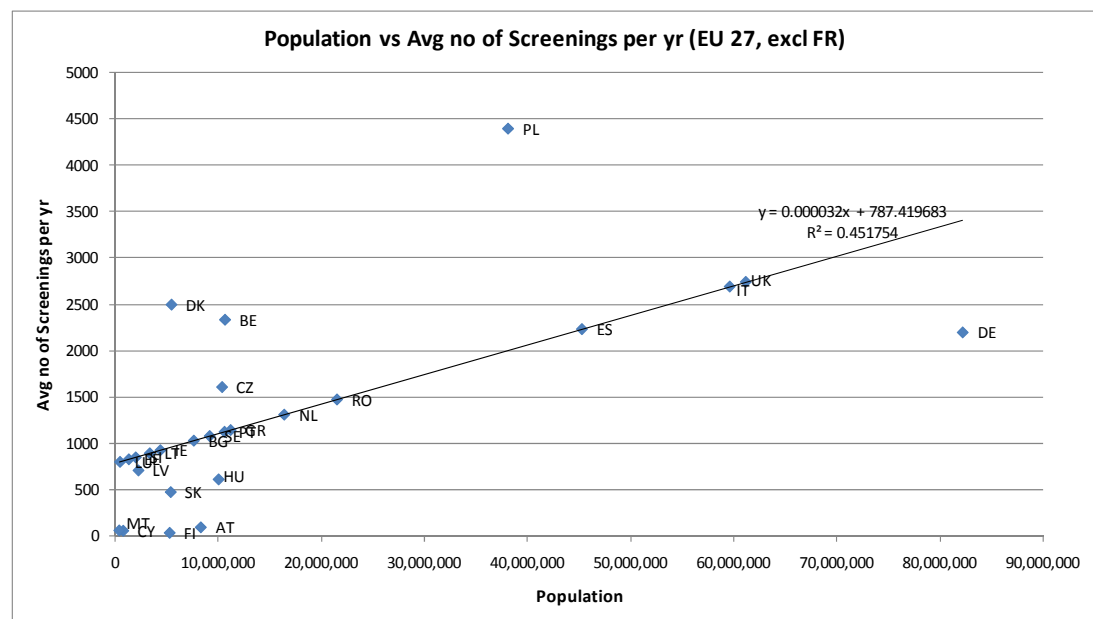
Figure 1.4: Estimated Relationship between the Number of Screenings and Member State Population Size



Source: Data provided by MS to EC (2009) and GHK Survey, Eurostat Population estimates (2008)

Using the equation generated by this linear trend to estimate average annual screenings for the Member States for which no data is available (using Eurostat population figures) generates the data in the graph below.

Figure 1-5: Estimated Number of Screenings for All Member States

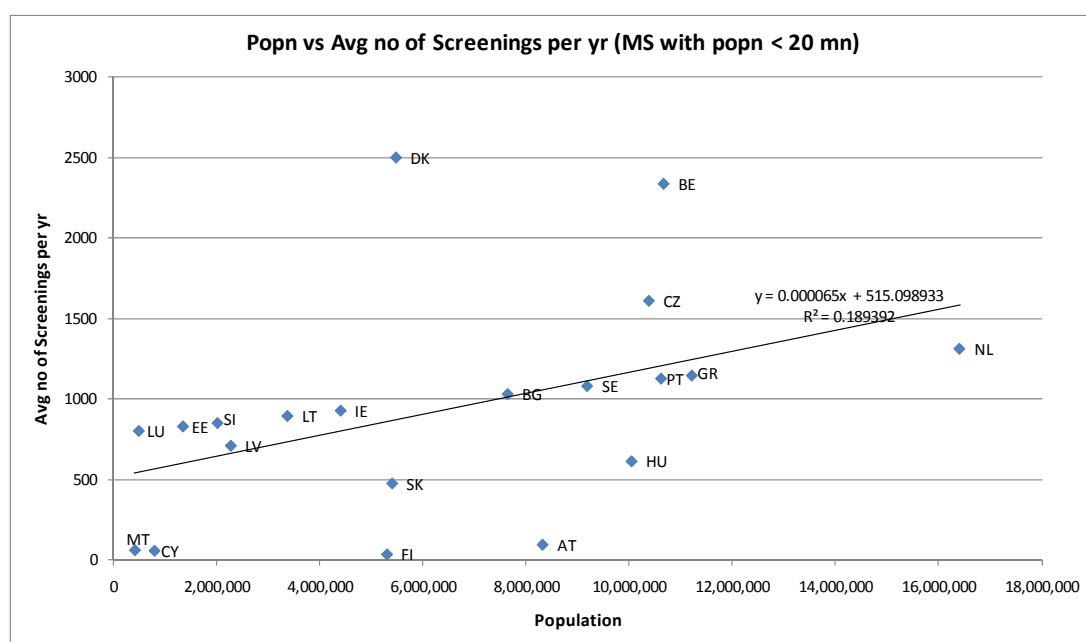


Source: Data estimated from Figure 1-4

Figures 1-6 (**Figure 1.6a: Estimated Number of Screenings for MS with Population Less than 20 million**, **Figure 1.6b: Estimated Number of Screenings for MS with Population Less than 20 million (excluding outliers)** and **Figure 1.6c: Estimated Number of Screenings for MS with Population More Than 20 million**) below show the link between population and average annual screening numbers separately for Member States with populations below and above 20 million. The positive link is sustained in case of Member States with populations of less than 20 million, with the R-squared estimate rising significantly (when we omit six outliers where average annual screening numbers are either below 100 or above 2000 (AT, BE, CY, DK, FI, MT), as seen in Fig 1-6b).

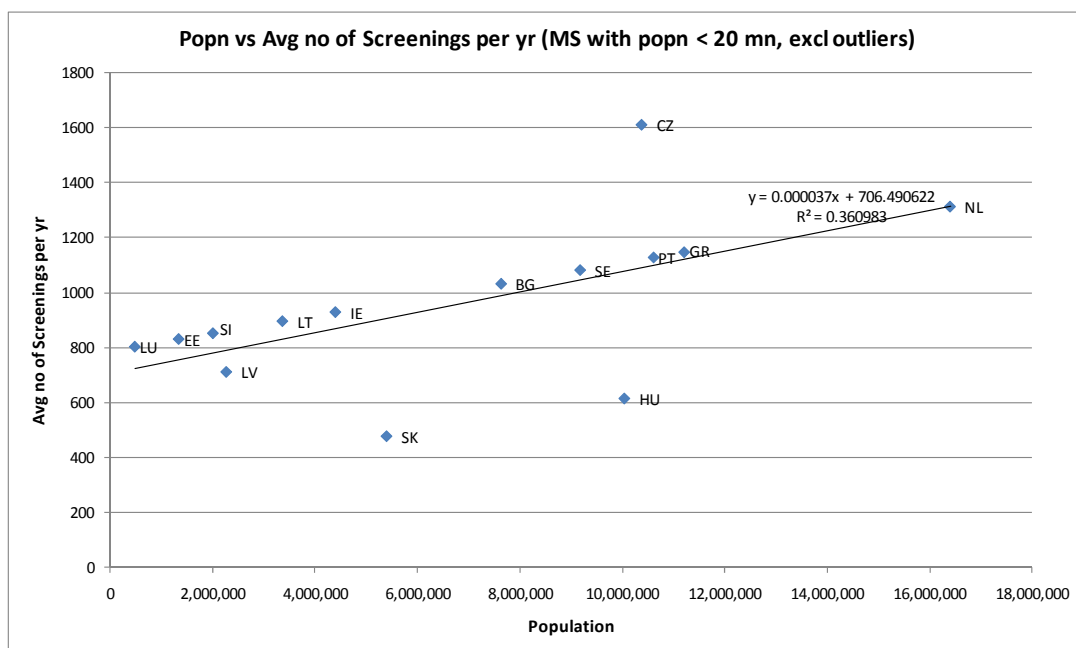
In the case of Member States with populations above 20 million, the correlation is extremely weak, based on only six data points. Each of the Member States, with the exception of Romania, conducts over 2,000 screenings per year on average.

Figure 1.6a: Estimated Number of Screenings for MS with Population Less than 20 million



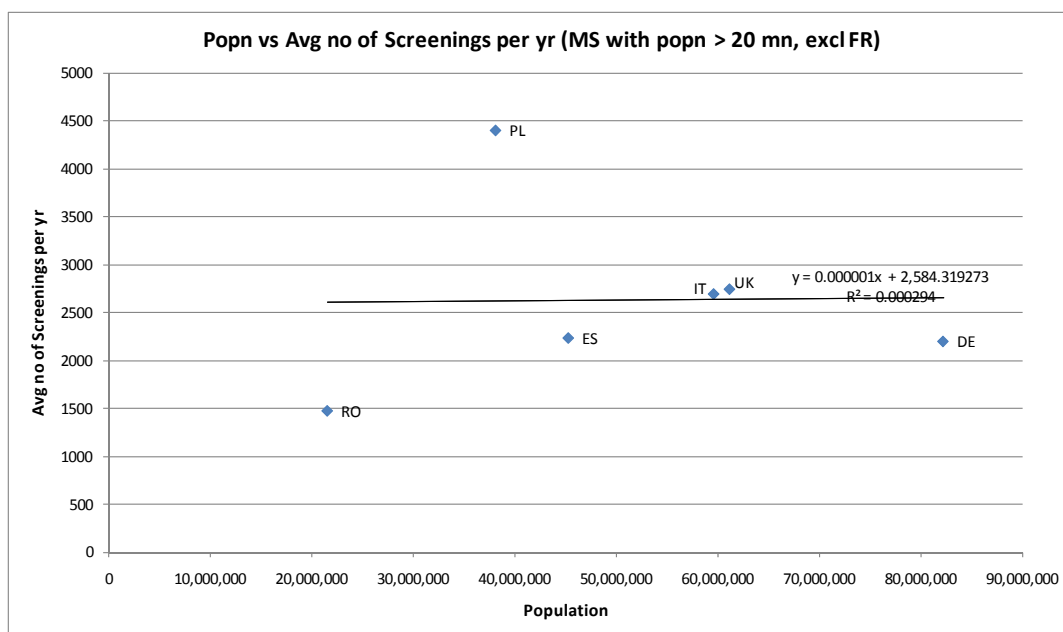
Source: Data estimated from Figure 1-4

Figure 1.6b: Estimated Number of Screenings for MS with Population Less than 20 million (excluding outliers)



Source: Data estimated from Figure 1-4

Figure 1.6c: Estimated Number of Screenings for MS with Population More Than 20 million



Source: Data estimated from Figure 1-4

Comparing Development Patterns across Member States

'Development paths' can be used as a means of estimating which types of development are most likely to be subject to EIA within a particular Member State. For example, sectoral breakdown data for Finland could in theory be applied to other countries which share a similar development path to it.

The Nordregio report²⁶ grouped the Member States into one of six 'development paths', based on an examination of the strategic priorities and budgets of regional policy programmes. These are summarised in the table below, and those Member States for which sectoral breakdowns of EIAs were provided are highlighted.

Table 1-1 Country groupings by development path

Development path and characteristics	MS	MS which have provided information	% of EIAs by development type		
			Infra	Devt	Other
Innovation, RTD and entrepreneurship – relatively small countries with less regional disparities, significant domestic programmes and above average GDP per capita	IE, DK, LU, part of NL				
Regional challenge and potential – regionally diverse countries, with large domestic programmes and above average GDP per capita	BE, part of NL, SE, FI, AT (part), DE	BE	24	49	27
		FI	67	5	28
		AT	22	44	34
		Average	38	33	30
Economic and environment synergies – larger, territorially diverse countries with large domestic programmes and around average GDP per capita	FR, UK, IT, ES, part AT	FR	20	42	38
		AT	22	44	34
		Average	21	43	36
Growth and jobs – well-developed cohesion countries with strong capital regions and slightly below average GDP per capita	GR, PT, HU, CZ, SL, MT, CY	HU	48	18	34
		CZ	38	25	37
		CY	47	33	20
		GR	80	10	10
		Average	53	22	25
Human and institutional capacity – small central EU-12 countries with below average GDP per capita	EE, LV, LT	LV	53	11	36
Territorial cohesion – larger diverse, more polycentric countries with well below average GDP per capita, using infrastructure to bridge urban/rural gap	PL, RO, BG, SK	SK	37	44	19

As an alternative approach to estimating the percentage of EIAs by development type for non-respondent MS, and to enable estimates for all MS, we have instead grouped MS according to GDP per capita, assuming this can be used as an indicator of the likely development state of each country and hence the nature of EIAs. However, although it allows an estimate for each MS, we would consider this method to be less reliable than the

²⁶Nordregio (2009), 'The Potential for Regional Policy Instruments, 2007-2013, to contribute to the Lisbon and Göteborg objectives for growth, jobs and sustainable development'

previous method which has taken deeper account of the similarities between MS in their relative economic state and policy responses.

Table 1-2 Country groupings by GDP per capita

Range of GDP per capita (in PPS, €)	MS ²⁷	% of EIAs by development type		
		Infra	Devt	Other
10,000 – 15,000	BG			
	<u>LV</u>	53	11	36
	PL			
	<u>Average</u>	53	11	36
15,000-20,000	EE			
	<u>HU</u>	48	13	34
	LT			
	<u>MT</u>	39	33	28
	PT			
	<u>SK</u>	37	44	19
	<u>Average</u>	41	32	27
20,000-25,000	<u>CY</u>	47	33	20
	<u>CZ</u>	38	25	37
	<u>GR</u>	80	10	10
	SI			
	<u>Average</u>	55	23	22
25,000-30,000	<u>BE</u>	24	49	27
	DE			
	ES			
	<u>FI</u>	67	5	28
	<u>FR</u>	20	42	38
	IT			
	UK			
	<u>Average</u>	37	32	31
30,000-35,000	<u>AT</u>	22	44	34
	DK			
	IE			
	LU			
	NL			
	SE	22	44	34
	<u>Average</u>			

²⁷ Underlined Member States represent those MS which have provided a sectoral breakdown of EIA numbers

Table 1-3 Sectoral breakdown of EIAs by MS: averages obtained from country groupings (based on GDP per capita, in PPS)

MS	% of EIAs – <i>Infrastructure</i>	% of EIAs – <i>Development</i>	% of EIAs - <i>Other</i>
AT	22	44	34
BE	24	49	27
BG	53	11	36
CY	47	33	20
CZ	38	25	37
DE	37	32	31
DK	22	44	34
EE	41	32	27
ES	37	32	31
FI	67	5	28
FR	20	42	38
GR	80	10	10
HU	48	18	34
IE	22	44	34
IT	37	32	31
LT	41	32	27
LU	22	44	34
LV	53	11	36
MT	39	33	28
NL	22	44	34
PL	53	11	36
PT	41	32	27
RO	53	11	36
SE	22	44	34
SI	53	23	22

SK	37	44	19
UK	37	32	31

Figure 1-4: Comparison of estimates generated by the different groupings (development path v. GDP per capita) for sectoral breakdown of EIA – infrastructure projects only

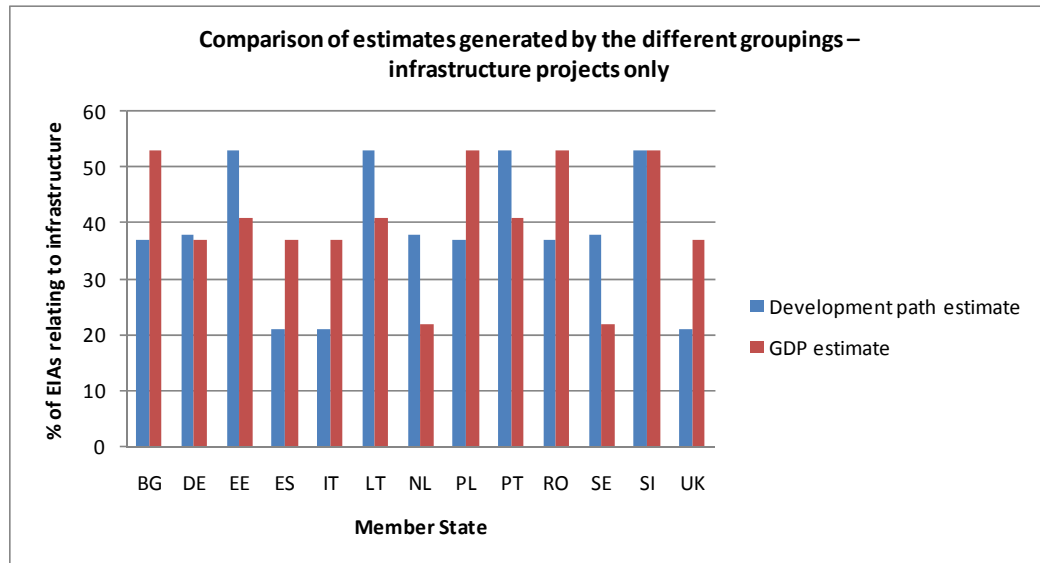
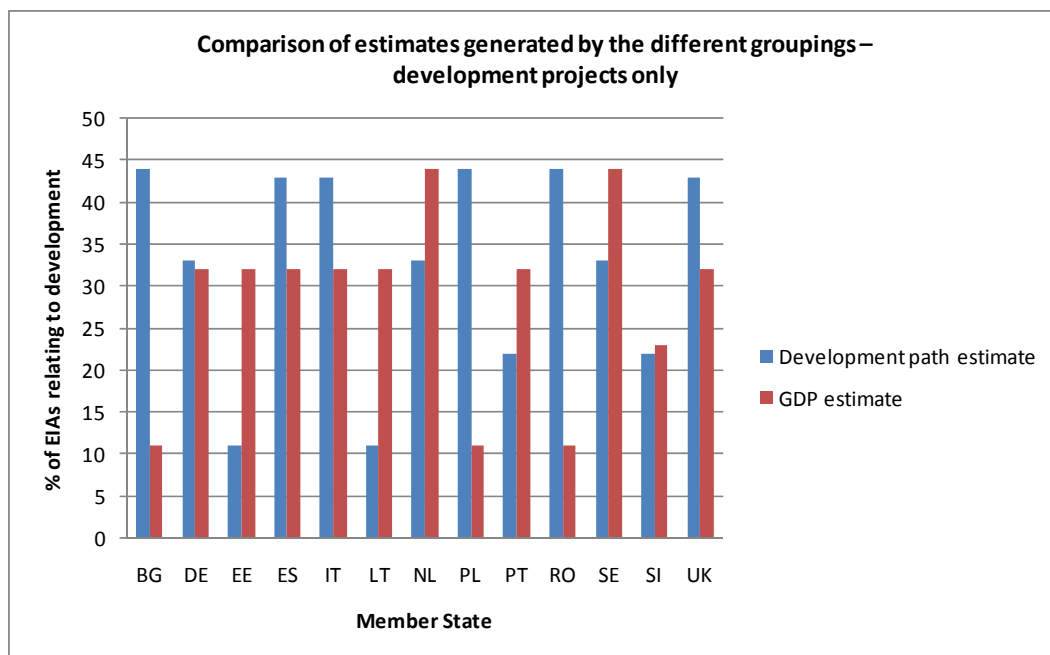


Figure 1-5: Comparison of estimates generated by the different groupings (development path v. GDP per capita) for sectoral breakdown of EIA – development projects only



ANNEX 3: DIFFERENCES IN TRANSPOSITION OF THE EIA DIRECTIVE – SCREENING

Screening is one of the earliest steps of every EIA process and is used to determine if a certain project must be subject to EIA. It is therefore seen as a 'critical decision stage'. Currently, there are wide variations between Member States in the criteria for screening, for example in setting the specific threshold values for Annex II projects, and such 'inhomogeneous screening approaches' are significantly likely to impact on achieving an EU-wide consistent coverage of all project types which could have potentially adverse effects on the environment.

The table below presents a classification of Member States according to the screening method undertaken and the number of distinct EIA procedures. It indicates that the majority of MS are applying a combination of screening tools, where case-by-case analysis is applied to projects that:

- fall below mandatory thresholds
- lie between inclusion and exclusion thresholds/criteria
- are included in the descriptive lists

Only Sweden and Finland apply case-by-case examinations to particular project types that are not listed in project lists similar to Annex II of the EIA Directive.

	Screening procedure			
	Lists of projects (e.g. positive lists with thresholds above which EIA necessary or negative lists that exempt projects from EIA)		Combination of lists and case-by-case analysis	
	1 list	≥ 2 lists	List(s) and listed case by case analysis	List(s) and not listed case by case analysis
1 type of EIA procedure	BL (Walloon)	SI	BL (Flanders/Brussels) DK (more Annex II subj to EIA) EE IE LT LU UK	SE FI
2 or more types of EIA procedure (e.g. evaluation according to set of predefined criteria or case-by-case exam in form of simplified EIA procedure)		FR MT PT	AT CY CZ DE GR HU (case-by-case in form of simplified/preliminary EIA) IT LV NL PL SK ES	

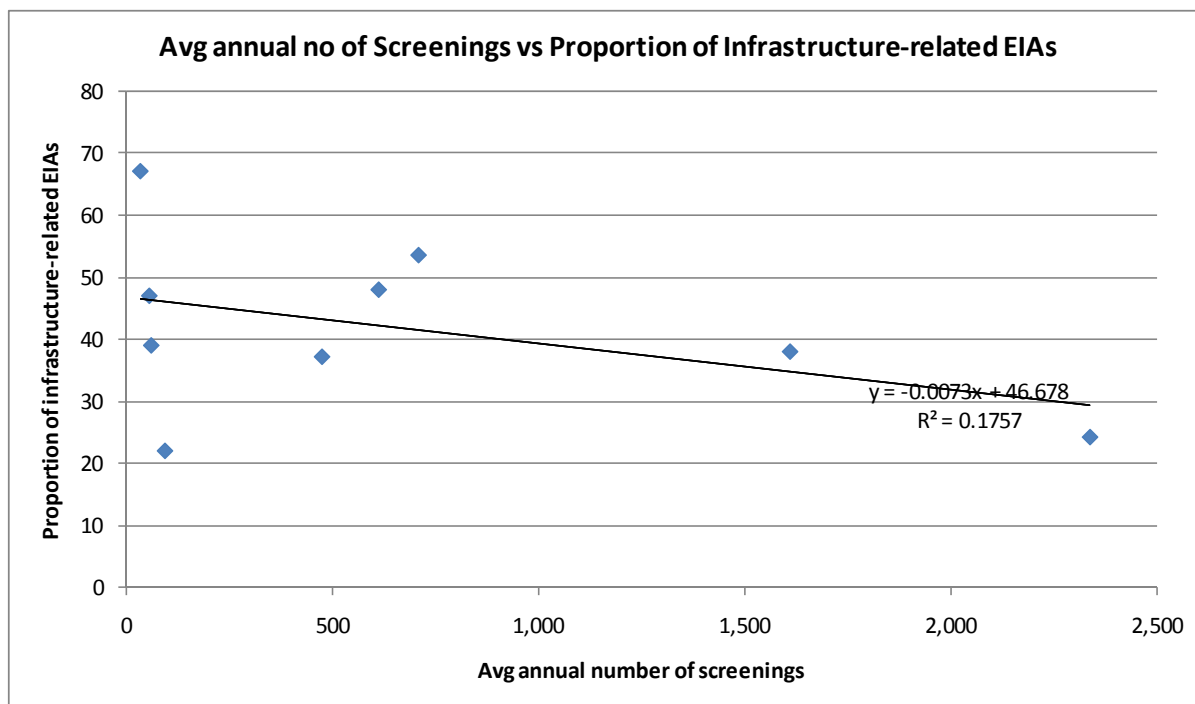
The following table provides more detailed information on the transposition of the screening procedure in Member States where a large proportion of EIAs undertaken are infrastructure projects (over 40%).

MS	Avg. number of screenings per yr	Avg. share of screenings requiring EIAs per yr	MS transposition of the screening procedure within the EIA system ²⁸	Percentage of EIAs which are infrastructure-based projects
CY	58	90	<p>Projects are classified into two categories: those requiring an EIA study and those requiring a preliminary EIA study (preliminary report of the impact on the environment) (Annex I and Annex II of the Law respectively). This suggests that all Annex II projects are still subject to a 'simplified EIA procedure' of some sort.</p> <p>High % of infrastructure projects subject to EIA suggests high number of Annex I projects. However, 90% of all screenings result in EIA which suggests high number of Annex II projects likely to have detrimental impacts on environment (following case-by-case exam)</p>	47%
FI	36	43	<p>The Finnish EIA law applies to all projects that may be expected to have considerable negative environmental impacts. The EIA Degree was amended (458/2006) so that any change or extension to a project where such a change or extension itself meets the thresholds in Annex I is considered an EIA project. The related EIA Decree explicitly lists the types of projects that must always be subjected to EIAs, such as motorways, airports, large harbours, and major poultry and pig-farming facilities (latter two are Annex II projects in Directive – hence some degree of goldplating). Some of the thresholds provided by the Finnish legislation are lower than those prescribed by the Directive and existing thresholds could be lowered further still.</p>	67%
HU	613	15	<p>Hungarian EIA lists are very long; Annex 1 (an Annex I type list) contains 57 items, while Annex 3 (an Annex II type list) of the Hungarian EIA Decree contains 144 items that ensures the environmental control of a wide range of activities. This suggests a high level of goldplating in comparison with approximately 84 items in Annex II of the EIA Directive and about 10-15 in Annex I.</p>	48%
LV	710	2	<p>In Latvia screening is made through the use of positive lists with thresholds and case-by-case examinations. Similarly to the EIA Directive, there are two lists. Projects from the first list are subject</p>	53%

²⁸ Must be noted that these descriptions of national transposition are derived from the EC reports on legal and administrative frameworks in each Member State (2009) and are not deemed as particularly accurate by all the MS (e.g. FI and LV) according to responses to the GHK questionnaire. In these cases, information on the screening procedure has been obtained from the IMP3 paper funded under FP6, "Improving the Implementation of Environmental Impact Assessment funded by the Community's Sixth Framework Programme"

			<p>to mandatory EIA when reaching or above specified thresholds. Below the threshold value indicated in Annex 1, a screening shall be done using screening criteria mentioned in the Article 11 of EIA Act. For projects with no identified threshold value EIA is always mandatory.</p> <p>Project types from the second list (Annex 2) above specified threshold values are subject to an Initial Assessment (case-by-case screening procedure) in order to determine the need for EIA. This initial assessment lies in the Regional Environmental Boards' responsibility but the final EIA decision is made by the State Environmental Bureau upon the results of the preliminary assessment. For those Annex 2 projects for which no threshold value has been enacted, screening shall always be made.</p> <p>In the Latvian Annex 2 project list, additional project categories have been added and threshold values are identified for almost all project categories. There is also the possibility for assessing not listed project types on a case-by-case basis, whenever likely to have significant impacts on the environment. In this case, the same initial assessment procedure is applied. A developer may always consult the local regional environmental board and ask its opinion on whether an initial assessment might be necessary for a project not falling under any of Annex 1 or Annex 2 project categories.</p>	
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The data provided by certain MS on the number of screenings undertaken each year and the percentage of EIAs which are infrastructure projects has been analysed to establish whether MS with a high proportion of infrastructure projects tend to exhibit more Annex I projects and therefore a lower number of screenings. As is visible in the graph below, the correlation between the proportion of infrastructure-centric EIAs and average annual screening numbers (in case of nine MS for which both data points are available) is very weakly negative, with an inconclusive R-squared estimate of about 0.18. This suggests that a higher number of screenings does not imply that an MS undertakes a lower proportion of EIAs focussed on infrastructural concerns.



The graph and information above suggest a number of conclusions:

- MS with high proportions of infrastructure-based EIAs do not necessarily have a low number of screenings. Furthermore, it is not possible to determine what proportion of EIAs are Annex I projects (and Annex II) based on the information provided to us.
- In several cases, MS have a high number of screenings because of the way in which they have transposed the screening procedures and applied the EIA Directive Annexes. For example, Hungary has a high number of screenings because it has added a significantly higher number of additional categories to its national application of both Annex I and Annex II, which results in the higher number of screenings. Another example is Spain, where the high number of EIAs is likely to be due to the requirement for a significant proportion of Annex II projects to undergo a simplified EIA procedure. In Spain, as in other MS (e.g. CY and PL²⁹), the stricter transposition – through longer lists and lower thresholds – is likely to account for the larger numbers of EIAs.
- The variation in the number of EIAs across Member States is likely to reflect the nature of the EIA systems as transposed by the MS. Some MS have utilised the flexibility provided by the Directive to add a number of project categories to their transposition of Annex I and Annex II, and have applied significantly lowered thresholds (particularly in national versions of Annex II).
- It is possible to categorise MS according to the manner in which they have transposed the EIA Directive (as far as screening³⁰ is concerned). This has to some degree already been done by the 2010 report³⁰. This could in theory serve as an additional parameter in estimating the number of EIAs for those MS for which no data has been submitted. However, we would require data on a number of factors in order to establish such parameters, such as:
 - The number of Annex II projects subject to simplified / preliminary EIA procedures as a proportion of the total number of Annex II projects

²⁹ <http://www.scribd.com/doc/3039892/IMP3-Project-aspects-of-EIA-WP4-projects>

³⁰ Pinho, McCallum, Cruz (2010), "A critical appraisal of EIA screening practice in EU Member States", Impact Assessment and Project Appraisal, 28(2), June 2010 p91-107

- The number of additional categories added by MS to their national versions of Annex I and Annex II and any thresholds imposed within those categories
- The proportion of Annex II projects requiring case-by-case examinations

ANNEX 4: TOPIC GUIDES FOR CASE STUDIES

CASE STUDY RESEARCH (CA)

Background to the case study

Project Name

Brief description of project (Location (including any site relevant details), Type, Scale, Investment Cost (euro))

Project implementation phase (planning permission received, work on site commenced, construction completed, project operational)

Brief description of the main environmental impacts, and their mitigation

Costs of the EIA process

1. *What was the person-hours required by the competent authority to manage the following activities:*
 - a. *Preliminary studies*
 - b. *Screening*
 - c. *Scoping*
 - d. *Public participation*
 - e. *Environmental studies (e.g. EIS)*
 - f. *Review and decision making*
 - g. *Total time*
2. *Was the EIA conducted to acceptable standards? If not what were the main shortfalls and what changes / improvements were required? Would this have increased developer costs?*

Duration of the EIA procedures

3. *Was it obvious that the project would require an EIA? Was the project screened?*
4. *How long did the project take to complete the EIA procedure from request for screening opinion or (if no opinion) from initial developer discussions (months)?*
5. *How much further time (if any) was required for development consent (months)?*
6. *Has the EIA added to the length of time taken to secure development consent compared to if no EIA had been required?*

- a. *If yes – by how much (months)*
 - b. *If yes – what steps / issues contributed most to the overall delays*
7. *Has the need to secure other consents such as IPPC/Habitats/Water Framework Directive caused delays in the EIA procedure? If yes, explain how significant this was and why.*
8. *Do you think that a significant time saving could have been achieved if you had planned or undertaken activities differently, and if so, what were these? Would you apply these changes in the future?*
9. *Do you have any knowledge of delays in the EIA procedure? If so, what is their origin and what are the likely financial costs to the developer? If so what do you estimate these to be?*
10. *Were any significant changes to the original planned duration because of changes in your requirements (and not because of any shortfalls by the developer), if so, did this affect the duration of the EIA procedure and by how much? (Please estimate in months)*
11. *Were any significant changes to the original planned duration because of shortfalls by the developer in submitting timely submissions and/or submissions of the appropriate quality)? If so, did this how did this affect the duration of the EIA procedure? (Please estimate in months)*
12. *Who undertook this particular EIS?*
 - a. *In-house*
 - b. *Consultancy services*
 - c. *Universities*
 - d. *Technical research institutes*
13. *Was the development application approved?*
 - a. *If not was this due to the environmental impact - explain*
 - b. *If not was it due to a legal challenge relating to the EIA process – explain*
 - c. *If not was the decision appealed - and what was the outcome?*

Benefits of the EIA process for the environment and for employment

14. *Did the EIA identify alternative project designs/locations as a result of the EIA which were subsequently adopted?*
15. *Were these measures required for mitigation to address the adverse environmental effects of development, or voluntarily adopted by the developer?*
16. *What were the environmental benefits of the EIA process? Please describe compared to the changes required / adopted compared to the original development proposal? Can they be quantified? If so please provide relevant details (eg acres of planting)*
17. *If there were no environmental benefits as a result of the EIA process, why do you think this was the case (e.g. very well designed proposal)?*
18. *Is it rare that EIAs fail to provide environmental benefits?*

19. *Did the EIA require changes that would have increased / reduced the viability of the project to the developer? If yes, please explain*
20. *Did the EIA require changes that would have increased / reduced the economic benefits and employment from the development? If yes, please explain and quantify if possible*

CASE STUDY RESEARCH (DEVELOPER)

Background to the case study

Project Name

Brief description of project (Location (including any site relevant details), Type, Scale, Investment Cost (euro))

Project implementation phase (planning permission received, work on site commenced, construction completed, project operational)

Brief description of the main environmental impacts, and their mitigation

Costs of the EIA process

1. *What was the direct cost to you of the EIA process (separate from the wider process of gaining development consent):*
 - a. *Costs of commissioned consultants (estimate in euro)*
 - b. *Costs of staff time (please estimate time and related value in euro)*
2. *Have you previously submitted development proposals that required an EIA?*
3. *Was this cost broadly in line with your expectations? If not were costs higher / lower than expected, if so why?*
4. *Please provide an indicative breakdown of the share of the costs for the following activities:*
 - a. *Preliminary studies*
 - b. *Screening*
 - c. *Scoping*
 - d. *Public participation*
 - e. *Environmental studies (e.g. EIS)*
 - f. *Review and decision making*
5. *Did the CA require changes to the EIA process once it had started? If so, were these expected, (explain) Did it add to the cost? If so how much? Is this included in Q1?*
6. *Did the CA consider the EIA activities to be of adequate quality? If no what were the deficiencies? Did you incur additional costs in meeting CA quality requirements? Is this included in the Q1? if not please itemise*

Duration of the EIA procedures

7. *Was it obvious that the project would require an EIA? Was the project screened?*

8. *How long did the project take to complete the EIA procedure from request for screening opinion or (if no opinion) from initial developer discussions (months)?*
9. *How much further time (if any) was required for development consent (months)?*
10. *Has the EIA added to the length of time taken to secure development consent compared to if no EIA had been required?*
 - a. *If yes – by how much (months)*
 - b. *If yes – what steps / issues contributed most to the overall delays*
11. *Has the EIA process remained in line with*
 - a. *Your original expectations*
 - b. *The original timetable (if different)*
12. *If there was a delay what were the main reasons? Please explain*
13. *Has the need to secure other consents (not planning) such as IPPC/Habitats/Water Framework Directive caused delays in the EIA process? If yes, explain how significant this was and why.*
14. *Do you think that a significant time saving could have been achieved if you and the CA had planned or undertaken activities differently, and if so, what were these? Would you apply these changes in the future?*
15. *What have been the financial costs (if any) of the delays? (eg higher borrowing costs, additional staff time)*
16. *Who undertook this particular EIS?*
 - a. *In-house*
 - b. *Consultancy services*
 - c. *Universities*
 - d. *Technical research institutes*
17. *Is this usual? If not where do you normally source EIAs?*
 - a. *In-house*
 - b. *Consultancy services*
 - c. *Universities*
 - d. *Technical research institutes*
18. *What factors influence choice of source for an EIS (e.g. lack of in-house expertise, time, cost-saving, risk of legal challenge?)*
19. *Did you undertake an internal review of the EIS prior to submitting it to the competent authority to check that the key environmental issues have been identified?*
20. *Was the development application approved?*
 - a. *If not was this due to the environmental impact - explain*
 - b. *If not was it due to a legal challenge relating to the EIA process – explain*
 - c. *If not was the decision appealed - and what was the outcome?*

Benefits of the EIA process for the environment and for employment

21. *Did the EIA identify alternative project designs/locations as a result of the EIA which were subsequently adopted?*

22. *Were these measures required for mitigation to address the adverse environmental effects of development, or voluntarily adopted?*
23. *What were the environmental benefits of the EIA process? Please describe compared to the changes required / adopted compared to the original development proposal? Can they be quantified? If so please provide relevant details (eg acres of planting)*
24. *If there were no environmental benefits as a result of the EIA process, why do you think this was the case (e.g. very well designed Annex 1 proposal)?*
25. *Is it rare that EIAs fail to provide environmental benefits?*
26. *Did the EIA require changes that increased / reduced the viability of the project to the developer? If yes, please explain*
27. *Did the EIA require changes that increased / reduced the economic benefits and employment from the development? If yes, please explain and quantify if possible*

ANNEX 6: CASE STUDY DETAILS

Case Study 1: Tessenderlo Chemistry - Flanders Region, Belgium

Name of project	Tessenderlo Chemistry, Flanders Region, Belgium
Brief description of project	<p>The EIA in this case study relates to the 'repermitting', or renewal of environmental permits, for three plants producing chemical products, owned by the Tessenderlo Group, an international industrial chemicals company with over 8,000 employees in 20 countries. The need for EIA was triggered by the fact that the environmental permits for the factories were in need of renewal (this renewal is required every 20 years, and a large proportion of environmental permits in Flanders are up for renewal in 2010-2011).</p> <p>Two of the factories – used for the production of VCM (vinyl chloride monomer and the basis of PVC), sodium hydroxide, potassium hydroxide and toluene derivatives are based in Tessenderlo. The other factory – used for the production of potassium sulphate (for fertiliser) and calcium phosphate (used in animal nutrition), is based in Ham, nearby.</p> <p>Given that this is a repermitting procedure, there is no proposed project development as such. However, wastewater discharge from all three factories has historically been considered to be a major environmental issue due to the high saltwater content of the effluent and its discharge into a relatively small water course. The competent authority therefore requested that the developer design options for reducing the saltwater content of the discharge. These options included the installation of a 25km pipeline to redirect the discharge of the saltwater to a larger river, which had a potential investment cost of €25m³¹.</p> <p>In Flanders, all Annex II developments which exceed the stated thresholds are subject to EIA, unless exemption from EIA can be proven by the proponent. The three factories all exceeded the thresholds for chemical industry (250,000 tonnes of inorganic chemicals produced per annum and 100,000 tonnes of organic chemicals produced per annum), meaning that an EIA would be required for each factory.</p>
Developer and Consultancy Experience with EIA	The proponent (Tessenderlo Group) had not had extensive experience with EIAs of this complexity. They commissioned Sertius, an environmental consultancy with whom they had a long-established working relationship, to undertake the coordination of the EIA. In Flanders, only environmental consultants who are authorised by the competent authority ³² are permitted to undertake EIAs.
Competent Authority (and any statutory consultees involved e.g. nature conservation organisations)	The competent authority, Dienst Mer (EIA Unit of the Flanders Ministry of Nature, Energy and the Environment), has had significant experience in dealing with EIAs. Approximately twenty other authorities (e.g. VMM – Flemish Water Institute, OVAM – Waste and Soil Institute, local authorities for Ham and Tessenderlo) were also required to be involved.
Quality of EIA and any issues encountered	The EIA was considered to be of a satisfactory quality in general. However, the first version of the final EIS was rejected by the competent authority, as the comparison of the two options was deemed to be 'insufficiently balanced'. This lengthened the duration of the EIA procedure by a further two months, as the proponent had to add further

³¹ This was estimated by the proponent at a cost of €1m per kilometre of pipeline installed

³² In Flanders, environmental consultants must obtain authorisation from the competent authority to undertake EIAs every five years

<p>by the competent authority and effect on costs to developer</p>	<p>information to the EIS before it was approved. The competent authority was of the view that this could have been avoided, as they had specified the scope of information required to the proponent and environmental consultants well in advance.</p> <p>Furthermore, the competent authority is also of the view that the preliminary impact study undertaken by the proponent did not lead to a sufficient number of alternative options transferred to the actual EIA process, despite 'clear signals' from competent authorities that more than one option was to be considered and studied. The competent authority has suggested that the duration of the EIA procedure could have been shortened significantly if the preliminary impact study had 'gone further'.</p>
<p>Duration</p>	<p>The EIA procedure in Flanders is a sequential procedure which must be approved of prior to applying for an environmental permit, which is a separate permitting procedure that is common to many development projects in Flanders. Unlike in other Member States, EIA is not 'intertwined' with the overall planning permission procedure.</p> <p>The EIA procedure was preceded by the submission of a 'notification file' by the proponent of their intention to draft an EIA, the reasons for it and the scope of the EIA. This notification is an official requirement and is made available to the public to comment on.</p> <p>The EIA procedure began in June 2006 (3 EIAs were undertaken separately – one for each factory) but submitted together. No screening was undertaken, as it was evident that the factories fell well within the thresholds for requiring an EIA (as well as the fact that repermitting made an EIA even more likely).</p> <p>The scoping note was then discussed with the competent authority, and the notification file, once checked by the competent authority (e.g. meeting legal requirements) was sent to approximately twenty authorities (see above). Following a meeting with these authorities, Dienst Mer drew up official, specific guidance to the proponent on the required contents of the EIS. This was received by the proponent in September 2006.</p> <p>The first draft of the EIS was submitted to the competent authority in February 2007 and once again, sent to all involved authorities for comments (Dienst Mer was mainly responsible for the coordination of these comments). The official version of the EIS was submitted to the competent authority in May 2007, adjusted in August and the proofed version was submitted in September 2007.</p> <p>The planning application was also subject to Appropriate Assessment (as the proposed pipeline installation – one of the options for mitigating the saltwater discharge – was likely to impact on some Natura 2000 sites). The AA was integrated into the EIA and was included as a separate Annex. The proponent considered the AA to be a particularly onerous aspect of the repermitting procedure, due to the level of detail required by nature authorities). The repermitting procedure also was subject to IPPC consent, although the proponent is very familiar with IPPC compliance, and had already been engaging in best available technology 'BAT+' practices.</p> <p>The most onerous aspect of the EIA in the view of the proponent was the extension of the scope of the EIA by the competent authority. This involved assessing the impacts of an additional 'option' – namely the installation of a longer pipeline (approximately 40 kilometres in length) for discharging effluent further downstream. The proponent and environmental consultants were of the view that this extension of scope resulted in an 'unnecessarily burdensome level' of studies compared to projects of a similar nature, size and scale.</p> <p>The proponent has taken the decision to pursue a third option for reducing the saltwater content of its wastewater discharge, which was added to the EIA in May 2007. This involves a re-engineering process, and the ceasing of the production of calcium phosphate (which was a significant contributor to the high saltwater content) from 2014 onwards. It is estimated that this change in production will reduce the saltwater discharge</p>

	<p>by a factor of ten (from 25 to 2.5 tonnes of saltwater discharged per hour), resulting in improved chlorine concentrations, and a dramatic improvement in aquatic life. The re-engineering process is estimated to cost approximately €10m. The loss in market share from the ceasing of calcium phosphate production cannot be estimated.</p> <p>The estimated time spent by public administration on EIA as per Table 3-3 applies to the relevant officer in the competent authority. This does not include time spent by the other 20 or so authorities (2-3 person-days for preparation of EIA guidelines for each authority in scoping; 5 person-days for EIS) – about 174 days (maximum).</p> <p>The lead consultant (responsible for coordinating the EIA) estimated that 80% of his working hours over a 5-6 month period was spent on the compilation of the EIS. This stage formed the bulk of the time spent on the procedure.</p> <p>In total, the EIA procedure is estimated to have involved 20-30 person-days of the competent authority officer's time.</p> <p>The total duration of the EIA is higher than in case of the average EIA (estimated to take 10-15 person-days of time), due to the complexity of the case.</p>
Environmental Impact Statement	<p>Sertius – the lead environmental consultants responsible for coordinating the EIA procedure – has a long-standing relationship with the Tessenderlo Group and has undertaken a number of EIAs for the proponent in the past. Sertius was responsible for the compilation of the EIS, which was undertaken in collaboration with several sub-consultants.</p>
Lessons learned	<p>In general, it has been suggested that earlier notification of the intention by the competent authority to extend the scope of the EIA may have reduced the overall duration of the EIA. The proponent is also of the view that the sequential nature of the EIA procedure in Flanders (i.e. EIA needs to be completed before the permit application can be submitted) is problematic and causes the overall permit process to be too lengthy (in this case 16 months for the EIA and 15 months for the permitting procedure totalled 31 months – two and half years). This procedure is too long from the point of view of the proponent and severely discourages project investment.</p> <p>The developer also highlighted that much of the work undertaken in the preliminary impact study appeared to have been repeated in the EIA, which was a duplication of effort and created additional burden.</p>
Benefits of this EIA for the environment and employment	<p>No particular employment benefits are associated with this EIA. The main environmental benefits relate to the enabling of detailed modelling and evaluation of impacts to be undertaken (in comparison to those projects not subject to EIA), the encouragement of proponents to take alternative options into consideration that would otherwise not have been considered, and the undertaking of mitigating actions earlier on in the project development procedure.</p>

Case Study 2: Solid Domestic Waste Holistic Processing Unit, Koshii – Cyprus

Name of project	Solid Domestic Waste Holistic Processing Unit, Koshii, Cyprus
Brief description of project	<p><u>Type:</u> The EIA in this case study relates to construction and operation of a holistic waste processing unit. It is the first of four such units planned for Cyprus, in its strategy to eliminate landfills. The unit receives domestic waste, recycling waste and green and organic waste (including from agriculture) which are processed into recycled material, compost or are buried in a hygienic waste deposit. The deposit has been built so as to be able to accommodate future plans for production of irrigation water through the process of reverse osmosis as well as biogas. It serves the districts of Larnaka and Ammochostos.</p> <p><u>Location/ Scale:</u> The plant is located 700m outside of the village of Koshii, in the Larnaka district. Its location was found favourable for the development of a waste processing site because it is not in a planning zone or an environmental protection zone, it does not affect neighbouring land uses or prices and it is easily accessible to receive waste for the districts it serves. The development is located on a site of 300 hectares.</p> <p><u>Investment cost:</u> The total cost of the construction phase was €46,178,000 and it was co-financed (66%) by the EU Structural Fund for Cyprus for the 2004-2006 programming round and 34% from Republic of Cyprus resources. The cost of the EIA was unknown.</p> <p><u>Project implementation:</u> The construction of the project was awarded to a consortium of three firms (Elector A.E, Elliniki Technodomiki TEB A.E and CYBARCO PLC) following an open competition. The contract awarded was a Design-Build-Operate type which means the construction companies are responsible for the operation of the project for 10 years. The project was complete in early 2010 and the waste processing unit has been operationally since the 1st April 2010.</p>
Developer and Consultancy Experience with EIA	<p>The developer (Solid Domestic Waste Services, Technical Services of the Ministry of the Interior) regularly undertakes EIAs as the public authority responsible for waste disposal and processing in Cyprus. This project forms part of a complete waste disposal strategy for the country: three other such plants will be constructed to cover the remaining regions of Nicosia, Limassol and Paphos / Polis, and which will also require EIAs. In addition, the Koshii site will be supported by two feeder sites (one has already been constructed and is operational) for which EIAs have been completed.</p> <p>The developer selected environmental consultancy, Enviroplan, in an open tender competition. Enviroplan is a very experienced deliverer of EIAs and EISs; the company is based in Greece and undertakes EIAs in Greece, Cyprus, Romania as well as other countries. The developer notes that there was considerable interest in the open competition for the EIA, with tenders received from consultancies from across the EU such as from Germany and Spain. Enviroplan was selected on the basis of quality and value for money.</p>
Competent Authority (and any statutory consultees involved e.g. nature conservation organisations)	Environmental Services, part of the Ministry of Agriculture, Natural Resources and the Environment, is the competent authority for EIAs in Cyprus. As such, it has considerable experience in reviewing EIAs.
Quality of EIA and any issues encountered	<p>The EIA procedure was not problematic for either the developer or the competent authority.</p> <p>Additionally, the EIA procedure is not considered to cause time delays in the overall context of such planning applications where major delays occur due to pressure from</p>

by the competent authority and effect on costs to developer	landowners (mainly) and political considerations.
Duration	<p>When the strategy was put in place to create the Waste Processing Unit, some initial thinking was undertaken internally to determine a site where the environmental impact would be minimal. This is common for waste disposal and processing sites – by their nature, they would not be located in an area of environmentally protected area or where they would cause pollution of the soil, water or air. Due to the large scale of the site, it was obvious that an EIA would be required and thus a formal screening procedure was not required. Additionally, it planned that the project would be seeking European Funds and the EIA was considered to be necessary for obtaining funding.</p> <p>The developer selected an environmental consultant through an open competition in 2004. The consultant undertook not only the EIS but a whole package of studies, namely a feasibility study, a technical study, a socioeconomic study and finally the EIS. This is procedure is undertaken by the developer before planning permission is obtained and before a contract for the construction is sought.</p> <p>As the EIS is part of this wider package of studies, the exact time required to undertake it could not be identified. An estimate of 3 to 4 months was given. However, the developer sees the entire package as necessary and standard practice and would not have commenced a project without it. The developer would have undertaken some sort of environmental assessment regardless of the EIA legislation. As such the EIS and EIA did not cause any additional costs or time delays to the project.</p> <p>Once the EIS was complete, an EIA was submitted to the competent authority. A public announcement about this was made in the press and the public (and local communities) were invited to consider the project and make any comments or objections in a period of 30 days. No objections were raised. The EIA was examined by the Committee for Assessing Environmental Impacts and it was found that no significant environmental objection could be made regarding the development. The committee proposed a series of planning conditions to the planning authorities, for consideration at the stage of planning decision.</p> <p>Although planning consent and a contractor were in place by 2006, work was delayed for approximately a year due to protests by local landowners. In this context, the EIA procedure is not considered to have any significant impact to the overall cost and duration of such projects.</p>
Environmental Impact Statement	Enviroplan, the environmental consultant, undertook the EIS. It was selected following an open tender competition on the basic of quality, experience and value for money.
Lessons learned	The EIA procedure was not problematic for either the developer or the competent authority. As such no particular aspects or area for improvement could be identified by the interviewees. The EIA procedure is not considered to cause time delays in the overall context of such planning applications where major delays occur due to pressure from landowners (mainly) and political considerations. The experience of the EIA for the Koshii site has been utilised for future EIAs, such as the two feeders sites in Skarinou and Ormideia – which were also undertaken by the same environmental consultant, Enviroplan.
Benefits of this EIA for the environment and	<p>No particular employment benefits are associated with this EIA.</p> <p>In terms of benefits to the environment, the EIA process allowed the Environmental Services Authority to propose planning conditions which would mitigate environmental costs both during the construction and operational phase of the project. For example,</p>

employment	conditions for this project, among others included: <ul style="list-style-type: none">• Measures to minimise waste, noise and pollution during the construction phase• Setting the outer boundary of the project site to be at least 200m away from the nearest Natura 2000 site boundary• Landscaping and planting of trees to the western site of the site, where it is nearer to the Natura 2000 site
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Case Study 3: High pressure gas pipeline - border of Germany/Czech Republic

Name of project	<p>High pressure gas pipeline (Diameter Nominal) 1400, Border Germany/Czech Republic – Hora Sv. Kateriny - Rozvadov – Border Czech Republic/Germany</p> <p>Commonly known as Project Gazela (Gazelle) – additional information can be found at http://www.net4gas.cz/en/projekt-gazela/</p>
Brief description of project	<p>Newly built high-pressure gas pipeline for natural gas transport and new or expanded servicing technology (transfer and compressor stations, interconnectors, sensors, valves). The project includes the laying of an optical telecommunications cable in the pipeline ridge.</p> <p>The pipeline will connect two German gas pipelines, Nord Stream and OPAL. In the Czech Republic, the pipeline will be 166km long, will cross 2 districts (regions) and 49 municipalities.</p> <p>According to NET4GAS – the gas Transmission System Operator (TSO) and project investor – the pipeline will cost EUR 400 million (information on the project website – in discussion with NET4GAS, the figure EUR 600 million was mentioned. The discrepancy is likely due to exchange rate fluctuations; media reports mention CZK 15 billion, from which the EUR figure is probably derived).</p> <p>Gas transmission and hence the TSO's revenues are regulated by the Energy Regulatory Office. The project investment is thus 100 percent privately funded by the developer, NET4GAS (RWE Group), but the regulator will have to agree to the investment to include the asset in the gas transmission fee.</p> <p>In the initial notification, the developer proposed three options corresponding to three different routes:</p> <ul style="list-style-type: none"> • A – 235 km (crossing 3 regions) – along existing pipelines • B – 166 km (crossing 2 regions) – along existing pipelines except for a short distance • C – 197 km (crossing 3 regions) – only partially along existing pipelines, majority newly built <p>The scoping process revealed that Route C failed on a number of environmental issues and the developer decided not to pursue it further in the EIS. Route B came out most favourably in the EIA and was recommended in the final opinion. Route A was also acceptable but Route B was selected by the developer in application for Phase 1 planning permission (see below).</p> <p>In the Czech Republic, the EIA precedes the planning permission process.</p> <p>The EIA was approved in September 2008.</p> <p>The planning permission happens in two phases. Phase 1 of the planning permission (zonal/land-area planning) confirms the pipeline as an approved project – the land that it is to be on as well as adjacent land cannot be built upon. This was granted in December 2009, appealed and granted again with minor modifications in August 2010. Phase 2 of the planning permission is the construction permit, and can be only applied for after Phase 1 is complete. The developer is currently applying for a construction permit.</p>
Developer and Consultancy Experience with EIA	<p>NET4GAS was formally RWE Transgas NET, a TSO and experienced developer of pipelines in the Czech Republic.</p> <p>The hired consultancy is authorised for EIS by the CA and well experienced.</p>
Competent	<p>The competent authority was the Ministry of the Environment. As per the relevant law, all</p>

Authority (and any statutory consultees involved e.g. nature conservation organisations)	municipalities involved are statutory consultees.
Quality of EIA and any issues encountered by the competent authority and effect on costs to developer	<p>The Study was carried out by an authorised and experienced company, resulting in a standard EIA process, using good quality input data. The developer selected the consultancy to ensure a smooth process. The CA commented favourably on EIS quality. Neither the competent authority nor the developer encountered any problems with the documentation.</p>
Duration	<p>The project was certain to require an EIA (this type of activity is legally required to conduct an EIA). There was no screening, the developer formally notified the CA of its intention to build (an 80-page document outlining the alternative routes and estimating environmental impact) and the CA forwarded the notification to all statutory consultees (local councils, environmental authorities), and began the scoping process.</p> <p>The EIA process (from notification, scoping, EIS, external opinion, 2 public proceedings and final opinion) took 14 months.</p> <p>The CA and developer agreed that the EIA process adds somewhat to the length of time it takes to secure development consent. Both agreed, however, that the EIA process corresponds with activities necessary to obtain both Phases 1 and 2 of the planning permission and a lot of the studies and consultation with municipalities would have had to take place anyway. EIA in the Czech Republic precedes the planning permission process and developers include time for EIA in their time plans.</p> <p>Habitats Directive is incorporated in the EIA process and other consents (e.g. exemptions from extra protection of specially protected species) are dealt with after the EIA process.</p> <p>Both the developer and the CA agreed there were no serious delays. The CA confirmed that the developer was very forthcoming and cooperative and the documentation was of high quality, heeding findings and recommendations delivered during scoping.</p> <p>The time in person-hours spent by public administration on the various stages of the EIA is detailed below (aggregated in Table 3-3):</p> <p>Environmental Studies – It is difficult to estimate the number of person hours associated with the compilation of the EIS. The EIS drew on information in the initial Notification and corresponded with other preparatory work. The developer has had 3 people working continuously on the project since 2006, with the initial documentation taking approximately 12 months to draft. The EIS took approximately 3 months to complete following scoping and the CA's recommendations.</p> <p>Review and Decision Making – The developer discussed frequently with the consultants and reviewed their work on an ongoing basis to ensure that the proposed alternatives and particular solutions were technically manageable and deliverable (e.g. when deciding how to build pipelines across rivers, whether by digging or pushing). This was also to increase the chances of a favourable decision – the developer could give an opinion on individual protection measures in advance (with both stricter and more lenient measures considered to offset chances of a favourable decision against increased costs).</p> <p>Scoping – The CA spent approximately 20 person-hours preparing a scoping opinion, highlighting areas that the EIS should address in detail. This does not include the time</p>

	<p>spent by local or other environmental authorities whose comments formed the basis of the scoping opinion.</p> <p>Environmental Studies - EIS was provided by the developer. The CA spent approximately 20 person hours checking that all was in compliance with legal requirements and that recommendations from scoping had been taken into account.</p> <p>Public Participation - Preparation and management of two public proceedings took approximately 32 person-hours. Time spent on reporting on the proceedings has been included in other categories.</p> <p>Review and Decision Making - The CA commissioned an external opinion, checked that it complies with legal requirements and sent it off (approx 16 hours). This was the basis for a formal decision, which took approximately 24 person hours to prepare.</p>
Environmental Impact Statement	<p>InvestProjekt NNC – an experienced EIA consulting firm, undertook the EIS. The company has worked with RWE Plynoprojekt (project architects) before and was trusted to deliver a high-quality EIS.</p> <p>InvestProjekt NNC was chosen in a tendering process out of 4 or 5 offers.</p> <p>Organisations doing EIS have to be authorised by the Ministry of the Environment. Generally speaking, Notification and EIS is commissioned by the developer and typically involves an authorised outside party (in this case InvestProjekt NNC). The CA then commissions an external opinion (again involving an authorised party) and finally decides.</p>
Lessons learned	<p>The process seems to have been managed well by both the developer and the CA. The EIS was of high quality and the developer ready to communicate with the CA and other stakeholders</p>
Benefits of this EIA for the environment and employment	<p>The EIA was instrumental in selecting the winning option – Route B presented the least adverse environmental impact and was selected by the developer when pursuing planning permission. The CA gave its consent subject to the developer complying with 58 measures that will limit both overall and Natura 2000 environmental impacts.</p> <p>The EIA did not consider any impact on employment or other social issues.</p>

Case Study 4: Wind farm in Kappel, Municipality of Lolland - Denmark

Name of project	Wind farm in Kappel, Municipality of Lolland (Denmark)
Brief description of project	<p>DONG Energy wishes to develop an existing onshore wind farm, located on the west coast of Lolland, into a test site for offshore turbines, replacing a total of 27 smaller mills with 7 larger ones. The project proposes to dismantle the existing mills, which have a height of 49,4m, and erect 4 mills of 160m (with 4-5 MW capacity), 2 mills of 175m (6 MW) and one of 200m (8 MW). In Denmark, EIAs are obligatory when erecting wind mills higher than 80m.</p> <p>The project is envisioned as forming part of the Lolland Municipality's future Wind Academy, a training centre for workers in renewable energy. The Wind Academy is a separate project but the wind mills are a prerequisite for its establishment and DONG Energy has committed to supporting the Academy if the wind farm receives planning permission.</p> <p>The site is situated between a coastal dike and a residential area comprising all-year residences and summerhouses. The area is already designated as a site for wind energy but the erection of larger mills means that regulations regarding minimum distance between mills and habitation as well as limits for shadow flicker and noise will be transgressed for up to 10 residences. DONG Energy proposes to acquire these properties and provide compensation for the current owners (voluntary sales agreements were agreed for the first EIS). Because of the height of the mills, they are also required to be marked with white flashing lights.</p> <p>The main environmental impacts arise from the noise and the flicker from the turbines as well as the light flashes. The cost of the development will be funded entirely by the developer. It is not possible to make an exact estimate of the resources dedicated to the EIA for Kappel Wind Farm but it is possible to approximate DONG Energy's standard budget for EIAs. This totals €227,000 (1.7 million DKK). It is expected that the EIA will constitute less than 1% of the total development cost; the overall project development cost can thus be estimated to be of a size approximating €227 million³³. This number includes only the second EIS. The breakdown of the €227,000 cost into the various stages of the EIA is provided below:</p> <p>Scoping – Similar to the preliminary studies most of the work was done prior to the commencement of the EIA or no scoping was needed.</p> <p>Environmental Studies – It is not possible to provide a breakdown of the person-hours spent on the EIA but DONG Energy states that the total cost of the EIA approximates the standard budget for EIAs. This is €130,000 for technical assessments (including hire of sub consultants).</p> <p>Review and Decision Making – DONG Energy spends approximately €63,000 on preparation of material, public consultations and engaging with the planning for an EIA.</p> <p>Other Costs – For this type of EIA delays and the cost of extra technical assessments post EIS is around €34,000.</p> <p>The EIA for this project is atypical as the EIS was conducted twice. The EIA procedure was initiated prior to the Municipal Reform of January 1st 2007 but due to political changes affecting the project the process was put on hold. The initial proposal, which suggested erecting nine mills instead of seven, was retracted and a new one was submitted after the reform with some modifications. The first EIS was discarded and a second one completed, in effect producing two assessments. Because the procedure was started anew and only one technical document was re-used the second submission</p>

³³ The interviewee would not provide information on the exact project investment cost

	<p>is considered a full EIA in its own right (the estimated cost of the EIA includes the second EIS only). The project was not subject to any other Directive.</p> <p>The second assessment commenced in April 2009 and the project was approved by the competent authority in June 2010. However, the local residents have objected to the development through the Agency for Environmental Complaints (Naturklagenævnet) and the project cannot proceed until a decision has been reached by the agency. This can take up to one year from the granting of planning permission.</p>
Developer and Consultancy Experience with EIA	DONG Energy has extensive experience with the EIA process – as an energy company many of DONG's projects require an EIA and the company has a team dedicated to dealing with EIAs.
Competent Authority (and any statutory consultees involved e.g. nature conservation organisations)	EIAs are processed either by the local municipality or, in certain cases, by one of three environmental centres (Miljøcenter) belonging to the Agency for Spatial and Environmental Planning under the Ministry of the Environment. This is the case for wind mills higher than 150m. Roskilde Miljøcenter undertook the EIA for Kappel Wind Farm and no statutory consultees were involved.
Quality of EIA and any issues encountered by the competent authority and effect on costs to developer	The EIA was considered of high quality by both the competent authority and the developer. Regulation of the development of wind farms has always been strict with stringent requirements for assessment of environmental impacts meaning that both authorities and developers have long-standing experience with environmental assessments for this type of project.
Duration	<p>DONG Energy and Lolland Municipality originally chose the site in collaboration as part of the development of the Wind Academy in Lolland. The municipality is the entry point for EIAs and has responsibility for referring development applications to the appropriate environment centre (Miljøcenter) which then screens the application and processes the EIA.</p> <p>Larger developments have to be approved and adopted into the district plan by the local municipality. If a project requires an EIA, a separate planning document (Kommuneplantillæg) has to be produced and passed in the municipality for the development to proceed. This follows a standard procedure (described below).</p> <p>The EIA process initially commenced in 2006 and DONG Energy produced an EIS but due to the changing political climate and the impending Municipal Reform the plan was put on hold. The process was re-initiated in April 2009 and proceeded in the following stages:</p> <ul style="list-style-type: none"> - April 2009: Announcement and notice to ideas and suggestions - July 2009: Suggestions for the planning document (Kommuneplantillæg) and EIA - February 2010: Summary report - May 2010: Publication of proposal for planning document (Kommuneplantillæg) <p>Following the publication of the Kommuneplantillæg the local residents referred the case to the agency for environmental complaints (Naturklagenævnet), which is currently processing the complaint. The development cannot proceed before Naturklagenævnet has confirmed Roskilde Miljøcenter's assessment that the development does not cause significant harm to the environment. This process can take up to one year. If Naturklagenævnet decides that there is sound basis for the complaint the relevant</p>

	<p>environmental issues have to be addressed before the project can proceed.</p> <p>The EIA for Kappel Wind Farm followed the standard procedure and no delays were encountered during process due to additional requirements on behalf of the competent authority or developer shortfalls. The developer felt that approval and publication of the final proposal for the planning document by the competent authority could have been quicker (this part of the process took three months) but if there was a slight delay at this final stage it was not associated with any cost to the developer. The competent authority pointed out that no further time savings could have been achieved due to the requirements of the planning system.</p> <p>Erection of wind mills of more than 80m requires adoption into the district plan. Had the development not been subject to an EIA, a technical report assessing the environmental impacts would still be solicited for the planning process. The content of this report would be similar to that of an EIA and the time required to obtain planning permission would be more or less the same.</p> <p>It was not possible for the competent authority to provide a breakdown of the person-hours dedicated to each stage of the EIA because these are were not clearly differentiated. However, the bulk of hours spent was in the later phase of the EIA because the procedure had been initiated for the first EIS and DONG Energy produced all the necessary technical material.</p>
Environmental Impact Statement	DONG Energy conducts all its EIS in-house. Some technical assessments for this project were contracted outside the company (related to risk analysis, noise assessments and landscape impacts).
Lessons learned	<p>Because wind farms tend to be surrounded by a degree of political controversy and many residents oppose having wind mills close to their properties, obtaining planning permission for this type of project is often lengthy. Indeed, local opposition to the project meant that various technical arguments against the development were raised and the process was felt to take longer than necessary on the part of the developer. However, neither the competent authority nor the developer could have shortened this aspect of the process and the timeliness of the EIA was considered satisfactory.</p> <p>Communication between the competent authority and the developer was considered to be very good on both sides and cooperation between the two was satisfactory throughout.</p>
Benefits of this EIA for the environment and employment	No direct employment benefit arose from this EIA and because wind farms are already subject to strict regulations, the environmental protection afforded by the EIS was likely to have occurred anyway. However, the competent authority acknowledges that in general the EIA process opens up for input from the public at large which might not have been included without it. Further to this, the developer mentions that the EIA procedure simplifies the process of environmental assessment and reduces the administrative burden of having to deal with different authorities for different aspects of the development application.

Prepared based on interviews with:

- *Gert Agger, Miljøcenter Roskilde, Roskilde, Denmark, 17 Aug 2010*
- *Tove Kjaer Hansen and Henrik Aagaard Jørgensen, DONG Energy, Denmark, 6 Sept 2010*

Case Study 5: Transmission line of 400 kV between Hévíz and Szombathely – Hungary

Name of project	Transmission line of 400 kV between Hévíz and Szombathely
Brief description of project	<p>The project established a high-voltage electric transmission line between Hévíz and Szombathely, in order to ensure a safer energy supply for the West Transdanubian region. The project ensures a two-way supply of the Szombathely station (another electric transmission line was established between Győr and Szombathely previously).</p> <p><u>Location:</u> Hévíz and Szombathely, Zala and Vas counties, Hungary</p> <p><u>Type:</u> electric transmission line</p> <p><u>The total project cost</u> was around 1 billion HUF (approx. €3.7 million), which was fully publicly funded. The project promoter is MAVIR, a state-owned company.</p> <p><u>The main environmental concern</u> is the impact of the project on the local landscape. The line mostly crosses agricultural land, and some 9% of the route crosses forests. It also goes through some Natura 2000 areas. The impact of the project on waters is negligible, as well as the impact of the construction works on the air quality. The expected negative impact on Natura 2000 areas is also considered negligible. One of the main concerns was to protect local bird species (although the high-voltage transmission lines are said to be less dangerous for birds than low-voltage ones).</p> <p><u>Ratio of EIA cost:</u> Cost to the developer of the EIA is estimated to be €79,500 or 2.1% of development cost.</p> <p><u>Project implementation:</u></p> <p>Preliminary feasibility planning started in December 2005, the Preliminary Investigation Document was prepared by October 2006, and this formed the basis of the request for EIA, which was submitted in November 2006 to the Competent Authority. The decision concerning the route of the transmission line was taken in December 2006.</p> <p>The EIA was prepared by August 2007. Environmental permission for the construction of the line in Zala county was granted in December 2007 (the decision became legally binding in February 2008); for the line in Vas county was granted in January 2008. After receiving the final permission the construction started in May 2008, and was completed by December 2009.</p>
Developer and Consultancy Experience with EIA	The developer is MAVIR (Hungarian Transmission System Operator Company Ltd.), who commissioned ETV Erőterv to do the planning of the transmission line, as well as the EIA and the relevant authorisation. The two organisations have worked together extensively before. ETV Erőterv has also strong experience in carrying out EIAs.
Competent Authority (and any statutory consultees involved e.g. nature conservation organisations)	West Transdanubian Inspectorate of ENW, Szombathely (one of ten inspectorates in Hungary)
Quality of EIA and any	The quality of the EIA was considered good. Other than some minor requests for missing information in the application (e.g. following the preliminary submission

issues encountered by the competent authority and effect on costs to developer	<p>of request), no particular weaknesses were identified by the CA.</p> <p>In order to bring in line the plans of the transmission line with the county-level land-use plans, it has been agreed that Vas county's plans will be modified. The costs of these were born by the developer.</p>
Duration	<p>The duration of the EIA process was some 14 months. (Note that the preparation of the preliminary studies that formed the basis of the EIA took some additional 10 months prior to the submission of application.) The developer handed in the application in November 2006, and the final permission was issued in January 2008. Within this period some 7 months was devoted for the preliminary phase (starting with the handing in of application by the developer, including the screening), 1 month for the official preparation of the EIS, and 6 months for the review and decision making process (from the submission of the EIS by the developer until the issuing of the consent by the CA).</p> <p>No other requirements for consent apply in the case of this project.</p> <p>The whole process took longer than planned mostly because of the consultations that were needed to overcome the incompatibilities between Zala county's land-use plan and the planned route of the transmission line. Some further delays were due to requests for submission of missing documents. Overall, these added some 2-3 months to the originally expected length of the process.</p> <p>The CA did not change its requirements during the process, and therefore no particular delay can be attributed to this factor.</p>
Environmental Impact Statement	<p>ETV Erőterv, an independent engineering company. ETV-ERŐTERV Co. is engaged with engineering and design tasks and services in relation to heat-energy and electricity generation, transmission, distribution and the efficient management of these tasks.</p> <p>The CA felt that ETV Erőterv was highly professional as far as planning and preparation of the EIA were concerned. They did the necessary preliminary measures with regard to the project preparation (e.g. consulted the relevant authorities in advance). The communication between the CA and the developer was smooth and cooperative.</p>
Lessons learned	<p>Most difficulties during the EIA process were related to an external parameter, i.e. the conflict between the concepts of the existing county-level land-use plans (designed at an earlier stage) and the environmentally feasible options of the transmission lines. The developer consulted environmental experts, organisations and authorities when designing the route of the transmission line. However, the final proposed route was not fully in line with those initially identified in the land-use plans.</p> <p>Overcoming such conflicts is difficult, and it is extremely complicated to modify land-use plans once they are approved. This resulted in the approval of a route for the transmission line (out the two options proposed by the developer in its application) that was in line with the land-use plans of the county, but was less environmentally friendly.</p> <p>Furthermore, according to the CA, the consultation process with the local competent authorities during the preliminary phase was sometimes problematic, because they did not fully understand the legal aspects of the process (i.e. that the EIA is not the process through which they can raise their economic concerns).</p> <p>Generally, the smooth flow of the EIA is due to the fact that the developer is very</p>

	experienced in the process. They were aware that it is important to carry out consultations with the relevant authorities at a very early stage, and submit a detailed planning document that takes into account environmental concerns.
Benefits of this EIA for the environment and employment	<p>The originally planned route of the transmission line was modified in both counties. This was voluntarily done by the developer (and not forced by the inspectorate).</p> <p>Generally, the EIA process provided incentives for the developer to prepare its project proposal in line with environmental concerns, and based on consultations with the relevant authorities. This led to a design of the line in accordance with environmental concerns. Measures include the minimisation of possible harm on local forests, rivers and streams (e.g. planting new forests), and the local landscape as much as possible; the protection of local birds and other protected species (e.g. setting up artificial nests), and taking extra care during construction in Natura 2000 areas.</p>

Prepared based on a review of relevant documentation interviews with:

- *Bencsics Attila & dr. Harkay Katalin, West Transdanubian Inspectorate for ENW (Competent Authority), Szombathely, Hungary, 26 Aug 2010*
- *Szendı Csaba, ETV Erőterv (Developer – Planning company also taking on EIA responsibilities), 27 Aug 2010. Note: Project promoter is MAVIR.*

Case Study 6: Mixed-use development in Former Dun Laoghaire Golf Club Lands - Ireland

Name of project	Mixed-use development in Former Dun Laoghaire Golf Club Lands
Brief description of project	<p><u>Location:</u> The mixed use development covers a total area of 33 hectares, over two sites. The development coincided with projected population increases for Dun Laoghaire, and increasing land values. The site occupies former golf club lands located centrally within the town of Dun Laoghaire, with the northern and southern sites being separated by a main road.</p> <p><u>Type and scale:</u></p> <p>For the purposes of planning applications, the sites have been divided into 3 different phases:</p> <ul style="list-style-type: none"> ▪ Southern Site Phase I – 856 residential units (626 apartments, 230 houses), a crèche, a Neighbourhood Centre (shopping centre and offices) and 5 public parks ▪ Northern Site Phase IIA – 605 residential units (577 apartments, 28 houses); a crèche, 5 public parks ▪ Northern Site Phase IIB – 384 residential units (245 apartments, 139 houses). <p><u>Project investment cost:</u> The project investment of €20m is entirely privately funded by the developer, Cosgrave Developments, a well-established, reputable developer.</p> <p><u>Ratio of EIA cost:</u> The total cost to the developer of undertaking the EIA for this development project is estimated to be linked to the commissioning of planning consultants (and sub-consultants dealing with aspects such as noise and traffic). In total, the cost of commissioning consultants to deal with the EIA procedure is estimated to be €474,000. This actual cost was in line with expected costs given the scale and complexity of the project proposal and its potential 'exposure' to legal challenge. The density of Phase I also had potentially significant impacts on traffic in the area, and the competent authority required the developer to take the cumulative impacts of Phase II on traffic into consideration as well. Given that the overall project investment cost is in the region of €20 million, this is equivalent to 2.4% of total project cost.</p> <p><u>Project implementation phase:</u> Phase I and Phase IIA have both had planning permission granted, with Phase I currently under construction. It is expected that construction in Phase IIA will not commence for another year. Permission for Phase IIB is likely to be granted by the County Council later this year (October 2010 estimated date).</p> <p>Phase I and Phase IIA were above the threshold for Annex II and were 'automatically' subject to EIS. Although Phase IIB was 'sub-threshold' and did not require a mandatory EIA, the planning consultants (RPS) strongly advised the developer to undertake a 'pre-emptive' EIS for this site, given the complexity and nature of the development and the planning application. The undertaking of the EIS would help to ensure the project application was more robust in the event of a legal challenge from any party.</p>
Developer and Consultancy Experience with EIA	Cosgrave has had significant experience in dealing with the EIA procedure, and has undertaken numerous projects in the past which have been subject to EIA.
Competent Authority (and any statutory	The competent authority, Dun Laoghaire Rathdown County Council, has had significant experience in dealing with EIAs. There were no statutory consultees involved.

consultees involved e.g. nature conservation organisations)	
Quality of EIA and any issues encountered by the competent authority and effect on costs to developer	The EIA was considered to be of a satisfactory quality, and no particular issues with it were encountered by either the competent authority or the developer.
Duration	<p>The competent authority has 8 weeks to decide on a planning application, of which the EIS forms part. The competent authority can decide upon one of three outcomes: grant, deny or require additional information, which is usually requested by other departments within the County Council (e.g. waste, water, traffic). Upon requesting additional information from the developer/planning consultants, the applicant has up to 6 months to provide a response to the request for additional information. Upon receiving the response, the competent authority has 4 weeks to review the information and come to a decision. This 4-week period is extended by an additional 4 weeks if the planning application is subject to an EIA.</p> <p>Neither Phase I nor Phase IIA were subject to screening, as they were above the threshold (Annex II) requiring an EIA. Phase IIB did not have a screening decision, as the developer 'pre-emptively' decided to undertake an EIA for this phase. No scoping was undertaken for any of the three phases, as the planning consultants were familiar with the content (and significant issues) that would be required for the EIS, and were of the opinion that undergoing an official scoping stage would only unnecessarily lengthen the entire application process.</p> <p>In terms of statutory requirements, the EIA procedure only adds to the length of time taken to secure development consent by 4 weeks (where the competent authority is entitled to an additional 4 weeks to review any response to their requests for additional information). However, the EIA procedure has a greater impact on the duration of a project application due to the length of time necessary to complete an EIS, which is estimated to be approximately 12 months. In the case of a project of similar size and scale which does not require an EIS, the duration of the project application is estimated to be halved.</p> <p>The planning application was not subject to requirements for other consents.</p> <p>Planning Application timelines for each of the Phases of the development are stated below:</p> <p><u>Phase I</u></p> <ul style="list-style-type: none"> • July 2006: Application lodged with Dun Laoghaire County Council • September 2007: decision to grant permission by Dun Laoghaire County Council • June 2008: decision to grant permission by An Bord Pleanala (Planning Appeals Board) <p><u>Phase IIA</u></p> <ul style="list-style-type: none"> • December 2008: Application lodged with Dun Laoghaire County Council • October 2009: decision to grant permission by Dun Laoghaire County Council • August 2010: decision to grant permission by An Bord Pleanala (appeals board) <p><u>Phase IIB</u></p>

	<ul style="list-style-type: none"> • December 2008: Application lodged with Dun Laoghaire County Council • October 2010 (estimate): decision to grant permission by Dun Laoghaire County Council • August 2011 (estimate): decision to grant permission by An Bord Pleanála (appeals board)
Environmental Impact Statement	RPS – the lead planning consultants responsible for coordinating the EIA procedure – has a long-standing relationship with Cosgrave and has undertaken a number of EIAs for the developer in the past. RPS was responsible for the compilation of the EIS, which was undertaken in collaboration with several sub-consultants.
Lessons learned	Although the developer submitted a comprehensive and lengthy EIS and had numerous, detailed conversations with the competent authority prior to submission of the EIS, a substantial amount of additional information was still requested by the competent authority. This may have been avoided by a pre-application joint meeting. Agreement at the scoping stage by the various heads of departments (in the competent authority) on what information they are likely to require could help to reduce additional information requirements in the future.
Benefits of this EIA for the environment and employment	No particular employment benefits are associated with this EIA. Any environmental benefits associated with this project design (e.g. creation of a wildlife corridor, provision of a bus service by the developer to link the site to the rail station to alleviate traffic) would most likely still have occurred in the absence of an EIA procedure, through the general assessment of environmental impacts associated with the planning application procedure, which in itself is a rigorous procedure. Therefore, although the EIS gives structure and allows the careful and comprehensive consideration of environmental impacts, it is likely that any changes/improvements to the project design would occur anyway, particularly if the competent authority has 'done its job well enough'.

Prepared based on interviews with:

- *Richard Cremins and Siobhan Stewart, Senior Planners, Dún Laoghaire-Rathdown County Council, Ireland, 18 Aug 2010*
- *Dianne McDonough, Planning Consultant, RPS Group, Dún Laoghaire, Ireland, 18 Aug 2010*

Case Study 7: Ferro-alloy plant – Latvia

Name of project	<i>Latvia - Ferro-alloy plant</i>
Brief description of project	<p><u>Location:</u> There were two locations for the site. One in the outskirts of the city of Jurmala (a popular beach resort in Latvia) in an abandoned factory site, the other in an industrial zone just outside the historical centre of Riga (capital of Latvia).</p> <p><u>Type/Scale:</u> In simple terms the previewed project was a proposed small iron foundry investing in special foundry methods to limit emissions by chemically trapping them in metal alloys. The cost of the investment necessary was estimated at around €5,000,000. The costs actually incurred were €90,000 or \$US120,000, privately funded.</p> <p><u>EIA cost:</u> The cost of the EIA was approximately €43,620 (inc VAT), which is around 0.88% of the development costs (€5,000,000).</p> <p>In this case, Annex 1 screening was not necessary, as it is clearly stated in the national law on EIA (Annex 1 (6) that this type of development activity requires EIA. If the project constitutes an Annex 2 project, screening is done by the regional environmental boards within 20 days. Presently the law determines that the CA has to provide an answer within 14 days.</p> <p>The EIA was completed, but the planning permission was not received. The nearby land owners were moderately against the project, but not sufficiently able to stop the project. The City council Jurmala examined the project on several occasions and were against it. Their main argument was that Jurmala as a resort city does not need heavy industry (this was despite the fact that the production scale was planned to be small and the location of the factory was planned on an abandoned factory site on land that was designated as industrial zone in the territorial planning). The main legal argument was that this particular industrial zone did not have a detailed development plan and decision on approval of any new industrial activity cannot be taken prior to that.</p> <p>According to the Environment State Bureau, the project was not implemented due to resistance from the nearby land owners who were against industrial activity in their neighbourhood. Based on this resistance, the City council of Jurmala took a decision that an additional detailed planning was necessary to take the decision, and with this the project development was stopped. Such additional planning procedure would demand extra costs from the developer and would take around one year without any guarantee that afterwards the approval would be received. Due to this, the developer decided to cease the project development.</p> <p>According to the developer and the environmental consultants, the members of Jurmala City Council did not get the financial incentives that were necessary to receive the development approval. The map in the EIA shows that the foundry would have occupied only a small part of an abandoned industrial area, and would have contributed to putting the site in order.</p>
Developer and Consultancy Experience with EIA	This was the first EIA the developer had undertaken. The environment consultancy hired by the developer undertakes EIAs regularly.
Competent Authority (and any statutory consultees involved e.g. nature conservation organisations)	The competent authority in this case was the Environment State Bureau at the national level (outside experts were involved to assess the information provided in the report – information about impacts on human health, air pollution, surface water and fish resources as well as information about technology), regional environment offices and state institutions and NGOs were consulted.

Quality of EIA and any issues encountered by the competent authority and effect on costs to developer	<p>According to the competent authority, the EIA was undertaken at a sufficient level, and the changes proposed were not significant. However the selection of locations made by the developer was unfortunate – one was hindered by the status of Jurmala as a resort area and opposition from nearby property owners and the other was too close to Riga's historical centre.</p> <p>The developer was satisfied with the cost and quality of the EIA. The developer described the consultant services as professional. According to the developer, some of the delays in the EIA were due to the lack of technical specialists in Latvia (the experts who could describe the technology were hired in Ukraine and Georgia), however as the developer paid a lump sum to consultants developing the EIA, this did not increase the cost of the EIA, only delayed its completion.</p>
Duration	<p>This particular EIA took 1.5 years to complete. According to the Environment State Bureau, the fastest EIA takes at least 6-8 months to be completed (half the duration approximately). However, this is if the developer works on it intensively and there are no internal or external (e.g. seasonal) obstacles. According to the consultants, the developer came to the Environment State Bureau on 11 October 2004 and received the final IA statement on 12 June 2006.</p> <p>Development consent was not received. During the process additional time was spent as elections took place as well as changes of political leadership within the City council. According to interviewees, the municipality of Jurmala representatives were waiting for financial stimulus that they did not receive. Theoretically financing and undertaking of a detailed planning for this industrial zone could lead to the approval of the project. This additional procedure would prolong the overall procedure for about one year.</p> <p>Other consents did not delay the EIA procedure as these are obtained only afterwards. The EIA actually helps in receiving further consents as it undertakes an initial review of these issues. The IPPC conditions and the latest reference document (BREF) are considered during EIA.</p> <p>There were no considerable delays due to requirements of the Environment State Bureau.</p> <p>The consultants indicated that the initial work programme for the development of EIS was 36 weeks (9 months). According to the consultants and the developer, additional time was spent in the beginning of the project on finding and receiving technology descriptions from specialists outside the EU. This was information that had to be compiled by the developer in consultations with technology experts before the environmental consultants could begin their work. The consultants received this information from the developer with a delay of 6 weeks. Additional clarifications on the cooling system were required by the Environment State Bureau after reviewing the draft EIA statement. These again had to be provided by the developers using outside technical experts, which caused the second delay.</p> <p>The developer noted that this was a rather small scale and “clean technology” project (as opposed to large foundries that channel their emissions into the air). Therefore, the developer argued that at present, the EIA legislation is not flexible enough to make a difference in either large or small scale projects. Annex 1 (6) of the present national legislation³⁴ states that EIA is necessary for extraction of metals, whatever the process.</p> <p>The person-hours spent by the competent authority is not precisely known for this EIA (the EIA was undertaken four years ago); however the length of time depends on the amount of work, its complexity and the location and can vary between several days to several weeks. If necessary, experts are invited to provide their opinions.</p> <p>Preparation of EIS is the task of the project developer. Environmental studies and the Draft EIS were elaborated within 6 months. The Final EIS was prepared in 1.5 months. These periods include also the time spent for finding and receiving technology descriptions from specialists outside the EU. The CA estimates that the shortest EIS are</p>

³⁴ [Par ietekmes uz vidi novērtējumu](#) (Law on the EIA)

	<p>undertaken within 2-3 month (if the Developer/Consultants work very intensively).</p> <p>According to the law, the CA presently has 45 days for the evaluation of draft statement and 30 days for the final EIS statement evaluation. From 1 January 2010, this will be reduced to 60 days for the whole EIS evaluation.</p> <p>The CA could not provide the concrete time that was spent on this EIA by the representatives of the CA (~ 1 month). Expert evaluations take 2-3 weeks within the time span of EIS evaluation time performed by CA.</p> <p>There were no extensions agreed during the EIA. The delays were primarily caused by the Developer experts.</p> <p>There is an estimated extension of 20 months in obtaining consent compared to situation where no EIA is required. There is no source of this data. The need for the EIA in this case delayed the possible project development by 20 months. This was confirmed by the Consultants.</p>
Environmental Impact Statement	<p>A consultancy undertook the EIS, due to the lack of in-house expertise. The businesses requiring EIAs are mostly new businesses, however even large and established state enterprises usually outsource EIAs. There is one notable exception in Latvia that undertakes its own EIA - the State Stock Company "Latvia's State Forests". This is due to the fact that the EIAs that they require are largely similar (mostly a new road crossing a forest). In rare cases, the undertaking of EIAs is shared between consultants and in-house specialists when there is a lack of specific expertise or specific tools required for undertaking EIAs (e.g. modelling software).</p>
Lessons learned	<p>From the consultant side, the project developer could have chosen more realistic locations and could have managed the technical experts' work more promptly (no considerable cost savings possible here).</p> <p>From the Environment State Bureau perspective, the EIA did what it was designed to do – improved and made more precise the locations (Riga location was dismissed as inappropriate by the consultants early on in the EIA process) and related technical solutions as well as offered solutions to diminish possible impacts on the environment.</p> <p>In 1 January 2011, a number of new clauses will come into force with the application of the revised law on EIA³⁵. These will define tighter and more specific deadlines for the regional environmental bureaux to undertake initial screening (20 days), the Environment State Bureau (competent authority - CA) approval of the initial screening (20 days), CA development of EIA programme (30 days), CA approval or comments on the draft and final statements (60 days) and 60 days for development approval. The revised law also simplifies the public consultation procedures and introduces specific deadlines for public consultation (30 days). It also introduces a new clause that says that the EIA programme developed by the CA is valid for five years. It is not known what effects these amendments will have on the costs of the EIA process, but they are expected to shorten the EIA development period.</p> <p>Finally, this particular EIA underlined the importance of the choice of acceptable locations for the future success of the project. It has to be noted that the EIA process was successfully finished for this development proposal, but its further development was halted by the responsible municipality who has the right to take the final decision (while the EIA character is merely recommendatory).</p>
Benefits of this EIA for the environment and employment	<p>In this case, the recommendations of the EIA did not bring any significant impact for the environment. The technologies were chosen from the start to ensure the required environmental protection. Minor adjustments and clarifications were made.</p>

³⁵ Future revision of the law (in Latvian only): http://www.likumi.lv/doc.php?id=51522&version_date=01.01.2011&from=off
Changes introduced to the law (in Latvian only): <http://www.likumi.lv/doc.php?id=212506>

Case Study 8: D1 Highway – Section Prešov západ – Prešov juh (Prešov West – Prešov – South) – Slovakia

Name of project	D1 Highway – Section Prešov západ – Prešov juh (Prešov West – Prešov – South), Slovakia
Brief description of project	<p>D1 is an important highway connecting a number of Slovak cities. This section bypasses the third largest city, Presov, and is to be built in a hilly and geologically unstable area. The highway connects the D1 at two ends, is 7900m long, of which 2375m is a tunnel.</p> <p>For the purposes of planning application, there were 3 options considered.</p> <ul style="list-style-type: none"> • 1 – 7409 m – overland option, with only 3 percent of its length through a tunnel • 2 – 7103 m – tunnel option, 2520 (35.5%) through a tunnel • 3 – 7141 m – modified tunnel option, 2350 m through a tunnel <p>Option 3 was recommended in the EIA and was selected by the developer to pursue planning permission.</p> <p>Investment costs are €376 million (excl. VAT), of which construction works should cost €335 million. The costs are borne by the National Highway Company, fully-owned by the Slovak Government.</p> <p>The EIA costs to the developer were €81,000, i.e. less than 0.1% of overall project costs.</p> <p>No screening was undertaken. EIA was legally required.</p> <p>The EIA was approved in 2002. The planning permission happens in two phases. Phase 1 (zonal/land-area planning) confirms the highway as an approved project – the land that it is to be built on and (if necessary) adjacent land cannot be built upon. This was granted in September 2009. Phase 2 is a construction permit and can be only applied for after Phase 1 is complete. The developer is currently in the process of selecting an organisation to prepare documentation for applying for a construction permit.</p>
Developer and Consultancy Experience with EIA	<p>NDS is in charge of developing Slovakia's highway infrastructure and as such is well experienced.</p> <p>The EIA was carried out by EKOPED Žilina, in cooperation with Regioplan Nitra, a small consultancy who specialises in EIAs and regional planning. Initial notification (including basic assessment of environmental impact) was based on a technical study developed by Dopravoprojekt a.s, an engineering consultancy with a long track-record of designing roads and highways in Slovakia and former Czechoslovakia. EKOPED was selected in a bidding process. The developer indicated that the cost of study was the main criteria in selecting a consultant.</p>
Competent Authority (and any statutory consultees involved e.g. nature conservation organisations)	<p>The competent authority was the Ministry of Environment, with significant experience in dealing with EIAs.</p> <p>Local municipalities affected have to make all documentation regarding the EIA process public and have the right to raise issues with the developer.</p> <p>The public was invited to comment on the project at a public consultation meeting.</p>
Quality of EIA and any issues encountered by the competent authority and	<p>The EIA was considered to be of a satisfactory quality, and no particular issues with it were encountered by either the competent authority or the developer.</p> <p>The developer remarked that extra costs are sometimes associated with projects that pass through Natura 2000 areas. Screening is typically carried out by the Office for the Protection of the Environment (Statna ochrana prirody SR) at a cost of approx €100. This</p>

effect on costs to developer	project was, however, approved before the Natura 2000 legislation was enacted (2004).
Duration	<p>The EIA process lasted approximately 3 years, from 1999 until mid 2002.</p> <p>The developer noted that each phase of the EIA process (Notification, EIS) typically lasts 6-12 months (sometimes more), depending on the results of project scoping (e.g. year-long biota monitoring).</p> <ul style="list-style-type: none"> • Technical study – project design: at least 6 months • Notification to the CA – 4 months • EIS – 5 months • Public consultation – 5 months • Formal review – 1 month <p>The EIA did not add to the time it took to receive development consent. The EIA has been approved since 2002 but it took until 2009 to secure land-area planning permission. Both are necessary to apply for construction permit – application to be submitted by the developer.</p> <p>There was no delay due to other consents or changes in requirements by the CA and hence no extra costs incurred.</p> <p>The CA representative was unable to specify the exact number of hours spent on the project. He spends approximately 20 – 30 hours (3-4 days) on each stage, assuming there are no issues with the documentation or the project (which seemed to have been the case). When they encounter issues, the number of person-hours can increase substantially in making sure there is no ambiguity in its interpretation. One highway project took 10 years to complete the EIA.</p>
Environmental Impact Statement	The EIS was carried out by EKOPED Zilina, a one-man consulting company in cooperation with Regioplan Nitra, a 3-4 person consultancy. Both companies focus on EIAs, regional planning and work with external consultants when expert opinion is necessary. EKOPED was selected in a public tender which complied with all legal requirements.
Lessons learned	The developer mentioned that the CA should give more weight to expert input during scoping and in their final opinion.
Benefits of this EIA for the environment and employment	<p>The EIA recommends 44 measures to avoid, minimise or compensate for environmental damage. Areas include:</p> <ul style="list-style-type: none"> - installing noise barriers - emission capture - closed drainage system - employing technology and construction methods to minimise soil erosion and risk of soil collapsing - fencing to keep animals away - timing of construction works to minimise impact on animals and other living species - waste management during construction <p>According to the CA, the developer was aware of most of the issues that had to be addressed; the EIA, however, served to further elaborate on measures necessary for minimising environmental impact.</p> <p>The EIA addressed relevant points, and highlighted some of the trade-offs between</p>

	<p>environmental impact and costs to developer (especially when comparing the three options) without jeopardising the project. Assessing exact benefits is premature as it is not certain which measures recommended will be ultimately implemented.</p> <p>The CA noted three particular benefits of the EIA process:</p> <ul style="list-style-type: none">- informing all stakeholders- highlighting possible environmental impact- helping the developer to address issues early
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ANNEX 7: CASE STUDY RESEARCH PREVIOUSLY PRESENTED

Previous research for Commission Services has examined the use of the EIA procedure in a number of selected development projects. These case studies are presented below.

These cases studies were selected and analysed in six Member States: Germany, France, Netherlands, Poland, Spain, UK.

The discussions with MS national authorities sought to identify a sample of approximately 10 development projects as the basis of selecting 2-3 case studies of the specific application of the EIA regime. Selection was based on the following criteria:

- Cases involved enterprises that were able and willing to participate in the study – and in particular to provide estimates of the costs and impacts of activities undertaken to comply with the EIA regime;
- Cases were typical of the scale and type of projects subject to the regime in the MS – and should include infrastructure (and where possible energy infrastructure) and development projects;
- Cases were likely to be able to demonstrate the consequences of the complexities / simplifications of the regime arising as a result of the amendments, case law and implementation of related directives. This should include one or two cases featuring trans-boundary projects;
- Cases were likely to provide lessons on how to simplify the regime without compromising environmental protection.

Project Checklist

To standardise the review of the selected projects a checklist of questions (Annex C) was prepared, to allow an analysis of:

- The effectiveness of the regime in terms of the environmental harm avoided as a result of compliance – supported by some description of the changes in project design as a result of the EIA;
- The costs incurred by the enterprise in terms of the direct costs of compliance (e.g. commissioning of EIA work) and indirect costs associated with any significant changes and/or delays in scheme / project design;
- The costs incurred by the planning / enforcement agencies in monitoring and confirming compliance and associated advice;
- The elements of the EIA which were most significant in shaping the nature of compliance and the related costs; and the extent to which the complexities as identified in activity 2.1 are responsible for the costs and delays;
- The scope to simplify the regulation and consequent compliance requirements, and the possible savings in costs and delays;
- Lessons identified which could feed into possible conclusions and recommendations for simplification.

Table A6.1 lists the selected case studies.

Table A6.1: List of the Selected Case Studies

Project Title
Regeneration of mining areas/creation of new water infrastructure, D
High-Pressure Gas Pipeline, D
Development of a new Quarry, D
Maranchon wind farm, ES
San Pedro Tunnel (high speed train line Madrid – Segovia – Valladolid), ES
Bretagne-Pays de La Loire High Speed Line Extension, F
Le Garoussal Zone D'Aménagement Concerté (ZAC), F
BritNed Interconnector, NL
Liquid Natural Gas Terminal Eemshaven, NL
Chlorine and MCA Plant Delfzijl, NL
Reconstruction of Wyskow Ring Road, PL
Modernization and Development of the “Czajka” Sewage Treatment Plant – Warsaw, PL
Construction of Transboundary Sewage System – Krzyzanowice, PL
BritNed Interconnector – Land Components, UK
Cricklewood Gate – urban development scheme, UK
Greater Gabbard Offshore Windfarm, UK

A.1 Germany³⁶

A.1.1 Re-use of De-commissioned Mining Facilities

Overview

The case study forms part of a regeneration programme of former mining areas in Eastern Germany. The mission of the developer company is to lay the grounds for a re-use of decommissioned facilities and areas for new industrial, commercial and tourism uses. The case study includes two related projects, namely:

The flooding of a residual pit located close to the German-Polish border with water from a river at the German-Polish border over a five-year period. The project creates a new lake covering an area of 960ha, which will be used for tourism and recreational activities (e.g. marina, golf course, campsite and beach)

Diversion of ca. 300 million m³ of water per year from the border river over a period of 20 years to accelerate the flooding of other residual pits in the region. The project represents an investment of around €30 million.

Case Study Summary Details

Project type	Infrastructure to support the flooding of residual mining pits/creation of new water bodies
Project Status	Plan Approval received in 2002 Projects are ongoing - 960ha lake expected to be completed in 2008, diversion of river from border river started in 2005 and will continue over 20 year period
Planning Process	Consent through Plan Approval Procedure according to Water Resources Act Formal authorisation process including public consultation: 2000-2002 Prior planning process including scoping/EIS: 1997-2000
Competent Authority	District Administration
EIA	Mandatory, Transboundary Integrated in Authorisation Procedure
Alternatives	Yes, considered within EIA/authorisation procedure
SEA	No
Main environmental impacts and their prevention and mitigation	Water resources, including groundwater; nature and landscape, e.g. changes in the eco-system of the water and floodplains of the river; biotopes particular to mining areas Cumulative impacts of both projects Associated social and economic effects on water resources

³⁶ Information has been based on a review of available literature and consultations with the developers and the competent authority.

	<p>for residents (e.g. wells) and water-power plant operators</p> <p>Permit set two important conditions: a measure for when water can be drawn from river (e.g. minimum flow) and the need for a transboundary monitoring system</p> <p>Compensation in case of significant impacts</p> <p>Construction methods and variations in the design</p>
EIA Cost	<p>Authority cost covered by fees for authorisation procedure (these are charged to the developer at the end of procedure)</p> <p>EIS/environmental studies: €250,000-€500,000</p> <p>Translations and number of copies required significant cost factor</p> <p>Transboundary monitoring</p> <p>Potentially compensation if monitoring shows significant impacts</p>
Delays	<p>Yes, some</p> <p>Transboundary aspects added complexity and length to scoping phase and consultation process – partly an issue of unfamiliarity with processes, but also some significant differences in practice (e.g. consultation) and time needed for translations</p> <p>Complexity of potential environmental impacts</p> <p>Additional studies</p> <p>An important document was produced by outside organisation (by bilateral commission)</p>
EIS	<p>Some expertise in-house, but EIS is usually commissioned to external consultants, in this case team include experts from country affected by the project</p> <p>Additional studies/information were necessary, including document produced by bilateral commission for border water bodies (i.e. outside EIS)</p>
Legal Challenges	<p>Yes, from developer concerning (conditions set by permit)</p> <p>Issues were also raised by the authorities from affected country after consent was given</p>

The Planning Process

Planning for both projects started in the mid-1990s following the decommissioning of existing mining facilities. The planning work for the diversion of water from the border river started in 1996 and for the flooding of the case study residual pit in 1998. The

projects were also discussed by a bilateral commission for border water bodies between Germany and Poland.

Both projects were authorised through a plan approval procedure in accordance with the German Water Resources Act. Due to the scale of the projects an EIA was mandatory. As prescribed in German Law this was dealt with within the authorisation procedure. The competent authorities were first informed about one project in late 1997 and the other in late 1998.

Although the projects are wholly located within Germany, the project proposals and the fact that they affect a border river meant that impacts across the border were to be expected. After having being informed about the plans, the German competent authorities informed the Polish Ministry for Environment about the proposals and invited them to the scoping meetings in early 1999.

The two projects were treated separately at that time and followed separate authorisation procedures throughout the process. This included the scoping phase with separate scoping meetings for each project. One meeting, with involvement of Polish representatives led the request that the EIS review the impacts of both projects together. A cumulative assessment was seen as necessary, as the projects were ultimately linked and planned to draw on the same water resources.

The scoping phase for both projects lasted more than one year. This included the preparation of scoping documents, information being sent to the various parties in both countries, the scoping meetings, and statements from the competent authority determining the expected scope of the EIS/EIA, which completed this phase.

The EIS were prepared between 1999 and 2000. The EIS assessments were produced separately covering German and Polish areas of the spatial analysis areas. For this, the team of consultants commissioned by the developer included Polish experts that had been recommended by third parties.

Some additional analysis was required. An important assessment was undertaken outside the EIS by the bilateral commission for border water bodies. It filled an important gap in the documentation needed for the EIA, but was available only with some delay in 2001. This was due to the organisational structure and set-up of the bilateral commission and its working groups

Formal applications for both projects by the developer were made almost concurrently in August and September 2000. Parts of the documentation (selected for their relevance to Polish authorities and public) in the application were translated and sent to the Polish Environment Ministry. This was done in October 2000 and November 2000, respectively. The Ministry then passed on the information to the relevant local authorities for public display (November 2000 and January 2001, respectively).

In Germany, the authorisation procedures followed the usual process. This included a public display of the application for a one-month period and a subsequent two-week period during which the public can submit statements and raise objections. Statements submitted after the deadline may not feed into the procedure.

In Poland, the public display period was slightly shorter (21 days) and statements from the public, the local authorities and the Environment Ministry were collated first by the

local authorities and then passed on to the Polish Ministry for discussion within the EIA-committee. A combined statement was sent to the competent authority in Germany in June 2001 including responses to both projects.

Hearing meetings took place in August 2001 for both projects on separate days. Representatives from the affected country were present, including the environment ministry, local and regional authorities and operators of water power plants.

The plan approval decisions were made in February 2002 and December 2002, 18 months and 28 months after the formal start of the application procedures. There was a slight delay in the decision being sent formally to the Polish Ministry for Environment, due to the time needed to translate relevant parts of the decision and supporting documents.

Beginning with the first contact with the competent authority, the whole planning process for the projects lasted approximately 5 years, whilst the actual authorisation procedures took around 2 and 2.5 years, respectively.

Effectiveness

The main environmental impacts relate to the impact on water resources, including ground water, and on nature and landscape, e.g. changes in the eco-system of the water and floodplains of the river, biotopes particular to former mining areas. Impacts on water levels and associated potential social and economic effects were a particular issue for the transboundary EIA, e.g. impacts on wells used by Polish residents and a reduction in performance of water-power-plants.

The transboundary aspects enhanced the scope of the EIA. This specifically resulted in:

- The assessment of the cumulative impacts of both projects,
- An adequate specification of the impact area across the border,
- The inclusion of additional alternatives and variations,
- Measures to assess the permissibility of activities (e.g. higher level of the minimum flow before water can be drawn from the river),
- The transboundary monitoring of environmental impacts, and
- Compensation in the case of significant impacts.

Additionally, the EIA played an important function in providing information about potential environmental impacts to the public and involved authorities in the affected areas. It was also regarded as having contributed to legal certainty and permissibility of the projects and a reduction in possible legal challenges.

The setting of a minimum flow measure and the permission of the project subject to the monitoring of the impacts of the project have been regarded as very successful in the mitigation of potential negative effects, but also in addressing ongoing concerns from the public and authorities about the impact of the project on ground water and water resources. The assessment of cumulative impacts from both projects resulted from the discussion at one scoping meeting, which included both German and Polish representatives.

The EISs were commissioned to planning consultants including German and Polish experts. The use of recommended experts from the affected state was reported to have contributed to greater acceptability of the assessment, especially in the affected country.

Cost and Burdens

The EIA process was mandatory for both projects. The EIA was integrated in the authorisation procedure, which was a plan approval procedure in accordance with German laws pertaining to water. The procedure had a concentrating effect in that it includes almost all other permits relevant to the project. A plan approval procedure generally involves public and authority participation with or without an EIA.

The transboundary dimension of the projects added to the complexity of the participation process and created additional burden including the translation of selected parts of the application, supporting documentation, the final decisions and interpretation at meetings.

The planning process lasted five years, starting with the first contact between the developer and the competent authority and finishing with the authorisation of the projects. Appeals and legal challenges were brought by the developer concerning certain conditions set by the decision. The Polish authorities continued to raise concerns about the project after their authorisation. The monitoring, although creating an additional burden, has been regarded as a very useful tool to deal with such concerns or uncertain impacts.

Unfamiliarity with the transboundary EIA process and the law and practice in each state were a main contributing factor for delays and uncertainties in the process. For example,

In Germany the competent authority at local/district level deals with all matters of the authorisation procedure, regional and national levels only get involved in exceptional circumstances and for certain project types.

The German public and other authorities were given a fixed time period to submit their statements and objections directly to the competent authority, in order to be considered. In Poland, objections from the public and local authority were not sent directly, but collated, passed on and discussed within the EIA-committee of the environment ministry. This took 7-8 months compared to the 1.5 months in which objections/statements from the German public have to be submitted. The time was also required because of the complexity of the potential impacts, but it was recognised, with hindsight, that some statements could have been produced faster.

The procedure also involved the bilateral commission for border water bodies. The commission supported the process, for example, by providing an important document and piece of analysis for the EIA and other information and statements. Its set up and organisational structure (e.g. the committee only meets once per year) was difficult to be accommodated in a procedure that follows shorter timescales.

Delays in the process were also found to be a result of possible complex and significant environmental impacts and the need for additional analysis (highlighting the importance of the scoping in securing quality for the rest of the process).

The use of good consultants and planners, close co-ordination with the relevant authorities as well as decisiveness and experience with complex projects on the side of the competent authority were regarded to be conducive to an efficient process.

Translation and interpretation were a specific issue in this EIA contributing to delays in the distribution of documentation, the length of meetings and increasing cost of the process. However, good quality translation and interpretation, including legal and technical terminology, was seen as essential to a successful outcome of the procedure (e.g. to reduce misunderstandings).

Bilingual hearing meetings took place in Germany involving representatives from Polish authorities, bilateral commission, waterpower plant operators as well as the affected German public and authorities. Some points were also discussed in bilateral meetings before the formal hearings.

The costs of the authorisation procedure were borne by the developer. Additional cost for the EIS and supporting studies ranged between €250,000 and €500,000. The preparation of the EIS and the production of the necessary documentation were the major burden for the developer. The competent authority led the consultation process with the (German) public and the authorities. The Polish consultation process was led by the Polish authorities.

A.1.2 High-Pressure Gas Pipeline³⁷

Overview

The case study is a high-pressure gas pipeline spanning more than 200km across two German states. It was originally conceived as a supply pipeline with a diameter of 800mm linking the German network with a new combined cycle power station in North East Germany. Proposals were later changed to a pipeline with a diameter of 1200mm to allow the transportation of gas from the proposed Baltic Pipeline into the German network.

Case Study Summary Details

Project Type	High-pressure gas pipeline
Project Status	Plan Approval received in 2004 and 2006 (amendment) Construction expected to begin as soon as possible
Planning Process	Consent through two-stage process (this was required in each state traversed by pipeline) Spatial Planning Procedures including public consultation: 2000-2001 Plan Approval Procedure including public consultation: 2002-2004 Prior Planning Process including scoping: 1998-2000 (links to plans for a new combined cycle power plant)

³⁷ Information has been based on consultations with the developer and the competent authority and published information on the project.

	Plan Approval Amendment Procedure: 2006 (necessary due to change in project purpose)
Competent Authority	State Mining Authority
EIA	Mandatory Integrated in authorisation procedures (staged process)
Alternatives	Yes Identification of preferred route through spatial planning procedure, additional alternatives/variations during detailed planning/engineering in later stages
SEA	No, but spatial planning procedure has some characteristics of an SEA
Main environmental Impacts and their prevention and mitigation	Impacts on nature and landscape, soil, water, humans etc Routing of pipeline – minimisation of conflicts (where possible as other criteria are also important, e.g. cost-effectiveness, other infrastructure) Construction methods that minimise environmental impacts Landscape and nature mitigation and compensation measures
EIA Cost	Authority cost covered by fees for authorisation procedure (these are charged to the developer at the end of procedure): <1 per cent of project cost EIS/environmental studies for application: €300,000-€500,000 – studies and number of documents required for consultations significant cost factor Mitigation and compensation measures as set out in landscape and nature conservation plans (<5 per cent of project cost) Cost effects due to routing decisions (e.g. avoidance of protected areas), technical design and construction methods (e.g., HDD v cut & burial)
Delays	Changes in the law/EIA regime led to new requirement for authorisation process (plan approval procedure)
EIS	External consultant planners and engineers EIS from spatial planning procedure was built on and amended through later stages (more details, additional impact)
Legal Challenges	No

The Planning Process

The planning process for the pipeline, an investment of around €100 million, started with plans for the construction of a new combined cycle power station on parts, stemming from the late 1990s. The purpose of the pipeline was to provide the necessary infrastructure to supply a proposed new combined cycle power station. The power station, an investment of around €600 million, underwent a separate authorisation process in accordance with the Federal Immission Control Act.

The site for the power station, part of an area previously used for a nuclear power station, was acquired in 1998. Permits for the construction of the power station (under the German Federal Immission Control Act) were received in 2000. This was around 9 months after the application was first submitted and 21 months after the scoping phase for the EIA within this procedure.

The planning process for the pipeline started with the identification of a possible route. Because the draft route traversed two states in Germany, authorisation procedures had to be established separately in each state. A two-stage process followed, involving a spatial planning procedure led by the regional planning authority in each state and the plan approval procedure in accordance with the Law on Fuel and Electricity Industries. These procedures both integrate the EIA.

Planning consultants were appointed in 1999. Developer and commissioned consultants had reviewed routing options. The routing decisions involved an assessment of cost-effectiveness, conflicting land uses, environmental aspects, and other infrastructure. An EIS was prepared for the spatial planning procedure to assess potential impacts of the project in detail. The year later, in autumn 2000, the first formal spatial planning procedure started. 38 The two spatial planning procedures were completed in 2001, lasting 10 months in one state and 7 months in the other. The spatial planning statements identified a preferred route and conditions for the following planning and authorisation process.

Germany had at that time amended the EIA regime. This resulted in a prescription of the plan approval procedure for specific projects, including certain gas pipelines with a diameter of more than 300mm. The amendment changed the Law on Fuel and Electricity Industries requiring that gas pipelines with a diameter of more than 300 mm need to undergo a plan approval procedure, if an EIA was to be undertaken in accordance with the German EIA Act. 39

Because of its lengths and proposed diameter, the pipeline met the criteria for a mandatory EIA. The EIA for the plan approval procedure could build on the EIA carried out for the spatial planning procedure, including the EIS prepared by the developer's consultants. The EIS from the spatial planning procedure was amended to include changes/adaptations to the routing, detailed proposals for mitigation measures,

38 The spatial planning procedure is an established tool within German regional planning, integrating economic, environmental, social and cultural aspects and involving public participation. It seeks to assess whether proposals are in accordance with the requirements of regional policy and how they can be harmonised with each other or carried out under the provisions of regional policy. It includes an evaluation of locational or route alternatives. The results of the spatial planning procedure are not legally binding, but when such a procedure was undertaken its findings need to be taken into account during the subsequent authorisation procedures.

39 The EIA Act itself prescribes a mandatory EIA for pipelines with a diameter of more than 800 mm and a length of more than 40km. Smaller developments need to undergo a screening assessment to establish the need for an EIA. Where no EIA is required and other conditions are met (e.g. no infringement of third-party rights), a 'leaner' procedure is possible.

habitats assessments, documentation for authorisation procedures integrated in the procedure. Additional studies/data were required for new and/or additional issues, e.g. the review of a new route variation, results from more detailed engineering. 40

The plan approval procedures in the two states took place almost concurrently. They were formally started in spring 2002. Around 4-5 months before the formal start, scoping had taken place to determine the scope and depth of analysis within the plan approval procedures. Public involvement, including a public display of the application and hearing meetings took place during late 2002 and early 2003. Consent was given in spring 2004, around 21 months after the formal start of the procedure.

In total the authorisation process lasted almost 4 years, from the start of the first spatial planning procedure to the final plan approval decisions. This time does not include the planning process for the new power station, for which the pipeline was conceived to provide the supply from the German network, and other preparatory work, e.g. route determination.

Due to changes in the purpose of the pipeline in response to the development of a gas pipeline through the Baltic Sea in 2005, changes were made to the project design. This required a further plan approval procedure to amend the original decision. Following a formal application by the developer and the necessary public consultation process, the amendment to the plan approval decision was publicised in late 2006.

Effectiveness

The main environmental impacts of the pipeline relate to its route, construction of the pipeline and installations required along the route. Safety aspects were also important, e.g. the distance of the pipeline to neighbouring developments or the need for an aisle to allow inspection along the route once operational. The final route was also influenced by other infrastructure and land-uses.

Environmental impacts were assessed in the context of the spatial planning procedure (including routing alternatives), the plan approval procedure (e.g. mitigation measures, habitats assessment) and associated authorisation procedures (e.g. for pressure boosting stations along the route, application according to laws pertaining to forests). Additional assessments were necessary, for example, if the detailed engineering in the planning process for the project raised additional issues.

The process of determining the route was most influential for the prevention and mitigation of environmental impacts. The determination of the route started prior to the spatial planning procedure and continued throughout the authorisation process through the more detailed design. Protected areas where no environmental impacts are allowed (e.g. Natura 2000) were seen to significantly influence routing decisions (e.g. decision to circumvent these areas unless exemptions can be made). Conditions on construction methods (horizontal directional drilling rather than cut-and-burial

40 In Germany, where the authorisation process involves a spatial planning procedure and another authorisation procedure, the EIA can split across the two procedures. The need for an EIA within the spatial planning procedure is decided by *Länder* regulation; it should be stressed that, since March 2010, the Federal legislation requires an EIA for the spatial planning procedure, if not regulated otherwise by *Länder* legislation.. The EIA Act defines that if an EIA has taken place within the spatial planning procedure, the EIA within the subsequent authorisation procedure can be restricted to additional impacts or other significant impacts.

techniques) were also set to achieve prevention and mitigation of environmental aspects.

Mitigation and compensation measures were set out in Nature Conservation Support Plans in accordance with the German Nature Conservation and Landscape Act.

Cost and Burden of the EIA process

Due to the size and scale of the pipeline, the EIA process was mandatory within the German EIA regime. Amendments to the regime, which happened during planning process, resulted in the new requirement to assess the permissibility of the pipeline through a plan approval procedure. Complexity was added due to the pipeline traversing two German states requiring permissions by the authorities in each state.

This resulted in the two-stage process, involving a spatial planning procedure and a plan approval procedure. Both procedures included authority and public participation processes, which were led by the competent authorities, and was quite extensive. The plan approval procedure in one state alone involved 70 public authorities/organisations, for which the developer/planning consultants had to provide the necessary documentation.

The planning process for the pipeline lasted between 4-5 years, from the appointment of planning consultants in 1999 to the initial consent for the pipeline in 2004. The planning for the power station, which the pipeline was designed to supply, started a year previously. There was no legal challenge to the plan approval decision.

The use of good planners/consultants, co-ordination of content and methods, strong management of the process and close co-ordination with the public authorities and third parties before and during the authorisation procedures is seen as conducive to an efficient process. The concentrating effect of the plan approval procedure was regarded as a positive factor.

The costs of the authorisation procedures, including the consultation processes, were borne by the developer. These are set in proportion to the investment costs and were less than one per cent of the investment cost.

Additional cost resulted from the preparation of the EIS/environmental studies (€300,000-500,000), mitigation measures (estimated at less than five per cent of project cost), conditions set by the plan approval decisions (e.g. construction techniques) and cost effects from routing decisions (e.g. to avoid conflict areas).

Although these costs can be regarded as small in proportion to the overall investment, the point was made that they occur during the planning process, i.e. before a decision on the permissibility of the project has made and when the risk of a negative decision about the application can be high. The cost should therefore also be considered relative to total project planning cost. Costs are also frontloaded where mitigation measures required to be undertaken before the start of construction (e.g. coherence measures).

A.1.3 Development of a New Quarry⁴¹

Overview

The case study is a quarry covering slightly over 100 hectares, including a new quarry of 82 hectares and the extension of an existing quarry of 20 hectares. The quarry contains more than 433 million tonnes of lime and 16 million slate stone. The project area is located in the western part of Germany within the Ruhr conurbation.

Case Study Summary Details

Project Type	Quarry
Project Status	Plan Approval received in 2005 Preparatory works and some mitigation measure have started, project will be developed over a number of phases
Planning Process	Plan Approval Procedure according to Water Resources Act Authorisation procedure including public consultation: 2003-2005 Prior planning period including scoping: 1997-2002/3
Competent Authority	Lower Water Authority
EIA	Mandatory Integrated in authorisation procedure
Alternatives	No location alternatives – project dependent on location of natural deposit Law requires only consideration of alternatives/variations in technical design
SEA	No
Main environmental Impacts and their prevention and mitigation	Impact on water, air, nature and landscape, soil, humans etc Noise, Dust, Vibrations were particular issues (nearby residential areas) – conditions on operating methods and hours Mitigation and compensation measures were set out in landscape and nature conservation plan Re-routing of a water body Renaturation at the end of project life-time through flooding
EIA Cost	Authority cost covered by fees for authorisation procedure (these are charged to the developer at the end of procedure): €1.1 million

⁴¹ Information has been based on consultations with the developer and the planning consultants and published information on the project.

	<p>EIS/environmental documents and statements: €400,000-500,000</p> <p>Mitigation and compensation measures (landscape and nature conservation support plan): €800,000</p> <p>Integrated in project design: methods, conditions etc</p>
Delays	<p>For issues where no data is available EIA can extend process up to 12 months during lead-time (e.g. ecological surveys)</p> <p>But: Long lead time also due to restructuring at developer company and changes to project design, EIS undertaken in parallel with other preparatory work for application</p> <p>Dealing with issues from public consultation processes</p>
EIS	<p>In-house specialist department for authorisation procedures and environmental protection, but EIS are commissioned to planning consultants</p>
Legal Challenges	<p>Yes, by developer (concerning consent conditions) as well as local residents (concerning operating hours and associated impacts) – was later dismissed, in the meantime developer applied for permit to start construction to avoid delays</p>

The planning process

The quarry is new development by a manufacturer and quarry operator of lime products. The developer is a major local employer and operates a number of quarries in the area and throughout the country. The proposal sought to open up a new deposit of limestone, in order to secure the future operations of the company in the local area.

The German EIA regime sets out that for quarries over the threshold of 25 hectares an EIA becomes mandatory. The project proposals were significantly above this threshold.

The planning process started in 1997 with the scoping phase to determine the scope and depth of analysis required for the EIS/EIA. There was a substantial delay until the EIS was started and the application was made. Major changes took place at the company and this restructuring was partly responsible for the long lead-time in the planning process for the new quarry.

The authorisation procedure for this project was a plan approval procedure in accordance with the Federal Water Resources Act in Germany. As prescribed in the German system, the EIA is integrated in the procedure and has to be considered in the final decision.

Consultants were appointed in 2001 to support the developer, including the production of the EIS and other documentation for the planning application. Consultants prepared the EIS, a habitats assessment (the development was in proximity of a proposed habitats area) and other necessary statements, e.g. for noise, landscape and nature conservation.

A first application was submitted in early 2002. Changes in the project design led to a new application being made approximately a year later, which started the formal plan approval process in mid-2003. The formal participation process started shortly after in September 2003 with the public display of project proposals (over a one-month-period) and the circulation of the application to the relevant authorities. Statements and objections raised were discussed through a range of hearing meetings, which took place in early 2004.

The final plan approval decision was made in November 2005. The permit allows the operation of the quarry until 2048 after which it will be turned in a water body and renaturated. Conditions for the operation of the quarry and mitigation and compensation measures were included in the decision.

Legal challenges were brought by the developer and third parties. Local residents challenged the decision concerning details on the operating hours of the quarry, which was dismissed later by the administrative court. In response to the legal challenge, the developer applied for a permit to start construction work to avoid being held up by the challenge. The developer also brought a legal challenge concerning conditions prescribed by the plan approval decision.

The approval process took just over 2 years. The total planning process starting with the scoping phase lasted around 8 years, however, the delay between scoping and the start of the EIS was due to changes and restructuring at the developer company.

Effectiveness

The main environmental impacts relate to the use of land and related impacts on landscape and nature, impacts on surface water and ground water due to the quarrying operations (up to 130 metre below sea level) as well as noise, dust and vibrations (e.g. from explosions) and associated impacts on nearby residential areas.

The impacts on nearby residential developments were a particular issue and formed a significant part of the consultation and decision-making process. This included noise, dust and vibrations from explosions, which were addressed through conditions on the operations of the quarry (e.g. restricted hours during which explosions can take place).

Because of its location in an area of environmental and recreational value, impacts on nature and landscape were another important part of the assessment. These were addressed through mitigation and compensation measures, covering recreational use of areas around the quarry, e.g. through changes in the pathway systems, planting of trees.

The impact on water resources including surface and ground water was also assessed during the procedure. In this area the EIA was seen have had the main impact because it led to the preservation of a watercourse, which will be rerouted. The other measures for the prevention and mitigation of environmental impacts were attributed to the requirements and greater effectiveness of the substantive laws (e.g. nature conservation act, technical instruction on noise) rather than the EIA.

The location of the project was not subject to an assessment of alternatives. This was due to the quarry being bound by the existence of the lime deposit.

Cost and Burden

The EIA was mandatory for this project because of the size of the area affected by the quarry. The EIA was integrated in the authorisation procedure, which, as prescribed by German law, involves public and authority participation. The extent of necessary analysis, documentation and level of participation in such procedures is very high, which are key factors for higher cost and efforts. The plan approval procedure, however, has a concentrating effect in that almost all necessary permits are included.

The planning process lasted a total of 8 years. The long lead-time for the project was partly a result of changes within the developer company. Planning consultants to help prepare the EIS were appointed two years before the formal procedure started. The formal procedure itself took more than 2 years from submission of the application to the final decision in 2005.

The use of good consultants and close co-ordination with the relevant authorities were seen to be conducive to a more efficient. The scope of analysis and the extent of consultations (scale as well as issues) contributed to a longer process.

The costs of the authorisation procedure, including the consultation process, were borne by the developer. These were calculated in relation to the area affected and amounted to slightly over €1 million.

A significant part of the burden and cost for the developer in the total EIA process were the preparation of the EIS, which accounted for around 50 per cent of the total cost, and the public consultation process. The cost for the environmental studies prepared for the EIA and the application was estimated at between €400,000 and €500,000.

In addition, a range of mitigation and compensation measures were required. These were set out in the landscape and nature conservation support plan and amount to approximately €800,000. Costs also arise from conditions set through norms and standards. These are, however, integrated in the technical design and operations of the quarry.

A.2 Wind Energy and Railway Infrastructure - Spain

In addition to interview feedback, the findings on the operation of the EIA regime in Spain are supported by in-depth discussions of two project categories, i.e. wind energy and railway infrastructure.

The category of wind energy was discussed with Spain's largest promoter of wind energy IBERDROLA. The category of railway infrastructure was discussed with RENFE (Spain's railway operator) and ADIF (Spain's railway infrastructure managing entity).

Wind energy: Maranchon wind farm⁴²

The following project was selected to illustrate problems with the EIA regime in cases of project locations in Natura 2000 areas. The wind farm includes 20 generators and has a budget of MEURO 40-45, EIA costs EURO 21400, environmental monitoring costs 21400, environmental restoration costs EURO 15700, compensatory measures cost 172600, and environmental maintenance costs EURO 5700 per year.

The wind farm is located in a Natura 2000 area, and the EIA was therefore subject to close scrutiny. The EIA procedure took some 10 months and resulted in a decision foreseeing several preventive, corrective and compensatory measures, which the promoter considered excessive in view of the very limited environmental impact. The wind farm occupies 0.02% of the protected area and the EIA confirmed moderate environmental impact (mainly during construction).

The promoter considers the rigid handling of proposed projects which are located in Natura 2000 areas as excessive, as there might be projects which are compatible with Natura 2000 areas (e.g. wind farms). This situation is exacerbated by the significant coverage of Natura 2000 areas in Spain (interview feedback indicates that some 20% of Spain is covered by Natura 2000 sites).

The promoter, however, implemented the project in line with the EIA decision.

Railway infrastructure: San Pedro Tunnel (high speed train line Madrid – Segovia – Valladolid)⁴³

The following project was selected to illustrate problems with the EIA regime in the case of project modifications (after the EIA decision, during project implementation).

The San Pedro tunnel is Spain's third longest tunnel and is located on the new high speed rail line Madrid – Segovia – Valladolid. Construction started in 2004. However, the EIA assessment of the quality of the mountain proved incorrect, and as a result of unforeseen earth movements, one of the excavating machines got trapped (June 2005). The promoter urgently requested authorisation to excavate additional tunnel galleries in order to extract the trapped excavating machine (September 2005).

The Ministry of Environment assessed the situation (together with the competent regional authorities), and considered that a new EIA was required as the proposed

42 See Environmental Impact Decision of 8 February 2005 in Official Journal Castilla-La Mancha Number 47 of 7 March 2005

43 See Government Decision of 27 December 2005 to exempt the project change from EIA in Spain's Official Journal Number 14 of 17 January 2006

emergency works were considered a modification to the initially proposed project with significant adverse effects on the environment (December 2005). However, the competent authority (Ministry of Infrastructure) disagreed with this assessment and according to Spanish legislation; a Council of Minister decision was required. The latter authorised the project modification without a new EIA, arguing the need to complete the project in time, and the emergency situation (23 December 2005).

The promoter presented this case in order to illustrate the need to review the EIA Regime in order to adapt the regime better to emergency situations. The promoter would have been willing to carry out a new EIA, if EIA legislation had guaranteed the delivery of an EIA decision within a shorter period of time than currently foreseen.

A.3 France

A.3.1 Bretagne-pays de la Loire high speed line extension

Name of project	LGV Bretagne-Pays de la Loire
Type of project	<p>The project is the extension to Rennes and Nantes of the High Speed Railway (TGV: Trains a Grande Vitesse) line, currently running from Paris to Connere (situated 20 kilometres east of Le Mans). The line has been in service since 1989.</p> <p>The project consists of 182 km of new line between Connere and Rennes. The construction of a new railway station is not necessary, as the new line will stop at existing railway stations.</p> <p>The estimated cost of the project is EUR 2.38 billion (at 2004 prices), with all works carried out in one phase. Besides project adaptation measures, important environmental protection and insertion measures (such as noise protection, landscaping etc.) are planned, costing an estimated EUR 158 million.</p> <p>The necessary expropriations total approximately 2,000 hectares, excluding 240 ha already acquired in the North section of Mans, following a "Declaration d' Utilité Publique" (DUP), or Declaration of Public Utility, in 1984.</p>
Background	<p>The project is part of a set of big, high-priority infrastructure planning projects, decided upon during the meeting of the inter-ministry committee for infrastructure and urban planning of 18 December 2003, and confirmed during the meeting of the inter-ministry committee for land planning and competitiveness of 14 October 2005. It forms a part of the development of the High Speed Railway network, which aims to re-establish a balance between the different means of land transportation for inter-urban journeys, thus equally contributing to the sustainable development policy established at national level.</p> <p>The project aims to reduce distances between the 'Great West' and Paris, enabling connections with other French regions, and offering international openings via interconnectors established in Ile-de-France.</p> <p>According to traffic forecasts, the project will allow the number of passengers on the railway line to increase from 19.1 million to 21.2 million in 2013 (number of passengers in 2004 was 16.4 million), constituting approximately 20% of TGV travel at a national level. In freeing up capacity on existing facilities, the project will also facilitate the progression of TER traffic (notably on the railway 'star' from Mans and between Rennes and Vitré).</p>
Developer and Consultancy Experience with EIA	Partners – Regional Direction Bretagne-Pays de la Loire (Direction Regionale) and local partners.

Main environmental impacts	<p>These mainly relate to: the human environment (approximately 90 dwellings to be acquired and noise prevention measures); agricultural activities (which make up more than 90% of the land concerned); natural habitats (both animal and plant species, notably bats and beetles); and landscapes etc. No Natura 2000 site has been directly affected by the project.</p> <p>The programme of measures to eliminate, reduce or compensate the project impacts is defined in the EIA. It has been costed at €158M (as at September 2004), and does not include measures to amend the project or indemnity payments for the acquisitions.</p>
Delay factors	<p>The environmental studies and development of the EIA which followed, were part of the process of preliminary studies which are carried out for major infrastructure projects. The finalisation of the technical report (which involved consultation with local stakeholders) took this into account. The final technical project must allow for the route with the least impact to be determined within the framework of objectives it has been given.</p> <p>The stages which led to the most delays are those which involve the collection of baseline data. This is because the available inventories (for example habitats, flora, fauna) were not up to the standard of precision required by the French EIA Regulations.</p> <p>The accepted principle is that of a cascade of studies. After the first phase of preliminary studies, detailed environmental studies were undertaken during the short pilot study stage. These varied in scope according to the different themes. The environmental studies were then completed during the finalisation of the EIA.</p>
Cost of studies	<p>Main figures relating to the studies (at current prices):</p> <p>Preliminary studies (€4,500K) of which €350K for environmental studies</p> <p>Pilot study summary studies (€11,000K) of which €1,000K for environmental studies</p> <p>Studies in the DUP phase, of which €800K is for the environmental studies and drawing up of EIA</p> <p>Note: the figures for environmental studies relate to services specifically related to this subject area. They do not include development costs, reproduction or communication costs, or amendments to the technical project.</p>
Competent Authority	<p>At the national level: MEDAD - Ministère de l'Ecologie, du Développement et de l'Aménagement durables (Ministry of Ecology and Sustainable Development)</p> <p>At the local level: RFF - Réseau Ferré de France.</p> <p>Created in 1997, RFF is responsible for managing and upgrading the French railway network. As the national network's owner, RFF manages all existing infrastructure. Moreover, RFF project manages all operations that take place on the rail network. As part of this role, it is responsible for cost, time controls and quality</p>

	of projects.
Statutory consultees	<p>The different project development stages (as set out above) included stages of consultation with elected members, socio-economic stakeholders, administration, as well as local consultation (at the stages of preliminary studies, brief pilot study, as well as in the following stages of the project). These were carried out, either at the initiative of the developer or through implementation of ministerial directives..</p> <p>The project development is being monitored by a steering group composed of representatives of the project partners (namely the State, the regions, RFF, SNCF).</p> <p>It must be noted that significant local consultation was carried out during the development of the brief pilot study, with the establishment of a dedicated team within the LGV Mission in charge of steering the project. This consultation will be followed through in the continuation of the project. RFF is particularly keen that the continued development of the project is carried out in close consultation with the concerned parties.</p>
Project implementation phase	<p>Timescales are important in a large infrastructure project such as this. Development has taken place in several stages: Functional pre-studies in the early 90s; initial discussions on the timeliness and practicalities of the project in 94-95; preliminary studies fixing the main options for the route within a 1km wide band (96-2000); ministerial validation of these options in 2000 and 2001; short pilot studies (allowing for the route of least impact within the 1km band to be selected) from 2002 to 2005. After the public inquiry of 2006 and report from the inquiry commission, RFF is currently waiting for the DUP. This is a decision made by the state by decree at the State Council.</p> <p>The DUP, which will allow the expropriations to take place, is the most important act and is the condition upon which the project can continue to be carried out.</p> <p>If DUP status is given, the project will enter the implementation stage. Before works can begin, the following will need to take place:</p> <p>Confirmation of the legal arrangements and financing of the project (including determining the required contribution from the public purse)</p> <p>Undertaking of the finalisation of the technical project, with a detailed pilot study which will show the final layout; fixing of the appropriations, definition of exactly the mechanisms for the reduction of impacts and rehabilitation as well as the conditions for undertaking the works.</p> <p>Carrying out of complementary administrative procedures (under the heritage code, planning code, environmental code and rural code amongst others)</p>

	Take on the land management.
Key issues	The main issues which came up during the project development concerned the stakeholders on the land affected by the project (human environment, agricultural activity etc). The issue of how local economies would be affected was discussed at length. Because the project is an extension of a high-speed line already existing between Paris and Le Mans, the towns situated along the line were concerned that the quality of their local service routes would suffer to the advantage of destination towns at either end of the high-speed rail line. An agreement guaranteeing these service routes was signed in January 2007 to meet these concerns.
Overlaps with other Directives	No authorisation is required in relation to the Habitats Directive for the LGV BPL (no Natura 2000 site affected). Concerning facilities classified for the environment (ICPE in terms of French legislation), authorisations may be required for specific installations linked to the construction site, or on particular areas.
Changes in project design as result of EIA	Environmental studies have been carried out from the preliminary study phase in tandem with the technical study. The technical project design has therefore evolved to ensure that the railway follows a route of least impact.
Good Practice	<p>A good level of exchange and coordination between environmental studies and technical studies so that environmental issues are taken into account as early as possible in the design of the project</p> <p>Providing informal updates at key stages with the competent authorities so that the content of the EIA reflected requirements</p> <p>Development of the brief pilot study was accompanied by significant local consultation</p> <p>A system to acquire land was set up in order to respond to urgent situations and to set up a land bank (this allows for compensation of agricultural land subject to appropriation). This system (which has been allocated €14m) meets the strong local demand for such a mechanism.</p>

A.3.2 Le garoussal Zone d'Aménagement Concerté (ZAC) – planned unit development

Name of project	ZAC Le Garroussal
Type of project	<p>Le Garoussal is a Zone d'Aménagement Concerté (ZAC), which is a planned unit development. The project is in line with land use plans, and is a planning document prepared and adopted at the level of the urban area of Toulouse. The development consists of: 341 collective housing units; 142 intermediate housing units and 164 individual housing units. The housing is intended for different social groups. Although the development is effectively a new district of the town, it will be built in continuity with existing urban areas.</p> <p>In undertaking the project, the principle of diversity in urban functions and the social mix of housing will be respected, as set out by Article L 121-1 of the Town Planning Code.</p> <p>The planned development will include:</p> <p>Creation of approximately 6 hectares of green public spaces</p> <p>Creation of cycle routes which will run parallel to the main internal public roads of the ZAC</p> <p>The redevelopment of the boulevard Sélery, which will improve its residential section</p> <p>The improvement of security and interconnection between the two sides with, notably, the development of a roundabout which will be located at the intersection of the chemin de St Jean and boulevard Sélery</p> <p>Improvement in the landscape character of the chemin de St Jean and Garoussal</p> <p>The development of a former railway as a 'soft' link (e.g. for bicycles, pedestrians etc)</p> <p>The creation of a (solely) residential main road situated between the Cornebarrieu road roundabout (RD63), the chemin de Garoussal and Gramant. This road will assist in deflecting traffic in the direction of the aeronautic industrial zone.</p>
Background	<p>The land required for the site is approximately 40 hectares, to the north of the communal territory. A secondary road (63) crosses the site. The land plots are situated in Zone 1NA of the 'Plan d'Occupation du Sol' (POS), or local land use plans, and are currently wild grassland, pastures and agricultural land.</p>
Main environmental impacts	<p>Increased development within a protected environmental site will lead to increased surface run-off. Measures will be required to ensure the surface water is duly drained away.</p> <p>Increase in noise levels during construction</p> <p>Increase in traffic flow on major roads during the construction</p>

	period, which will be absorbed by the creation of secondary roads.
Delay factors	The EIS itself adds longer time periods to the EIA process that cannot be shortened: that is the time taken to carry out the study and the one month to 2.5 month delay after submission whilst waiting for the investigating commissioner's conclusions on the study. Other factors such as archaeological excavations and drilling can also delay the EIA study, although these factors were not significant in this project.
Competent Authority	Regional level - Direction régionale de l'environnement de Midi-Pyrénées (DIREN) ; local level - Préfecture de la Haute-Garonne
Statutory consultees	Consultees include the public, state services, consular agencies, potential partners and associations.
Key issues	<p>Principal constraints to the site are:</p> <p>Users of the RN 124 route carry hazardous substances</p> <p>A possible zone of high noise levels, which relate to the Toulouse-Blagnac airport, affecting the site</p> <p>A 'noise zone' relating to the RD 63 road</p> <p>The 'listed wooded area', woods in Garoussal to the east, which will be protected and enhanced.</p> <p>Areas near the development site reserved for the creation of a cemetery, the change in land use to a sports complex and the extension of railway tracks</p> <p>There are no listed historic monuments, sensitive nature conservation sites or zones of nature conservation interest to ecology, fauna or flora in Colomiers. There are some listed archaeological sites, but they are not located on the site of the proposed project.</p> <p>Excluding the increased noise levels during the works phase, there will be few impacts relating to noise resulting from the project. However the buildings running parallel to the RD 63 will be equipped with acoustic protection for a Category 4 road.</p> <p>Pollution risks are limited, and the dwellings will be connected to existing public networks. The increase in traffic brought about by the project will be absorbed without difficulty by the RD 63 and the boulevard Sélery. The development of the boulevard Sélery will allow for the reinforcement and security of the residential area. The quality of the chemins du Garoussal and Saint Jean will be improved by landscaping. The creation of a network of internal service routes will facilitate the interconnection between areas.</p> <p>Effects on air quality will result from the additional traffic generated and the heating systems of the dwellings. To reduce atmospheric pollution, the project will favour 'soft' transportation means and public transport in accordance with recommendations of the SDAT. ('Schéma Directeur de l'Agglomération</p>

	Toulousaine'). The development of the ZAC will lead to a rise in impermeable surfaces by a maximum of 20%. The problem of run-off will be resolved through the creation of retention tanks. The Water Law will define the necessary installations for the zone.
Changes in project design as result of EIA	The project will ensure that the existing trees are protected. The Protected Forested Space registered in the local land use plans and partly included within the study area, will be preserved and maintained in good state. It will be possible to enhance the existing species and therefore bring a botanical and landscape interest to the whole of the site. Other spaces, and more specifically hedges bordering farmland, will be maintained. The landscaping of roads and the creation of green spaces are being considered.

A.3.3 Estimated expenses breakdown for the ZAC Garroussal project

The following expenses table is extracted from the feasibility study for the chosen option. However, the expenses are subject to change over time, depending on the studies undertaken

Activity relating to cost	Cost exclusive of VAT	VAT	Total cost (including VAT)
General study (including EIA studies)	404 210 €	79 225 €	483 435 € (approx. 19 000 €)
Land for Public Roads	423 650 €		423 650 €
Works for VRD ⁴⁴ and infrastructure: - primary works - secondary works - tertiary works - VRD engineering (12%) - Participation academic infrastructure - Participation collective infrastructure	10 254 080 € 829 625 € 6 097 500 € 1 671 450 € 1 031 830 € 487 840 € 135 835 €	2 009 800 €	12 263 880 €
Project Management	664 917 €	130 323 €	795 240 €
Financial costs and non-retrievable VAT	1 132 320 €		1 132 320 €
Grand Total	12 879 177 €	2 219 348	15 098 525 €

⁴⁴ 'VRD' is acronym for '*Voirie Reseaux Divers*' – or various public roads networks, encompasses creation of roads, constructions or art work as well as the implementation of public road construction sites

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A.4 Netherlands

A.4.1 Britned Connector

Brief project overview

National Grid (UK) and TenneT (NL) intent to construct a new 260km 1,000 megawatt electricity interconnector - 'BritNed' - between the UK and Netherlands. This interconnector enhances diversity and security of supply for both markets and supports European Commission's desire for more open electricity markets, greater interconnection and market transparency.

Decision process

Electricity infrastructure is a matter of national interest in the Netherlands. All new electricity infrastructure projects are described in the Dutch National Planning Decree "Tweede Structuurschema Electriciteitsvoorziening (SEV2), which has the status of a Key Planning Decision ("Planologische Kernbeslissing", PKB). The Interconnector BritNed is not included in the SEV2, but given the importance of the project the Dutch Ministries of Economic Affairs and VROM will modify the SEV2 and include the trajectory for the BritNed interconnector in the national plan. The BritNed interconnector needs to be included in the SEV2 before the necessary permits by competent authorities can be granted.

This makes the decision process for the BritNed interconnector project rather complex. The Council of Ministers (Ministerraad) is formally the competent authority for the SEV2 and also for the EIA, but the Ministry of Economic Affairs coordinates both procedures and acts as contact point for the BritNed organisation. In addition the Minister for Transport, Public Works and Water Management, Ministry of Environment, Ministry of Agriculture, Nature and Food Quality, the Province of South-Holland and different municipalities are involved to grant permits under the environmental act, water act, etc. In total more than 7 permits are required and the EIS provides the necessary background information for all of them.

Planning

The procedure to modify the national plan SEV2 and the permitting procedure were conducted in parallel and the information from the environmental impact assessment provided the basis for both procedures. This means that the EIA process must be finished before the decision to modify the SEV2 and later on decisions to grant the required permits could be taken.

The EIA processes started with the starting memorandum, which was submitted by the organisation BritNed to the Ministry of Economic Affairs, the coordinating competent authority, in February 2002.

In July 2002 the Commission for EIA in the Netherlands published it advise about the Dutch guidelines for the EIS. Then it took almost 2 years (March 2004) before the Ministry of Economic Affairs decided about the guidelines for the project. The reasons for this delay are lack of priority and capacity at the Ministry of Economic Affairs, and

coordination between the different Ministries involved took a lot of time. Based on the guidelines, BritNed could start the actual writing of the environmental report. Especially development of alternative trajectories for the interconnector required more research and time than expected. Finally in June 2006 the EIS was submitted by the organisations BritNed and the Commission on EIA approved, without significant comments, the EIS in August 2006.

The information gathered in the EIS is used to evaluate the best trajectory for the BritNed interconnector and written down in the SEV2. The Council of Ministers have approved the modified SEV2 in June 2007. The next step is approval of this decision by the parliament. No delays are expected here and it is expected that the SEV2 becomes effective by January 2008.

The SEV2 provides the legal basis for the other authorities to grant permits for the BritNed interconnector. It is expected that these permits can be granted very soon after the SEV2 becomes effective, because the trajectory of the BritNed interconnector is at a high level of detail written down in the SEV2, and all information required for the authorities to decide about the permit is already available in the EIS.

This means that the construction of the interconnector will commence beginning 2008—after receiving the relevant regulatory exemptions. Contracts have already been awarded to Siemens for the construction of two high voltage direct current (HVDC) converter stations at the Isle of Grain in Kent and Maasvlakte near Rotterdam, and a subsea cable contract awarded to ABB for construction of the HVDC cables that will be laid beneath the North Sea. By 2010 the interconnector will be operational.

To conclude, the EIA procedure took about four and a half year to complete. Although the “normal” procedure for modifying a national plan like the SEV2 is long by nature, it is clear that the EIA process took too much time. There are several reasons for this delay:

- Technical description of the project was not yet ready when the start-memo was published and had to be written afterwards;
- Different alternatives had to be developed and this required more research and study than was expected. As a result the actual writing of the EIS took more time than expected;
- Coordination between four different Ministries was complex and required a lot of time;
- Organisation of public consultation;
- Lack of internal priority and capacity at the ministry of Economic Affairs when the project guidelines had to be written;
- A dispensation from the national electricity act was needed and took a lot of time to get.
- Main reasons to conduct an EIA

An environmental impact assessment is conducted for several reasons:

To safeguard environmental interest in the decision process to modify the SEV2 the authorities have decided to conduct an EIA. The procedure to modify a Key Planning

Decision is a rather complex and time-consuming process and in some aspects comparable to the EIA processes (i.e. possibilities for public consultation);

The SEV2 is a plan that requires a strategic assessment of the plan's effects on the environment, according to the SEA Directive. When the starting memorandum for the BritNed project was published, the SEA Directive was not yet implemented in Dutch regulation and it was expected that the decision procedure could be finished before the SEA regulation was into effect, hence no need to conduct a SEA. Due to delays during the decision process it became likely that the SEA Directive could be implemented in the Netherlands before the decision process about BritNed was finished, which could mean that a SEA was required as well. To be sure, it was decided to write an EIS that also fits requirements of the SEA.

The BritNed interconnector project is subject to screening in order to evaluate whether an EIA is required. Given the size of the project, the organisation BritNed has decided to conduct an EIA anyway skipping the screening phase.

Some of the potential trajectories for the interconnector cross environmental areas that are protected by the European Habitat Directive (Natura 2000 areas). In consultation with the competent authorities it was decided to include an "Article 6 assessment" into the EIA. This part is clearly identified and distinguishable for the EIA.

To conclude, the EIS for the BritNed interconnector is a document that feeds into the decision process to modify the SEV2, which provides the legal basis for all required permits for the project. Besides the "normal" elements that are required for an EIA, the EIS contains all elements required for the strategic assessment of plans (SEA) and the Article 6 Habitat assessment for Nature 2000 areas as well.

Cost of performing the EIA

From the perspective of the competent authority the costs associated with the BritNed EIA process mainly relate to developing guidelines, organising the public consultation process, reviewing the EIS and coordinating with different authorities. It is estimated that the Ministry of Economic Affairs, who acts as coordinating competent authority, has spent about 0,3 fte for the EIA process. This is relatively limited. A similar project Randstad 380kV (high voltage electricity cable across the Netherlands) has cost much more time (more than 1 fte). This is mainly because the public consultation process for Randstad 380 kV resulted in a lot of reactions and each reaction needs to be reviewed by the authorities. For the BritNed project only a few reactions were received which took much less time to process.

Direct cost for the developer are not yet clear, but amount to 500keuro at least.

Key environmental effects

Different environmental effects are researched as part of the impact environmental assessment. This includes:

- Direct effects on the environment (i.e. effects on the sea floor, effects on the water, energetic effects, noise)
- Indirect ecological effects (effects on birds, fish, etc)
- Effects on other users and user functions
- Other environmental aspects

These potential effects are researched with regard to the different project phases i.e. construction, use of the interconnector, removal of the cables, but the general view is that the environmental effects of this project are limited. This is basically approved by the Commission on the EIA. Moreover, the EIS shows that it is not likely that the projects affects habitats and species protected by the Habitat Directive nor does it affect areas protected by Dutch environmental regulation (Ecologische Hoofdinfrastructuur).

Alternatives

Especially for infrastructure projects and plans the ability to assess different alternatives is seen as the main added value of an EIA process, because it makes a real comparison possible and decision makers have something to choose. When no alternatives can be identified the only thing decision makers can do is to say yes or no to the project.

Different alternative trajectories for the BritNed interconnector are reviewed and assessed for their environmental impacts. Some of the alternatives are not feasible for safety reasons (mainly related to ship safety) or because of technical aspects (if the cable becomes too long significant power losses occur). Eventually, only two realistic alternatives exist for the BritNed trajectory. These alternatives, basically a route north and route south, both have certain advantages and disadvantages.

The main conclusion from the environmental impact assessment was that the potential environmental effects of both trajectories are very limited. This made it relatively easy to choose for the preferred south route. This route was preferred because it was shorter, cheaper and safer. A decision about the trajectory would have been much more difficult if the southern trajectory would have a significant negative impact on the environment and the northern trajectory not.

Conclusion

The EIA provided the information basis for both the modification of the national planning document SEV2 and the necessary permits. It also included a "Article 6 assessment" according to the Habitat Directive and it met the requirements of an environment assessment within the frame of the SEA Directive.

The EIA procedure took a very long time (more than 4 years), but there did not seem to be any clear barriers that relate to the EIA procedure itself. The procedure to modify a national plan is complex and takes much time by "nature".

The information acquired in the EIS were not surprising to both the authorities and the developer. All potential effects on the environment were known in advance.

The Added value of the EIA in the decision process is that all information required for decision-making is systematically written down and the quality of the report is checked by an independent group of experts. The EIA does not result in new information or information that would not have been acquired otherwise.

The EIS made it likely that the project would not cause significant environmental effects; nor would they affect Natura 2000 areas.

Different alternatives were researched in the EIS. It was concluded that the environmental effects of both alternatives were very limited. This made it easy to choose for the alternative that was technically least complex, cheaper and safer.

Cross-boarder effects are not likely to occur. The Belgium and UK government were briefed about the plans, but no feed-back was received. There was no contact between the Dutch government and UK on “their side” of the interconnector.

Looking back one could say that an EIA was probably not needed for this project, because the environmental effects were limited or non-existent and there were almost no reactions from the public consultation.

Also a DG TREN study on trans-national energy Interconnectors (PIP) concludes that the BritNed project develops according to plan and there are not major barriers for implementation.

In Great Britain, this project has reached a stage shortly before the EIA, in the Netherlands, it will be approved by the Dutch parliament in January 2007. The construction process will presumably begin in 2007. This project can be seen as a successful model of good cooperation.

After a 7-year study phase, the permission phase (the environmental impact assessment) will, in the Netherlands, be finished in March 2007 by a national publication. Against this authorization suit may be filed. But nevertheless, the authorization can be executed immediately. Then, after a tender procedure, the winner of this procedure will apply for a construction authorization, which he will obtain, too. Then, the construction process can immediately begin.

On the English side, the permission procedure will be accomplished equally rapidly. After a feasibility study in 1999, the technical examinations were conducted in 2001. At the beginning of 2004, the EIA plan was established. The application for granting the environmental permission was submitted in the beginning of 2005. The authorization will presumably ensue by the end of 2006. As there are no lawsuits to be reckoned with (there are no objections by neighbours or NGOs), a start of the construction process by the English side can be counted upon in 2007.

In view of the rapid implementation of this project, the respective permission procedures are not described in detail here. What is to be stated here, however, is the fact that this procedure could be completed in a short time because of a good cooperation between the Dutch and the British transmission system operators.

This corroborates the idea that outside the central European or Southern European regions there are procedures that can be executed quickly, although administrative regulations are not easier.

Source: TEN – ENERGY – Project TEN-E-PIP – 11 – 5 – 20064

A.4.2 Liquid Natural Gas Terminal Eemshaven

Brief project description

The Dutch energy company Essent and US-based ConocoPhillips intend to introduce LNG to the Dutch and European market via the Eemshaven LNG terminal and associated facilities in the Netherlands. The Eemshaven is located in the Northeast of the Netherlands (Province of Groningen) close to the border with Germany and close to a Natura 2000 area “de Waddenzee”.

Ships will supply LNG. The liquid LNG will be offloaded for temporary storage in specially designed storage tanks with a capacity of 188,000 cubic meters each. After this, it will be vaporized to natural gas by heating it and then transported via gas pipelines to the national gas grid for Dutch and European natural gas supply.

The intended processing capacity of the LNG terminal is a maximum of 12 billion cubic meters of LNG a year.

The total investment costs of this project is about 800-900 million euro, including construction, exploitation, acquisition of land, background studies, etc.

The Environmental Impact Assessment

According to appendix D of the Dutch Environmental Impact Statement Decree screening for EIA is required for a storage capacity of 100,000 cubic meters or more. As the terminal's storage capacity exceeds 100,000 cubic meters, Essent and ConocoPhillips have jointly decided to voluntarily submit an EIS in advance. Main reasons for skipping the screening phase are:

- Security and timesaving. In general companies like to be in control and do not like insecurity.
- All the information needed for the EIA has to be submitted anyway when applying for the required permits so why not put it in an EIS
- The project is close to an important environmental area "de waddenzee". By conducting an EIA you are sure that no environmental effects are overseen.

The results of the EIS will be considered by the competent authorities within the scope of the licensing procedure for the Environmental Management Act and the pollution of Surface Waters Act. This procedure is a rather complex, because:

Different permits and licences are required and hence different competent authorities are involved (i.e. Groningen Province, Directorate-General for Public Works and Water Management North Netherlands, Ministry of Agriculture, Nature Management and Fisheries). The Groningen Provincial Executive has been coordinating the processing of the applications. Dealing with various applications in a coordinated manner can result in correct substantive and procedural harmonization between the various competent authorities and the required licenses. In addition, Groningen Provincial Executive has tried to coordinate other decisions that are not subject to EIA, such as a license within the scope of the Nature Conservation Act, but this turned out to be more difficult to achieve (see below).

The Eemshaven is located close to the boarder with Germany and the influence area of the LNG Terminal includes part of Germany as well. Therefore the EIA also considers the potential cross-border effects due to the LNG terminal activity. The Province of Groningen has established contacts with the German authorities and keeps them informed. Relevant documents are translated in German as well and German inhabitants and interest groups have been given the opportunity to comment of the planned activity.

Three areas near the Eemshaven (the Waddenzee, the Schiermonnikoog Dunes and the North Sea coast zone) have a formal protection status by the European Habitat guideline (Natura 2000 area). Parallel to the EIA, an "Appropriate Assessment" was

performed, which also serves as a basis for the license application within the scope of the Dutch Nature Conservation Act.

There are many other activities planned in the area in and around the Eemshaven. The most important ones are a windmill park, a high voltage electricity cable to Norway (NorNed) and an energy plant by Nuon and RWE and for these activities EIAs are conducted as well. The accumulated effects of these activities have to be taken into account as well within the EIA for the LNG Terminal. A combined mitigation plan is being developed to compensate for the loss of biodiversity.

Besides the decisions for the intended LNG Terminal, decisions must also be taken with regard to the activities immediately connected to the proposed LNG Terminal, including dredging the waterway and the port. The Province of Groningen leads the decision-making by the various competent authorities with regard to licences for related activities that take place in the same period.

Planning of the EIA

The EIA procedure, which started with the publication of the starting memorandum by the developer and ended with the publication (and review) of the EIS, took about one year. And the permit within the frame of the environmental act was granted six months later. The EIS is finished and approved by the Commission on EIA in the Netherlands in March 2007. The different phases are described in more detail below.

February 2006

On 28th of February 2006 the developer submitted a starting memorandum. The starting memorandum was based on preliminary project plans. Since this submission, additional studies and project definition have been completed and resulted in some changes in the basic premises described in the starting memorandum. This document was open for public consultation.

May 2006

The Commission on the EIA in the Netherlands published its advice on the guidelines for the EIS and gave recommendations for the EIS to be drawn up 4th of May. This advice was submitted to the competent authorities. On May 30, 2006, these guidelines were adopted by the Groningen Provincial Executive and by the Directorate-General for Public Works and Water Management North Netherlands as joint competent authority.

June - November 2006

The developer prepared the EIS and discussed draft EIS with authorities. This ensures that the EIS fits the needs and requirements of the competent authorities and avoids (negative) surprises when the EIS is published.

30 November 2006

The developer submitted the EIS and the license applications to the competent authority. The authorities must evaluate the information in the EIA and decide to grant the permits. The EIS and the licence application are open for public consultation.

March 2007

The Commission on EIA in the Netherlands reviewed the EIS (and comments on the EIS submitted during the public consultation period). The Commission concluded that the EIS contained all the necessary information for the competent authorities to evaluate the environmental impact of the proposed activity. The Commission had also some comments about certain aspects of the EIS. This was mainly related to safety (in particular nautical safety), impact on the nature (in particular the Natura 2000 areas, including the nature areas in Germany), and the most environmental alternatives.

March-June 2007

The public authorities published draft permits, which are again open for public consultation for a period of six weeks. No comments were received during this consultation period so by the beginning of July the necessary licenses and permits, within the frame of the environmental act, were formally granted by the Province of Groningen.

The license application within the scope of the Dutch Nature Conservation Act, which is however not part of the EIA, has not been granted by the Ministry of Agriculture, Nature Management and Fisheries yet. This is required before next steps can be taken. Whether this permit will be granted and when (could be November 2007 or February 2008) is highly uncertain causing delays of at least 6 months (but may be more) to the project.

When all this licence is granted the project developer takes the final investment decision. The construction of the LNG Terminal is expected to take place between in the period 2008-2011 and the LNG Terminal is expected to be operation in 2012, but delays are likely with such a big project.

Cost of performing an EIA

From the perspective of the project developer the costs of the EIA process are estimated at 800keuro for the 17 month period. This includes 500keuro to write the EIS (outsourced to independent consultants), conduct background studies, develop mitigation plan, etc. An other 300keuro relates to 2-3 fte at Essent that has been responsible for the EIA (and also permitting process). This includes coordination, communication with CA and Commission on EIA, etc.

The costs for the developer are a little higher than expected. This is mainly caused by the additional information that is required for the Habitat check and the delays caused by this. The costs for the EIA are more or less as expected and the costs are not regarded too high by the developer (it represents 0,1% of total project costs). From the perspective of the developer, the main aim is to get the required permits and licences without trouble and resistance from the public or other stakeholders and the EIA procedure offers a structured approach to get commitment for the main stakeholders and offers opportunities for communication and pr.

Key environmental effects

A distinction is made for environmental effects that occur during the construction phase and during the operational phase. These effects are well described in the EIS and briefly described below.

The key environmental effects during construction of the terminal and jetty are:

- noise and vibrations;
- once-only discharge of water (used for hydrotesting the storage tanks) in the port;
- once-only emission of natural gas as methane discharge during start-up of the terminal;
- limited extent of light pollution;
- disruption of nature due to the pile driving during construction work.

During the operation phase environmental effects relate to the supply, storage, vaporisation and distribution of LNG. The key environmental effects that can occur during:

supply and drainage are: emissions of CO₂ originating from ships, noise from ships and unloading facilities, lighting at the jetty during ship unloading.

storage is: the possibility of emissions into the atmosphere

Vaporizing LNG into natural gas are: draining lightly polluted water, noise hindrance from the vaporization installation, emissions of CO₂.

Transporting natural gas through a pipeline are: not to be expected.

Any effects on the surrounding environment may be the result of the previously stated environmental effects. These effects should be considered with the utmost care. The following disruptions could occur:

- effect on flora and fauna;
- taking up space in forage and leisure area;
- acidification;
- effect of discharge on surface water;
- erosion and sedimentation by shipping;
- (visual) scenic features.

In general, the environmental impact of this project is minimal. This project is not something completely new. There are many examples of similar LNG installations across the world. The technology and the potential environmental effects are well known. That is why the EIS did not reveal new environmental information or unknown environmental effects.

The added value of the EIA process is that all environmental information of the project is well structured and centrally available. This information has to be acquired anyway. Another advantage is that it offers the possibility to communicate with the public. The EIA procedure has two moments for public consultation and this can be seen as excellent PR moments for the developer to present their plans to the public.

Alternatives reviewed

Because of the specific demands for a LNG terminal (deep-sea port, access to the gas grid) there are not many alternative locations. The only alternatives are the port of Terneuzen or the Maasvlakte in Rotterdam. The developer has performed studies in the past, in which Eemshaven came up as a suitable location. Because of the difficulty of obtaining land at the other locations, these alternative sites were not pursued further.

At the Eemshaven, two different sites qualified: one was the site described in this EIS and the other was a site on the east side of the Wilhelmina port. The latter site was disregarded for nautical safety reasons. If the LNG terminal is not constructed in Eemshaven, it is possible that LNG will be supplied abroad (zero-alternative) and other industrial activities can be developed at the Eemshaven.

In reality there is however not alternative for the LNG Terminal in the Eemshaven. In the EIS alternatives are described in terms of different technologies that can be used. Within the different processes that take place during the construction and operation of the Terminal different technical alternatives are described and reviewed in the EIS. This resulted in the most environmental alternatives (MEA) and preferred alternatives (PA). The PA does not match the MEA in two cases. In the construction phase, the preferred pile driving technology (hydraulic) is not the MEA (boring) and the preferred vaporization technology (SCV stand alone) is not the MEA (OVR), which can reuse the heath for electricity generation. These alternatives need to be evaluated in terms of safety, quality, costs, environmental impact, etc.

In its review on the EIS the Commission on the EIA strongly recommended the competent authorities to take these alternative technologies into account in the permitting procedure for the environmental act and/or the Habitat check. Especially with regards to the "Habitat check" the effects of different technologies are very hard to determine (what is the effect of noise during construction of the population of seals in the Waddenzee?). Even experts are not sure about this. Moreover, which technology is finally chosen, and its environmental impacts, depends also on the mitigation plan that is currently developed for all activities that are planned in the Eemshaven.

Conclusion

Added value of the EIA is not the environmental information gathered, because that needs to be collected anyway for the permitting process. The main added value of the EIA is that it offers opportunity to structure all environmental data related to the project into one document and it offers the possibility to communicate with the stakeholders and public about the intentions of the developer hence reducing resistance to the project. This justifies the costs associated with the EIA, which are not too high.

The EIA procedure took about one year and total permitting trajectory was 17 months. This is not too long and comparable with similar projects of this size. Both the CA and the developer indicate that there are not many opportunities to shorten this period. Procedures for the EIA are fixed by law and two periods of six weeks for public consultation (during scoping and when EIS and application are sent to CA) are also obligatory and fixed. Time to write the EIS itself cannot be shortened, because research has to be conducted to gather environmental information.

Delays are not caused by the EIA procedures itself, but for projects that are subject to an appropriate assessment within the frame of the Dutch Nature Conservation Act, significant delays are reported because the Competent Authority (Ministry of Agriculture, Nature Management and Fisheries) has high demands for the information to be submitted before the necessary licence is granted.

Communication between the developer and the CA for the EIA is good. The CA actively things with the developer, coordinates different permitting procedures, and discusses draft EISs. Although the assessment within the frame of the Habitat Directive is included in the EIA, this is not required. In fact both procedures are separated, have different requirements and timescales, and CA. It turned out that it was not possible to coordinate both procedures.

A.4.3 Chlorine and MCA plant Delfzijl

Brief project description

The project included the construction of two chemical plants at an industrial area near Delfzijl in the North of the Netherlands. It includes a plant for the production of chlorine and a plant for the production of Monochloroacetic Acid MCA, which uses chlorine as main input chemical.

The project is part of a major restructuring of Akzo Nobel's chlorine operations in the Netherlands. In the past Akzo Nobel produced chlorine and MCA in three locations in the Netherlands; Rotterdam, Hengelo (east of the Netherlands), and Delfzijl (north of the Netherlands). Because demand in Rotterdam exceeded supply significant amounts of chlorine were transported by rail across the country to Rotterdam. These chlorine transports were considered a major safety risk, because many densely populated areas where crossed.

In 2002, Akzo Nobel signed an agreement with the government to eliminate these risky chlorine transports. To make this happen, the agreement includes:

- Closure of chlorine production plant (based on diaphragma electrolysis) and closure of “chloorkoolwaterstoffen bedrijf” in Delfzijl;
- Closure of the chlorine production plant (based mercury electrolysis) in Hengelo and the MCA plant in Hengelo;
- Extension of the chlorine production plant in Rotterdam (based on membrane electrolysis);
- Replacement and construction of a new chlorine production plant using membrane electrolysis and chlorine acid (MCA) plant in Delfzijl. The new chlorine production plant will replace the old chlorine production plant. The MCA plant will be build on a new area next to the chlorine production plant.

For the latter an EIA procedure is required. The EIS will be used by the competent authorities to decide about the required permits within the frame of the environmental law (wet milieubeheer) and law on contamination of surface water (wet verontreiniging oppervlaktewateren). The competent authorities for this project are the Province of Groningen (GS), Waterschap Hunze en Aa's, and Rijkswaterstaat North Netherlands. The province of Groningen acts as coordinating authority.

Around 200 million euro is invested in the replacement and construction of two new chemical factories. The Dutch national government granted a 65 million euro subsidy to Akzo Nobel, which is approved by the European Commission, because this project ended the chlorine transport across densely populated areas in the Netherlands. Therefore there was a strong incentive to speed-up the permitting procedures and start building the plant in Delfzijl, because it was decided at the highest political level to terminate those chlorine transports.

Planning of the EIA

The EIA procedure started with the publication of the starting memorandum on January 15, 2003 by the initiator of the project AkzoNobel. This document was open for consultation, both in the Netherlands and Germany. The Commission on EIA reviewed this paper and published its advice on the guidelines for the EIS by April 2003. The EIS was published September 29, 2003 and approved by the Commission on EIA in December 2003. The permits were granted soon after.

The total process, from start until the required permits were granted, took 14 months. This is a rather short period for a project of this size. Main reason for this is the high priority given to this project, which made different authorities work a little harder. An other advantage was that the Habitat Directive was not yet implemented in Dutch regulation. If the same project would start today it would probably take much longer (and be more expensive) because of the required Habitat check, which demands extra information on the impact of the plant on Natura 2000 site “de Waddenzee”.

The two chemical plants were officially opened by the end of September 2006. Since 2006 there are no structural chlorine transports anymore in the Netherlands.

Alternatives

There was no serious zero-alternative in this case, because Akzo Nobel agreed with the government to reduce or eliminate rail transport of Chlorine. If the intended extension of chlorine production in the Delfzijl will not be conducted chlorine needs to be acquired from other locations in Europe resulting in annual chlorine transports of 50.000 – 90.000 tonnes in the Netherlands. This is an unwanted situation and therefore not examined further.

The alternative option to replace both chlorine production and MCA plant to Delfzijl fitted best with Akzo Nobel's intentions. An alternative was to keep the MCA factory in Hengelo, align local chlorine production plant with capacity of the MCA plant and also build a small factory in Delfzijl. For economic reasons this was not a feasible option for Akzo Nobel. Moreover, the chlorine production plant in Hengelo must be closed before 2010, because internationally it is agreed that emission of mercury must be abandoned by 2010 (OPSPAR agreement).

Within the preferred alternative (construction of chlorine production and MCA plant in Delfzijl) different technological options regarding design, storage, safety risk, etc are reviewed that were considered “best environmental alternative”. These options are clearly described and evaluated in the EIS.

Cost of the EIA

It is difficult to see the costs of the EIA separately from the total project costs related to acquire the necessary permits. The EIA is basically integrated into the permitting procedure. At AkzoNobel 2-3 fte were directly involved in this process (broader than EIA only) and indirectly another 10-15 people part-time (i.e. coordination, meetings, etc). For the actual writing of the EIS AkzoNobel hired external consultants, because AkzoNobel does not have the required expertise to do this. This costs between 100-200 keuro and is the most expensive part of the EIA process.

The Province of Groningen, as coordinating competent authority, employed 4-5 civil servants at this project. Again this is broader than the EIA only and involves the permitting procedure as well. In total they spent about 300 days on this project, but 100 days are directly related to the permitting procedure. This means that 200 days (or 1 fte) is related to the EIA procedure itself and this can be estimated at 100keuro.

In addition, there are some direct cost like organisation of consultation meetings, translation costs (summary of EIS had to be translated in German), but this is not more than 5-6 keuro.

Total costs for the EIA is estimated at 105 keuro for the CA and for AkzoNobel the costs associated with the EIA is estimated at 400-500 keuro. Given the size of the project (200 mln euro), these costs are reasonable and represent 0,25% of total investment costs.

Conclusion

There was a good cooperation between the developer and CA. The EIA procedure was clearly integrated with the environmental permitting procedure. The EIA results in some extra costs, but this limited to 2-4 months maximum. This extra time is mainly due to the formal public consultation phase during scoping (6 weeks) and when the EIS is published (6 weeks for consultation and 5 weeks for the Commission on EIA to advice about the quality of the EIS).

The project duration was limited and took only 14 months. This was mainly due to high priority given to this project. An assessment within the frame of the Habitat Directive was not required, because the Directive was not implemented in Dutch regulation.

Both CA and developer indicate that an EIA was not required for this project, because the environmental effects were known before. Moreover, all information gathered in the EIA had to be submitted anyway to the CA in order to get the necessary environmental permits.

The cost of the EIA meet the benefits. According to the developer the main advantage of the EIA process is the independent check on the quality of the EIS by the Commission on the EIA. This provides you with a report that confirms that environmental effects are taking into account for this project. This can be used in communication with the stakeholders and the public to reduce resistance.

A.5 Poland

A.5.1 Reconstruction of Wyszkwow Ring Road

Project name: Reconstruction of the national road number 8 in the Wyszkwów ring road stretch

Key issues

Implementation of the project is connected with three EIA procedures. Complicated and prolonged environmental impact assessment of the project resulted from significant changes in EIA law, which entered into force at the final stage of project planning. Consequently, developer had to obtain additional decisions, which significantly prolonged the construction stage.

The planned investment was analysed in respect of impacts on NATURA 2000 sites. Consequently, CA imposed on the investor additional requirements consisting of conducting environmental listing, which prolonged the investment planning stage. Simultaneously, there was no real possibility of building the Wyszaków ring road in such a way that it does not cross the NATURA 2000 sites.

Polish Society for the Protection of Birds (OTOP) actively participated in the EIA procedure as an environmental NGO. The developer was negotiated with OTOP, trying to achieve a compromise. This is an example of treating environmental organization as an equal partner, which resulted in including some of OTOP's comments in the project.

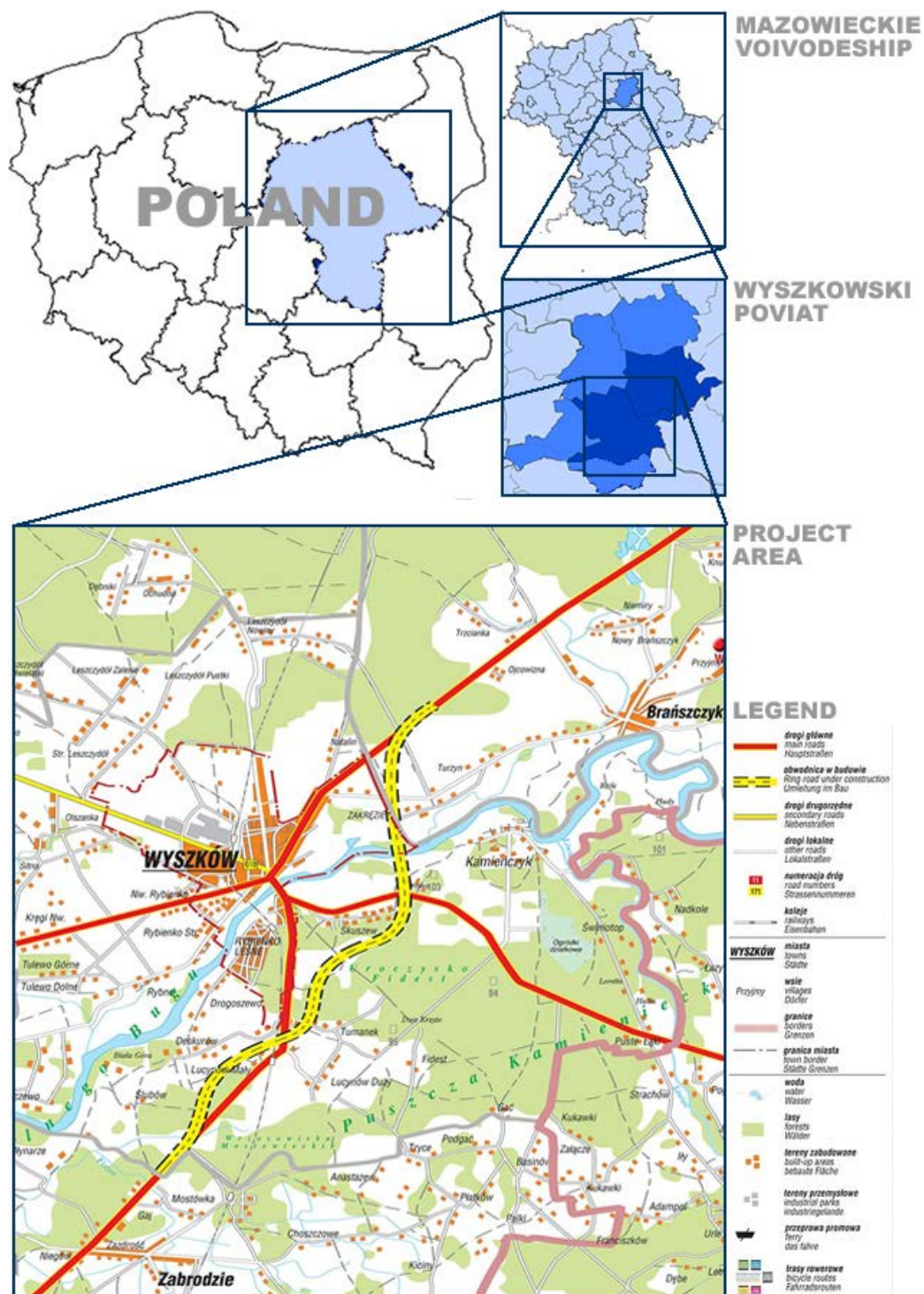
In DEC and the construction project there was a number of requirements pertaining to construction of environmental protection facilities and other means minimizing the negative impact during the construction stage. There was also the need to perform ex-post analysis and monitoring brought up. This is an example of a project in which the use of environmental protection measures is required irrespective of their costs to developer.

Brief description of the project

The aim of the project is construction of Wyszaków ring road (12.8 km in total) and construction of bridge on Bug River. It will be a two-carriageway road and will constitute a fragment of an express road number 8. Currently the road number 8 Warsaw – Białystok (the capital city of Podlaskie Voivodship) crosses Wyszaków (powiat city, 27 thousand residents) and Bug river valley. The considered stretch is situated in transport corridor of international importance. The technical parameters of the existing bridge do not respond to the current traffic. Significant difficulty in traffic and large nuisance for residents were arguments for necessity construction of the ring road and a new bridge.

The planned road stretch collides with three NATURA 2000 sites: PLB Dolina Dolnego Bugu, PLB Puszcza Biała and PLH Ostoja Nadbużańska.

Figure A.5.1 Location of Wyszkw



Source: Prepared by the authors based on the map of the Wyszkw surroundings
(www.wyszkw.pl/gmina/pliki/mapa_okolice/okolice_gminy.jpg)

Project implementation phase

The construction of Wyszaków ring road is a part of project “Construction of express road S-8 Radzymin – Wyszaków and Wyszaków ring road” financed in 83% from the Cohesion Fund. Currently (July 2007) in the stretch of the planned ring road there are road works underway (construction of earthworks, excavations, soil stabilization) and bridge works (establishing bridge elements with concrete). Completion of construction works on the ring road is planned for July 2008.

EIA processes – introduction

Long process of planning road construction, from establishing location to obtaining decision necessary for construction was in the case of Wyszaków ring road prolonged by a year, in result of legal changes pertaining to EIA regime, which entered into force at the final stage of designing phase (before obtaining construction permit). Before 2005 a separate EIA processes were conducted before obtaining subsequent decisions connected with a planned project (planning permission, construction permission, decisions establishing conditions of works in areas of environmental value, and so on). Following an amendment being introduced to the Law, the EIA procedure is conducted once for a given project, in order to obtain DEC, being a precondition of obtaining all other decisions. Below we present subsequent stages of EIA procedure (the two initial stages shortly, and the last one, connected with obtaining DEC in respect of ring road impact on NATURA 2000 site, with more details).

EIA process – before obtaining planning permission

The design works begun in mid-1990s. They resulted in “Programme and spatial conception of ring road construction” of 1998 and a document entitled „Environmental Impact Assessment” (EIS counterpart) of 1999. The preparation cost of the document amounted to approximately EUR 12 thousand. The tasks were performed by external company selected in tender. Subject to analysis were only three similar variants of road location and the null variant. This was consulted with regional managers of State Forests, whose remarks pertaining to location of the road in respect of forest areas valuable for nature and economy, were taken into account. The analysis of variants took place at the stage of preparing local development plans of gminas through which the road was passing. Finally, the location of the road was established in planning permission of 2001 by the CA – the Major of Wyszaków.

Variant II selected for implementation was assessed by the CA conducting the procedure at further stages, on the basis of existing materials and consultation results, as optimal from the environmental point of view, as the road in it crossed relatively narrow stretch of the Bug river valley, excluding the most valuable habitats. According to the investor, it is usually the variant most beneficial for environment that gets selected, irrespective of the costs of its implementation.

When the planning permission was made there was not yet NATURA 2000 sites in Poland. It is possible that under new nature protection conditions other variants of the ring road would also be considered. However, it was not possible to design the Wyszaków ring road without making it cross at least two NATURA 2000 sites. The CA

managing EIA at further stages could not intervene with the location of the ring road, accepted in the planning permission issued in 2001.

EIA process – before obtaining construction permit

Preparation of construction project, which was also subject to environmental assessment, pertained only to the selected location variant. Investor (GDDKiA – General Directorate for National Roads and Motorways) commissioned project preparation, as well as EIS, to a company other than the company preparing the program and spatial conception. In November 2004 and July 2005 the investor obtained the following decisions required by law: decision on works conditions in the part pertaining to the Bug river valley area of special value for environment, and the decisions allowing for conducting the investment in its part pertaining to NATURA 2000 sites.

The investor applied to CA for construction permit in August 2005, submitting construction project and EIS report. The EIS preparation cost amounted to EUR 30 thousand. Following the decisions negotiated with the environment protection body and sanitary inspector, required by law, the CA issued construction permit and the decision allowing for scaring birds (September 2005) valid until March 2006.

The construction project included environment protection facilities, among them:

- passages for animals under road (6),
- storage and filtering reservoirs with installations for pre-treatment of rain water, including separators,
- parking lots outside forest areas,
- durable game fence, visible for animals, isolating road from the forest,
- non-transparent noise screens.

EIA – process – before obtaining DEC

In the meantime an amended EPL Law came into force, requiring DEC in respect of environmental impact on NATURA 2000 site. Therefore, despite obtaining the final construction permit in accordance with the earlier legal order - the works could not begin. Developer, however, already purchase lands, and therefore the first stage of the process had already begun. Moreover, the developer had to bear additional costs connected with the fact that he earlier signed agreement with the contractor providing for works commencement in a specific time. The works, however, could not have been started on the due date, which undoubtedly constituted breach of the agreement and was connected with financial costs.

Obtaining DEC was connected with the necessity to submit the documentation once more, together with DEC application, and in particular an EIS which had to be updated, broadened and adapted to the new law. Despite the fact that the report was already prepared under the previous EIA (2002), it was no longer valid (the traffic changed, which necessitated changes in all emissions and impacts). Fundamental changes turned out to be necessary. Moreover, as the key issue was the impact of the planned

road on Natura 2000 site, CA required additional environmental listing. The complete new report with annexes cost the developer EUR 50 thousand. Another external company was engaged to work on completing EIS. Moreover, EIS had to include the results of archeological listing. The archeological inspection cost the investor EUR 325 thousand. As part of public consultations a meeting with residents was organized, with participation of: investor and representatives of local self-governments.

In November 2005 the developer submitted DEC application. It was found incomplete (lacking one Natura 2000 site). It was completed in January 2006. CA was obliged to consult the decision conditions with the Minister of Environment. Consultation application was sent in February. The ME transmitted the consulting decision CA in May. Consultations with the State Voivodship Sanitary Inspector were not required.

During the consultations the works already begun, consisting of removal of shrubs (March 2006) on the basis of the decision allowing for scaring birds of September 2005.

Upon publicizing in usual manner the ongoing process and in particular the ME decision, the Polish Society for the Protection of Birds – OTOP expressed will to participate in the EIA process as its party (June 2006), and simultaneously submitted its comments pertaining to the prepared EIS and conditions that, according to OTOP, should be included in DEC.

In July and August 2006 (before the DEC decision) some bridge and earth works were started as part of the investment, on the basis of earlier decisions.

In August 2006 the developer replied to OTOP's comments in an extensive letter to CA. CA, on the basis of internal consultations (especially with the Voivodship Conservator of Environment) and consultation with ME issued DEC in September 2006.

The decision contained 10 requirements pertaining to NATURA 2000 area protection during construction and use of the road. The requirements in part followed the OTOP motions. They were mostly detailed and specific, and so their practical implementation was easily controlled, e.g.:

- transportation of materials was supposed to take place only within the specified road lane,
- construction of screens preventing animals from entering the carriageway,
- following completion of construction works all remnants of construction materials should be removed, and unnecessary access roads, and in the case of temporary bridge – the construction of the bridge and earthworks at the access road (removal at the lowest 20 cm level should be performed manually).
- the places where greenery was damaged should be planted with trees species appropriate for the habitat.

Not more than just a couple of general statements were used. One of them was: "construction stage should be limited in time as much as possible". Unambiguous fulfilment of requirement expressed in such a way is difficult to assess.

Moreover, it was required to perform ex-post analysis in respect of efficiency of the proposed design solutions and measures minimizing transformation of areas of environmental value, and also to monitor the environment for three years.

Following the DEC decision works became more intensive.

In October 2006 OTOP submitted appeal against DEC to ME. In the appeal OTOP mentioned four cases of law infringement by the EIA in question. In December the Minister of Environment decided to upkeep DEC, at the same time responding to OTOP's comments. Three of them was considered by the ME not to be substantial (the Minister presented arguments for that in the form of law interpretation), and one of the remarks was taken into consideration and added as condition for upholding DEC (obtaining the decision on birds scaring, following the decision from 2005 being found not binding). In January 2007 OTOP appealed the decision to the court.

Despite the fact that the decision is currently subject to court proceedings, the road works are in advanced stage. The situation would get very complicated if the court accepted OTOP's appeal. The problem described here results, inter alia, from changes in EIA law that entered into force during the EIA procedure pertaining to Wyszków ring road. Legal changes were necessary in order to improve the EIA system, but in combination with long procedures connected with roads the overlap of two legal regimes they resulted in the problems described below, especially:

- significant delays (about one year) in construction of the road and connected costs,
- commencement of the investment before obtaining all necessary decisions.

Table A.5.1 Costs of EIA process – the stage before obtaining DEC*

EIA component	CA			Developer			CA & Developer		
Preliminary studies (work undertaken prior to start of EIA)	-	-	-	15	90	0,17	15	90	0,16
Screening & Scoping** (determining whether certain project must be subject to EIA; determining what information is required in the EIS)	20	120	12,82	-	-	-	20	120	0,22
Environmental	-	-	-	6500	54000	99,83	6500	54000	98,14

Studies (conduct of environmental studies and preparation of EIS)									
Review and Decision Making (formal review of EIA by CA and advisors and process whereby CA decides whether or not to approve project, based on EIA findings)	136	816	87,18	-	-	-	136	816	1,48
TOTAL COST OF THE EIA PROCESS	156	936	100	6515	54090	100	6671	55026	100

*The table does not include the costs of archeological inspection (EUR 325 thousand); the EIS had to include the results of this inspection.

**Polish EIA regime the Screening and Scoping stage are connected. The body deciding on necessity of EIS preparation simultaneously specifies its scope.

A.5.2 Modernization and Development of the “Czajka” Sewage Treatment Plant – Warsaw

Project name: Extension and modernization of Czajka sewage treatment plant (sewage treatment part, preparation of sludge for utilization and thermal utilization of sludge)

Key issues

- Large interest of the local community in the project; high level of activity of residents of the district in which the project is to be realized; organized forms of opposing the construction of thermal utilization of wastes plant.
- Wide informational campaign led by the investor before EIA, and procedures well conducted by the CA, involving the community's participation; the protesting parties call the procedure a manipulation and propaganda campaign; it is difficult to objectively assess validity of objections raised by the protesters.
- EIA was conducted quickly and effectively considering the scale of the planned project and numerous conflicts of interests.

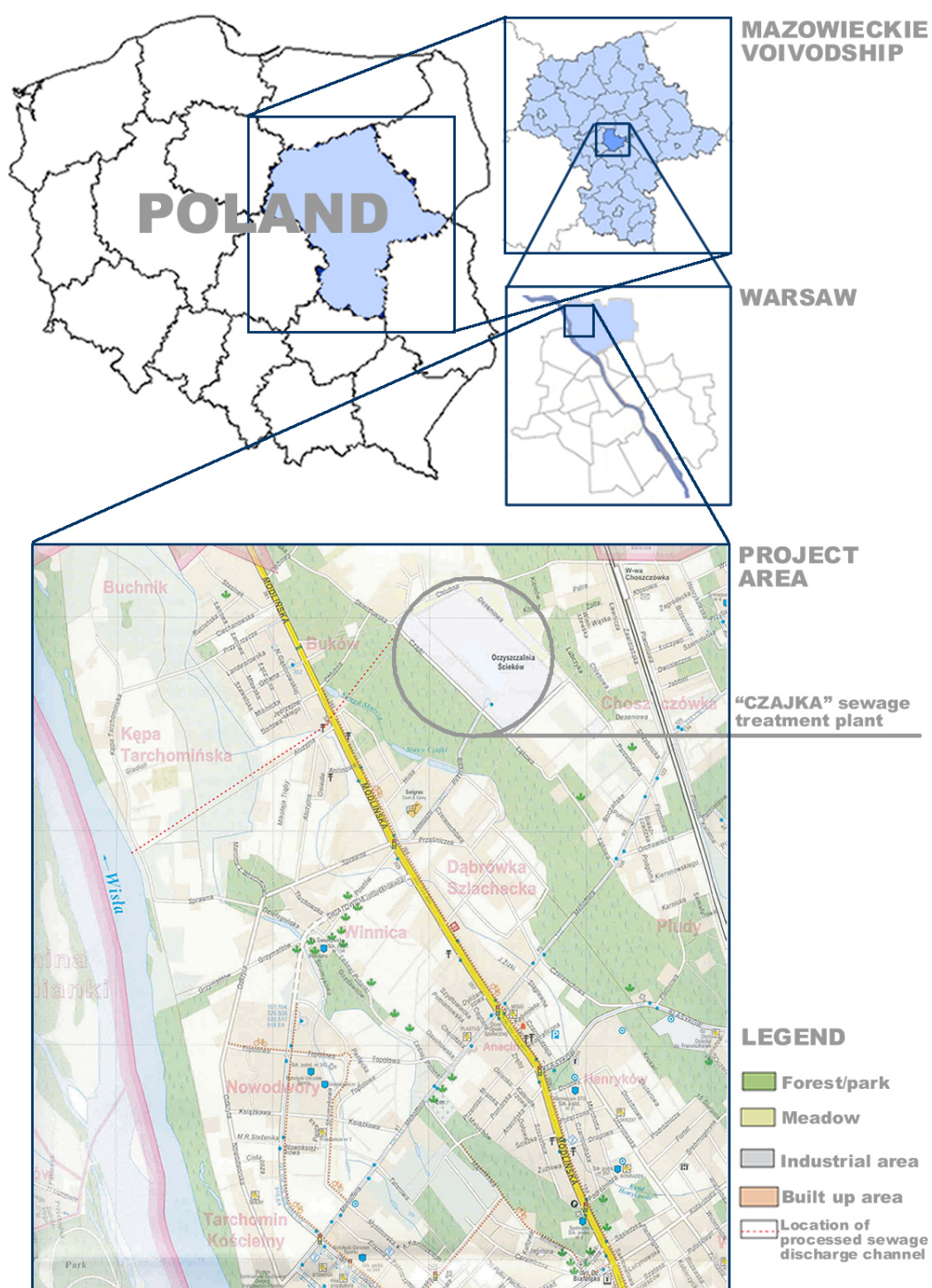
Brief description of the project

The planned project is located in Warsaw, in its northern part, in Białoleka district at the right bank of the Vistula River. Already existing Czajka treatment plant, managed by the Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji [Municipal Water and Sewage

Services] operates since 1991 (its construction started in 1974), serving the right-bank Warsaw and 5 nearby gminas. It is the first sewage treatment plant in Warsaw and one of its two currently existing plants. The plant currently occupies the area of 52 ha, of which 31 ha is taken by the existing installations, and the remaining part constitutes a reserve for construction of new objects. It is a mechanical and biological plant. It purifies municipal and industrial sewage. The planned project is supposed to increase the current capacity of the plant to the level allowing for processing additional sewage from central and north areas of left-bank Warsaw.

The project is to be realized within "Water Supply and Sewage Treatment in Warsaw – STAGE III" Project, co-financed from the Cohesion Fund on the basis of Decision of the Commission no. 2005 PL 16 C PE 003

Figure A.5.2 Location of the case study area



Source: Prepared by the authors based on the map provided with the EIS.

Project implementation phase

DEC was issued in June 2007 and it is not yet finally binding (the appeal was submitted in July by an NGO being one of the parties to the conflict; the case is underway).

In July the developer - Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji (MPWiK) publicly opened tenders for realization of the project. Offers of potential contractors were submitted by three consortia.

EIA process – the stage of localization of the investment

Currently only 50% of sewage in Warsaw goes to treatment plant (right-bank Warsaw is served by the existing Czajka plant having capacity of 180 000 m³/day, and the southern part of left-bank Warsaw – by Południe ("South") plant with capacity of 70 000 m³/day). Consequently, it is necessary to construct installation serving central and north part of left-bank Warsaw.

In the 1990s there were three variants of location of the investment taken into account: two in the northern part of left-bank Warsaw and one consisting of extension and modernization of the existing right-bank Czajka plant so that it can collect sewage from right-bank (north and central) part of the city.

In 1997 the consortium of companies Safege and Sogreah prepared a study entitled "Comprehensive strategic engineering, institutional and financial programme study of modernization and development of water supply and sewage system in Warsaw". The study analyzed two variants of the solution. The preferred variant suggested in the final conclusions of the study was that consisting of modernization and extension of "Czajka" plant.

The Municipal Board of the Capital City of Warsaw appointed a commission for assessing the study.

In 1998 the commission agreed that the existing "Czajka" plant requires modernization and increase in effectiveness of pollution reduction, but also that the final selection of location of the sewage treatment plant to serve left-bank Warsaw requires deeper analysis of technical and economic aspects, as well as social conditions (in 1990s there was not yet full EIA procedure in Poland). Consequently, in 1998 the Municipal Board of the Capital City of Warsaw commissioned to the Institute of Environmental Protection preparation of a Conception Study of sewage treatment plant for combined part of sewage system for left-bank Warsaw. The study mentioned above confirmed the conclusion accepted in the "Comprehensive Strategic Study..." opting for the variant consisting of transmitting sewage to the right bank of Vistula and extending "Czajka".

Additional analysis was made in 1999 by the Immovable Property Purchase Department of the Municipal Board of the Capital City of Warsaw entitled "Analysis of Formal and Legal Conditions of Land Purchase". The result of the analysis was that realization of both variants located in the north left-bank Warsaw is not rational for environmental, social and other reasons (compulsory acquisition of large private areas, land already partially devoted to other uses, location in the buffer zone of the Kampinos National Park).

In 1999, upon commission of the Danish Environmental Protection Agency, a study entitled "Programme for improvement of Warsaw water supply and sewage services" was prepared, which confirmed validity of the variant consisting of Czajka's extension. On the basis of the above materials the Council of Warsaw in 1999 adopted resolution on selecting the location of the sewage treatment plant for combined part of sewage system for left-bank Warsaw (location within "Czajka").

In 2000 there was an "Assessment of impact on environment of the „Czajka” sewage treatment plant in Warsaw after modernization and extension” made. Public consultations during which no objections were raised to the planned investment were held, and the planning permission was obtained.

In connection with a long process of applying for funds from the Cohesion Fund for realization of the project and with constantly changing Polish law pertaining to spatial planning and environmental protection, as well as with expiration of the general local development plan for Warsaw, it turned out that the investment project requires obtaining a decision on location of public investment. Obtaining the decision was connected with necessity to prepare EIS for the stage consisting of establishing the location.

The study was made by three companies and constituted the basis for issuing three decisions on establishing the location of public investment: for extension and reconstruction (modernization) of "Czajka" sewage treatment plant, for construction of sanitary collectors for transmitting sewage from left-bank Warsaw to "Czajka" sewage treatment plant, and for construction of discharge collector for processed sewage from "Czajka" treatment plant. The authors of EIS say that despite passing of 5 years the arguments brought for and against particular variants are still valid. Detailed description of EIA at this stage is not subject to analysis in the present Case Study.

EIA process – the stage of DEC

The works prior to EIA

Taking into account potential public controversies around the project, expected numerous protests of residents and organizations and simultaneously crucial importance of the planned investment for Warsaw, the developer begun wide public consultations long before the start of EIA. Contacts were established with District authorities and housing estate councils, press, NGOs. Within the consultations:

A couple of visits in Berlin were organized for representatives of these entities, allowing them to see a similar plant with thermal processing of sludge operating there.

Two consultation points were created, e-mail address and telephone consultations point, in which representatives of the local public could address their doubts, obtain (also by mail) printed materials and made appointments to discuss the issues with experts.

Appropriate documents were made available to the public on the Internet

Brochures and flyers were printed and distributed in a couple of thousands of copies, informing on possibilities of consultations, places and methods of submitting comments

and questions and on places where the information materials are available electronically and on paper.

Articles presenting general outline and direction of the project development in the district were published in press.

Graphic competition was prepared for children and youth and an exhibition.

The developer actively participated in meetings of self-governments, environmental and social organizations, with participation of foreign experts organized in order to conduct consultations on "Czajka" sewage treatment plant.

Publication in local newspaper and on developer's website of a survey devoted to visualization of various architectonic concepts of the modernized "Czajka" sewage treatment plant

Conducting surveys on statistically representative sample of residents of Białoleka district and of Warsaw, allowing to detect the level of acceptance or rejection of particular elements of the project.

organizing "Open Days" in "Czajka" sewage treatment plant

Above we presented selection of the most important elements of information and consultation action led by the developer. What should be underlined is that holding public consultations by the investor is not obligatory, but an analysis of social conflicts must be included in the EIA.

In August 2006 the developer signed contract for preparation of EIS with consortium of two companies (the leader of which was a company preparing EIS at the stage of establishing location). The planned project belonged to category 1 (mandatory EIS). The developer did not submit question on the scope of EIS (detailed arrangements pertaining to scope of the EIS were made between the authors of the report and the CA).

Preparation of EIS

EIS was prepared by a team consisting of 19 persons from both companies; works on it lasted from September 2006 to January 2007. It has 340 pages and 23 annexes. CA and the consulting bodies did not have any serious objections to its content (the lead company is well-known, renowned consulting company).

Within EIS 2 basic variants of extension and modernization of the sewage treatment plant were presented; considered variants included 2 variants consisting of transforming the sludge before incineration, and 6 variants of sludge utilization. Analysis of technological solutions assumed in tender materials allowed to estimate the emissions of substances and energy to environment. This estimation assumed the least environmentally beneficial details and entry data necessary to perform the analysis (at this stage of investment planning there are no complete details of the technological data available, which makes realistic assessment of the environmental impacts difficult).

EIS did not state any significant impact on three nearby NATURA 2000 sites (among the data used were data from listing of birds conducted for EIS during the location establishing stage).

It indicated necessity to conduct monitoring and ex-post analysis.

Application for DEC & consultations

In February 2007 the developer applied to CA for DEC. CA in this case was the Mayor of Warsaw. Due to large public interest in the planned investment, CA extended by over two weeks the required three weeks period during which EIS was available to the public. Consequently, the final deadline for public comments was postponed. CA received altogether 20 comments at this stage (this is the largest number amongst all EIAs conducted by the CA). The parties to the proceedings were, inter alia, NGO created by residents of the district in which the investment is to be made (Nasza Choszczówka [Our Choszczówka], hereinafter NC) and OTOP.

In February 2007 CA requested obligatory approval of DEC conditions from PWIS. In April PWIS issued the requested decision including approval and its justification. NC submitted appeal against this decision. The body dealing with the appeal was the Chief Sanitary Inspector, who upheld the decision of PWIS. In justification of the decision he referred to the issues formulated in the appeal by the Association (May 2007).

In February CA requested the voivod to perform obligatory approval of conditions of DEC. As part of the approval the voivod did not find any significant impact on nearby NATURA 2000 sites. In April the voivod issued appropriate decision including justification, which was also challenged by NC. The body dealing with the appeal was the Minister of Environment. In result of examining the comments made in the appeal ME partially changed the decision of the voivod (a couple of points were annulled and 2 new points were added) and broadly justified the changes made (May 2007).

In connection with conflicting interests of the parties to the proceedings and protest of the local community CA decided to conduct administrative hearing (option provided in EPL). Information on the planned hearing was published, besides information board and website of the offices, in places of the planned investment and in three Warsaw newspapers. 201 people participated in the hearing. CA called three independent experts who presented opinion on the planned investment.

Participation of independent experts is an element of EIA not required by law. However, using this form of consultations for such controversial investments is anyway needed and fully justified.

Decision making

In June 2007 CA issued DEC. DEC considered part of the comments of the parties to the proceedings submitted during the whole proceedings, including the administrative hearings. In the case of comments which were not taken into account, CA placed appropriate justifications in the DEC.

DEC with justification is an extensive, well prepared document.

Just as during the whole proceedings, after issuing DEC the protests of residents still take organized forms. In July the “NC” non-governmental organization submitted appeal against DEC to appropriate appeal body. Moreover, it submitted complaint to the European Commission on the actions of the Polish party connected with implementation of the “Czajka” project.

The NC Protest Committee formulates, inter alia, the following objections and problems:

- corruption and law-breaking during the decision-making process
- tender documents pertaining to construction of incineration plant describe an object quite different from the one about which the developer informed the public so far (including: the incineration plant is supposed to be three times larger than the developer stated).
- the incineration plant may be constructed using the cheapest (worst) technologies, as the contractor selection criterion is the price (tender)
- Warsaw residents will experience steep increase in prices of water and sewage services in connection with huge costs of the planned investment
- inefficiency and large costs of pumping sewage from the left-bank Warsaw under Vistula River is confirmed by one of the independent experts
- lack of assessment of impact on Natura 2000 site, on which the transmission and discharge collectors would be constructed.

Detailed investigation and assessment of the proceedings and arguments of the parties is beyond competence and resources of the Authors of the present Case Study.

According to the information provided by CA and investor the estimation of costs of the EIA and the investment is still impossible.

A.5.3 Construction of Transboundary Sewage System – Krzyzanowice (transboundary impacts)

Project name: Sanitary sewage system with house drains in Rudyszwałd, Zabełków, Chałupki villages, and with intermediate pumping stations and their power supply channelling sewage to Stary Bohumin town in the Czech Republic over Odra river.

Key issues

- Transboundary EIA procedure conducted for this project was the first EIA procedure in which Poland was the state who was likely to be affected by the project. Lack of experience resulted in prolonged and complicated procedure. The necessity to begin the procedure again prolonged the EIA process by approximately 30% and increased its costs by approximately 10%. This resulted in increase in the costs of Screening & Scoping and in the total costs of the procedure.

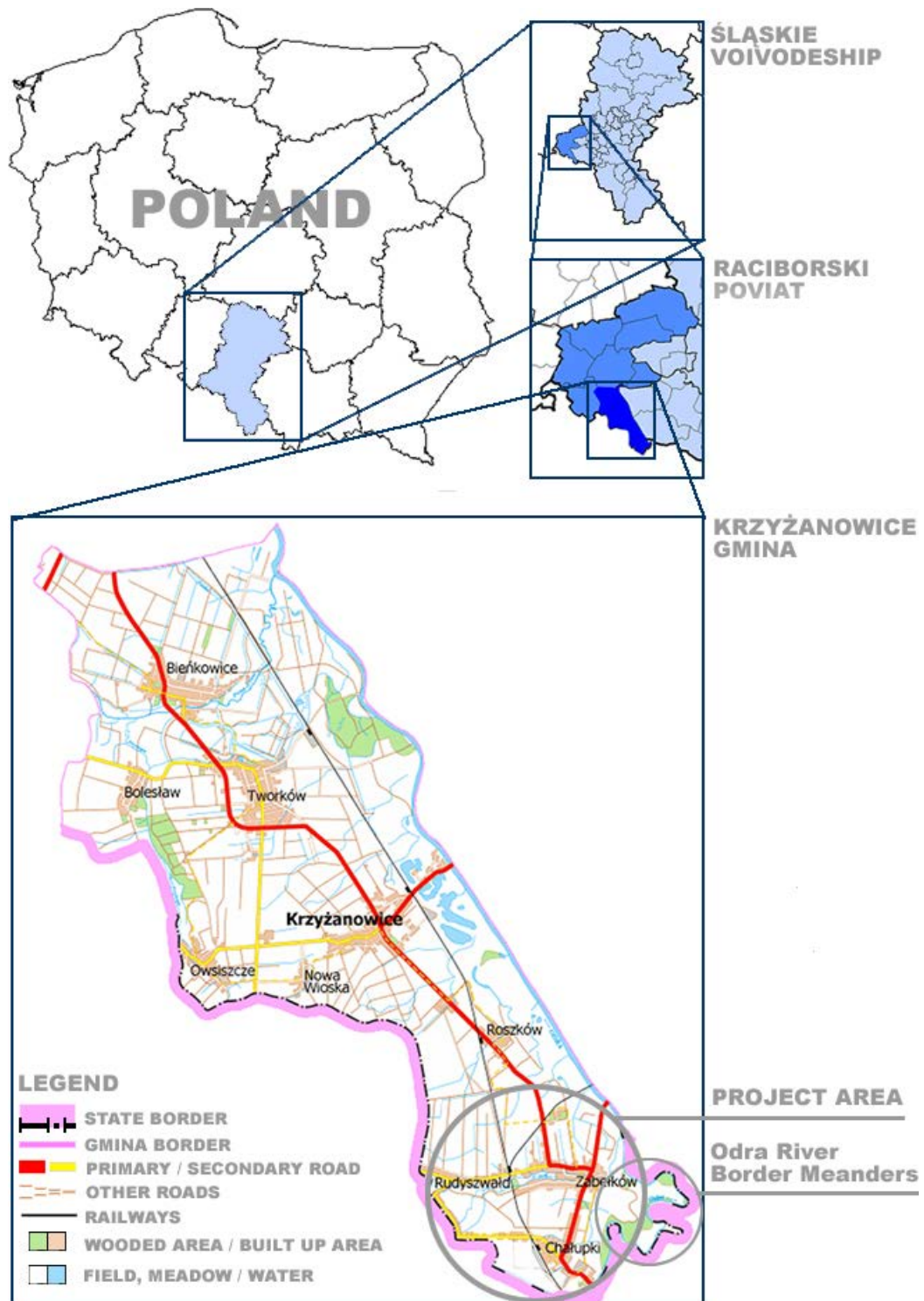
- An important role in EIA in the technical aspect was played by informal contacts between authorities of Krzyżanowice gmina (Developer), authorities of Gorzyce gmina (CA), EIS contractor (Zakład usług i robót wodnych Sp. z o.o. [Water works and services company] from Opole), consulting bodies (especially Powiat Starosty in Racibórz) and the Ministry of Environment.
- The project, due to its character, has a positive influence on environment. Additionally, EIS included conditions for construction works, especially detailed provisions pertaining to sewage system passage under Odra, and emergency procedures.
- The project is an example of good transboundary cooperation resulting from understanding transboundary area as a whole.

Brief description of the project

The project assumes providing sewage system to three localities (Rudyszwałd, Zabełków, Chałupki) situated in southern Krzyżanowice gmina (see Fig. 1) and transmitting the sewage to treatment plant in Stary Bohumin in the Czech Republic. The sewage will be sent to the Czech sewage system under the boundary Odra River.

Construction of sewage system and appropriate sewage management has clearly positive influence on environment. The project as a whole has thus a positive environmental effect. In this case the EIA procedure was aimed at minimizing the negative environmental impact of the investment process (appropriate management of investment, satisfying environmental requirements during construction works, providing appropriate emergency procedures).

Figure A.5.3 Location of the case study area



Location of the project - Natura 2000 sites

Localities to which the project pertains are located near environmentally unique Odra River Border Meanders. This is one of a few well preserved piedmont meandering river section (Obrdlík 2003). The area is under legal protection both in Poland and the

Czech Republic, and constitutes an element of Natura 2000 network (Hamplová, Urbaniak, Żurowska 2006). Realization of the project will not have negative impact on the area, but will allow to protect the areas located in vicinity of the protected area against pollution of surface and ground waters.

According to EIA the passage of the planned sewage system in a pressure pipeline under the river will be constructed using controlled rebore method, without disturbing the construction of the Odra river-bed. The passage is to be located 1 km above the first meander. EIS includes provisions specifying environment protection requirements during realization of the passage under Odra River. The construction stage should not, therefore, impact the river. The main pipeline will be placed inside protective pipeline - in the case of failure of the main pipeline the sewage will be kept inside the protective pipeline. The emergency procedures set in EIS are rather detailed.

Project implementation phase

Project works and obtaining all decisions and permissions finished in mid-2006. In June 2006 a construction permit was obtained (from the Racibórz Starosta). Currently the gmina is looking for funds for realization of the Project and will apply for co-financing of the project from UE funds. Until now 3-4% of the planned sewage network is completed (financed from own funds of the gmina). The network is not currently in use (it will be activated upon connection to treatment plant in Stary Bohumin).

First steps

The idea of channelling sewage from south-eastern end of Krzyżanowice gmina to nearby treatment plant in Bohumin emerged in 2000. In 2001 an initiatory agreement was signed between Krzyżanowice Gmina and Seweromorawskie wodowody a kanalizacje Ostrava a.s. (Czech Republic). The Agreement provides for collection of sewage from planned sewage network by the sewage treatment plant in Bohumin (Czech Republic).

Consideration of alternatives

Before the project was prepared (in 2001) the zoning plan for Rudyszwałd, Zabełków, and Chałupki had been changed. The plan specifies location of the main sewage system lines and assumes channelling sewage to Bohumin. Before the project was accepted, alternatives in respect of providing sewage system to Rudyszwałd, Zabełków, Chałupki villages were taken into account.

Transmission of sewage to treatment plant in Racibórz – this solution would necessitate construction of a long collector and would not be cost-effective.

Construction of treatment plant in Zabełków – this solution was also assessed as too expensive.

EIA and EIS did not include selection of variants of the investment. Such solution was dictated by existence of appropriate provisions in the zoning plan. Null variant was not considered due to its undoubtedly negative consequences for the environment.

EIA and EIS preparation

In 2002 a tender was published for preparing technical documentation and obtaining construction permit, as well as managing EIA procedure. The selected tender was that

of Zakład usług i robót wodnych Sp. Z o. o. from Opole. Project works and obtaining all decisions and permissions finished in mid-2006. The complete service cost about EUR 35 thousand, of which preparation of EIS and managing EIA procedure cost about EUR 3.5 thousand. Due to longer period of the order completion, the project turned out to be more expensive than expected. The contractor contributed for its completion additionally about EUR 10 thousand (we may assume that EUR 1000 of this amount was connected with EIA procedure).

Preparation and realization of the tender took equivalence of 15 days work of one person. On the basis of percentage share of EIA in the whole task amounting to 10% we may estimate, that the time that developer (Krzyżanowice gmina) devoted to the tender in respect of EIA amounted to 1.5 day.

Developer was in constant communication with the contractor. Work on the part of developer (Krzyżanowice gmina) during the project may be estimated as equivalent of 20 days of work of one person per year (which equals equivalent of approximately 100 days of work of one person during the whole project preparation). Out of this sum legal aspects of the project connected with EIA took approximately equivalent of 5 days of work of one person per year (which equals equivalent of 25 days of work of one person during the whole project preparation period).

Screening&Scoping

Construction of sewage system belongs to projects which can significantly impact environment, for which EIS may be required. CA after consultations with the Racibórz Starost (subregional level), Powiat Sanitary Inspector in Racibórz (subregional level) issued decision obliging the developer to prepare EIS. The same decision specified the scope of the report (also according to consultations). The scope of the report specified by the CA satisfies all EPL requirements.

Transborder issues

Transboundary EIA procedure conducted for this project was the first EIA procedure in which Poland was the state who was likely to be affected by the project.

The project is an example of good transboundary cooperation resulting from understanding transboundary area as a whole. The treatment plant existing in Bohumin may take more sewage than potentially submitted by the entities connected to the sewage system in the Czech Republic. The sewage problem at the Polish side may be therefore solved with lower costs (without building a new treatment plant). The Bohumin plant, on the other hand, will be able to use its capacity more effectively. Therefore the project will contribute to cost effectiveness and fulfilment of environmental protection requirements in respect of the transboundary area.

Possible transboundary impact and the resulting necessity to conduct transboundary procedure were identified during consulting in the Environment Protection Division in the Powiat Starosty in Racibórz. Based on information on environment transmitted to the Starosty at the screening and scoping stage the possibility of transboundary impact was identified. After that informal telephone consultations took place between representatives of the Powiat and the Ministry of Environment. The consultations confirmed necessity to consider the transboundary aspect in EIS and starting transboundary procedure. The next stage consisted of informal, phone consultations

with CA (at that the time the authorities of Krzyżanowice gmina). Following them the CA requested the contractor to include the transboundary aspect in EIS and officially informed the Ministry of Environment on possible transboundary environmental impact. The Ministry of Environment, after analysing the received documents, ordered repetition of the whole procedure in order to include the transboundary impact already at the stage of screening and scoping.

The procedure had to be conducted once again from the beginning. The Self-Government Appeal Council appointed the authorities of Gorzyce gmina to conduct the new procedure (In order to avoid the situation when the same body acts as CA, and thus issues a decision in a case to which it is a party). The choice was connected mainly with closeness to Gorzyce (the gmina borders with Rudyszwałd, Zabełków, Chałupki villages) as well as with the Czech Republic, which results in good knowledge of local conditions. Another aspect influencing the decision was good previous cooperation between Krzyżanowice and Gorzyce gminas. The authorities of Krzyżanowice gmina, after consultations with Gorzyce gmina authorities, requested the Self-Government Appeal Council (SKO) to appoint Gorzyce gmina as CA. SKO gave positive reply. The new procedure turned out to be much easier. The bodies already knew case and their inputs had already been taken into account earlier. Additionally the inputs of the Czech party were taken into account, as well as the party itself (mostly the Czech Environmental Inspection of the District Inspectorate in Ostrava).

EIS included all inputs of the bodies consulting and the Czech party. The inputs of the Czech party pertained to specifying the parameters of sewage channelling in the EIS. The EIS included construction procedures, waste neutralization procedures, and emergency procedures.

Time and delays

From initial developer discussions to obtaining construction permit passed almost 6 years. The time between publishing tender for preparing technical documentation and obtaining construction permit, as well as managing EIA procedure, to obtaining construction permit was 4 years.

It should be noted that EIA process in this case was conducted according to rules valid before the 2005 amendment introducing DEC and establishing a separate EIA procedure. Two years separated initiation of the EIA procedure and the decision establishing conditions of individual planning permissions (WZiZT decision) (June 2003 – April 2005). At this stage the proper EIA process was conducted, while at the stage of obtaining construction period earlier conclusions were used. Construction permit was obtained one year after individual planning permissions (June 2006). Generally speaking, in this case EIA process lasted 22 months. The time of delay resulting from not including the transboundary aspect at the screening & scoping stage and the necessity of beginning the whole process anew may be estimated as 8 months (approximately 35%).

Table A.5.2 Costs of EIA process

EIA component	CA			Developer			CA & Developer		
Preliminary studies (work undertaken prior to start of EIA)				87	508	9	87	508	6
Screening & Scoping* (determining whether certain project must be subject to EIA; determining what information is required in the EIS)	268	1860	88	20	240	4	288	2100	27
Environmental Studies (conduct of environmental studies and preparation of EIS)				706	5010	87	706	5010	64
Review and Decision Making (formal review of EIA by CA and advisors and process whereby CA decides whether or not to approve project,	48	247	12	-	-	-	48	247	3

based on EIA findings)									
TOTAL COST OF THE EIA PROCESS	316	2107	100	813	5758	100	1129	7865	100

*Polish EIA regime the Screening and Scoping stage are connected. The body deciding on necessity of EIS preparation simultaneously specifies its scope.

A.6 UK

A.6.1 BritNed interconnector (land-based components)

Name of project	BritNed interconnector – Land components
Type of project	<p>Interconnector is a speculative, national piece of infrastructure. Is primarily a subsea cable between the UK and Netherlands. Cable needs to be DC because AC wastes a lot of energy. Interconnectors make money through bidding in for how much electricity they will sell at.</p> <p>Interconnectors can export and import in either country and change between modes pretty quickly; can have power going in either direction e.g. someone from the UK can bid into the Dutch market. Time difference allows for trading opportunities e.g. bank holidays. Physical mechanism allowing trading between 2 countries. People pay tariff for using it, therefore fulfilling EU objectives of a 'European electricity market' – benefits = lower prices for consumers /increased global competitiveness because more modern generation units</p> <p>BritNed interconnector (IC) land components consist of: access road, underground cables (out the coast); converter station. Connection with submarine cables required because of nature of the project and surrounding marine environment – therefore needed to ensure the cables sink into the sea</p>
Developer and Consultancy Experience with EIA	<p>Developers – Joint venture between National Grid International Ltd and TenneT (NL equivalent).</p> <p>Consultancy – TEP – land components; Metoc – marine components and overall lead as well as greater role in the NL side (in charge of marine surveys etc – huge in cost but would have been needed regardless of EIA)</p> <p>TEP - Ian Grimshaw - extensive experience (12 yrs) with EIA for interconnectors (previously did the EIA for North Sea). TEP are specialists in environmental planning e.g. landscape, trees etc; EIA/environmental planning; getting consent for projects with potential significant effects.</p> <p>IG role – minimising risk to clients; 'terrier' with Regs.</p>
Consent issues	<p>UK land assets of interconnectors must adhere to 4 regimes of consent:</p> <p>Town & Country Planning Regs of E&W – applies to everything on or under land (tidal water up to mean low water)</p> <p>UK Marine legislation – applies to everything from mean high water to the median line of the Netherlands</p> <p>2 other consents – mirror image of consents for Dutch regime – important for project investment decisions; little point for developer to pursue the project if unlikely consent for submarine cables (or in NL as well). Project has umbrella group who liaise with Dutch issues. Agreement to provide NL government with copy of the report. However, UK planning process entirely separate to NL issues</p> <p>Main issue is that interconnectors are not explicitly listed in the Annexes. Converter stations, submarine cables and interconnectors – none are mentioned in either Schedule 1 or 2 – therefore EIA Regs cannot technically</p>

	<p>be applied to the project.</p> <p>EIA Regs would be an additional burden to the T&C Regs and would introduce a new level of risk/ challenge for claims that procedures are not being followed properly</p> <p>TEP primary concern with BritNed was therefore to get a planning application in without facing the 'extra layer of procedural risk from the ES'. Since interconnectors and related components are not in the Schedules, TEP argued in the screening process that the project was not subject to EIA. Hence the 'Land Environmental Report' is named as it is; cannot be referred to as an 'Environmental Statement', because this would deem the project as being bound to the EIA process.</p> <p>Comparison with EIA scenario - T&C Act means that the LPA can request any information it wishes in order to make a decision – even if project not subject to EIA. Scoping exercise is still the same as for EIA; screening report will also say why</p>
Interesting case law	<p>Gas pipelines (National Grid) – Milford Haven, South Wales. LNG has to be pumped from national gas transmission system. An EIA would be needed for the pipeline and planning permission required for the stations that pump gas. Planning permission was received from the LPA for the new gas transport substation. The gas pipeline received significant number of objections – a legal challenge was successfully mounted to the granted planning permission. The High Court quashed the planning permission on the grounds that the LPA did not follow the correct procedures in the reporting of the way the meeting came to their voting outcome on the planning permission. LPA had to go through the procedure again – Ngrid now has valid planning permission but implication was that they could no longer meet the programme they had in place (time-wise). This issue was simply procedural and is related only to T&C Regs – 'laying on top' the EIA Regs as well would provide more ways in which legal challenge could be mounted.</p>
Competent Authority	<p>Medway County Council – main contact for EIA process has since left the post; difficult to speak to anyone with experience of the BritNed project;</p> <p>Marine Consents and Environment Unit (MCEU) for marine components</p>
Statutory consultees	<p>English Nature; Environment Agency; English Heritage</p>
Project implementation phase	<p>Development consent granted by Medway Council.</p>
Key issues	<p>Screening out as a 'non-EIA' project: TEP screening report argues that the BritNed IC was not EIA project – used precious precedence to argue the case: North Sea IC (connecting UK to Norway) was approached in identical manner to the BritNed one; the application was refused by the LPA, went to appeal (public inquiry) and the Secretary of State granted permission. TEP use such precedence to show previous similar ICs were already judged as being non-EIA by SoS – LPA would not want to object on such grounds (given SoS ruled in favour of IC)</p>

Overlaps with other Directives	<p>Project did require Appropriate Assessment (AA) under Habitats Directive – (Competent Authority – MCEU, as well as Medway) – this was due to the part of the cable in the mudflats area requiring 2 consents because it was a European ‘sensitive’ site.</p> <p>Confusion between Medway and MCEU as to who the Competent Authority was – they had to decide who CA was. Eventually decided one should take the lead. Each type of permission was needed for the same activity (excavating and laying the cable) but the 2 CAs had to come to an agreement as to what the impacts of laying the cable would be, for example, because 1 activity in that area required 2 consents. MCEU took lead and did the AA, copying it to Medway</p> <p>IG view is that AA is ‘not difficult’ – if a CA resolves to grant planning permission, it should be assured that it is unlikely there will be bad significant effects to take into account. If integrity of the European site was to be affected, planning permission should ‘never be granted in the first place’</p> <p>Some ESs tend to have addenda ‘info required for AA’ but usually, the info in this addenda is already contained within the main text of the ES - appears to be far more a ‘presentational issue’ than ‘new information’. The 2 are fairly well-aligned already. IG proposes that they may be separate because CAs can grant consent to activities that could be damaging to a European site under the ‘regular’ EIA regime – therefore perhaps this justifies the separation between the 2</p> <p>SEA: Although there is clearly a link between SEA and EIA, difficulty is that plans are produced and move very slowly and are not very good at predicting markets (e.g. high demand for electricity in the next few yrs, hence infrastructure to deal with that). Many large-scale projects that might need EIA are speculative and do not form parts of plans – this is why SEA cannot inform EIA – SEA cannot predict what might need to be on site later on</p> <p>SEA would inform to the extent that the site was to be allocated for something similar – therefore, useful for baseline info and scope of assessment required, but would not help e.g. with underground cables</p> <p>Essentially, some overlap but 2 different things – SEA is policy-based on generic form of development; EIA is project and site-specific</p>
Changes in project design as result of EIA	<p>HVDC kit – High Voltage Direct Current – does not have too many design issues – BritNed did not have many design issues, because of the inflexibility of the project type. ES can affect scope and results and lead to subsequent changes in design; lots of time goes into design usually e.g. initial assessments may find noise issues – design process constantly changing.</p> <p>Even the exterior of the converter stations were not allowed to change much in terms of design (e.g. light blue strip across the face of it) – this was because surrounding structures were grey in colour and so the converter stations also had to stick to the colour scheme; technological focus of the BritNed IC meant little design change possible</p> <p>Long time taken over the design of the access road – this is more of a</p>

	<p>project cost and not 'EIA cost'. Cost of road study was immense but only transferred into a few paragraphs in the ES. However, EIA had to take a halt while the design study of the road was finished – clear example of time and delays in terms of cost but not directly attributable to EIA</p>
Alternatives	<p>Unusually, alternatives were very comprehensively reviewed prior to commencing the EIA process. On the UK side, the key aspect was to ensure connection to the AC grid system at the point where import and export is possible.</p> <p>The only requirement of the Directive with regards to alternatives is for the developer to state the alternatives he considered and the main reasons for his choice. Developer can say 'no alternatives were considered' - very often the case – because the developer will find out land is for sale and allocated for employment purposes and think that it has good prospects, therefore does not bother to consider alternatives because this is not in his interest.</p> <p>BritNed was a more 'bespoke' project, therefore alternatives were more stringently considered</p> <p>BritNed: site search process took place. 3 main criteria had to be fulfilled:</p> <p>the project had to be technically feasibly built on the location i.e. enough space was available for the connection to the AC grid system to import and export power</p> <p>reasonable prospect of getting permission (upon looking at the planning policy), in planning terms</p> <p>developer could acquire the appropriate interest in the land i.e. current landowner might not want to sell the land</p> <p>At the stage of site selection, only published info is available to be worked with. Only the planning policy needs to be known. Different sites were tanked in order of preference, as well as an indication of the prospects of obtaining consent for them (i.e. no point in having high preference for the site but bad prospects of consent). Grain was settled upon as being amongst the best alternatives environmentally – no issues that could not be addressed.</p> <p>TEP involvement at this stage was to compile a report stating the main planning policies, key components and relative risk of sites. TEP looked for sites that could accommodate 'similar' types of development to an IC e.g. sites allocated to industrial parks, distribution depots etc.</p>
Other factors affecting effectiveness	<p>Competent authority resources were a major issue. Both availability of person-hours and skills and expertise of the LPA were both weak and led to 'appalling delays'. Such weaknesses in the local council were noticeable from the screening process. Medway main problem was resources- likely to have been severely affected by sudden spurt in development pressure in the area – reflected by LNG facilities, power stations etc – all part of Thames Gateway urban growth. Shortage of planning professionals also an issue. All throughout the project, Medway had been attempting to recruit staff. Another resource issue – all along, if the area is used to low development pressure and 'suddenly' receives an application of magnitude e.g. the IC, then they would require a whole new skill-set because they did</p>

	<p>not have the staff to deal with project types</p> <p>LPA targets, e.g. for turnover of screening applications, is viewed as problematic by IG e.g. if LPA has to reach a target of 65% (of number of applications that must be responded to), then there is no incentive for the LPA to respond to the 35% of applications that remain outstanding – there is no penalty for not responding to the 35%, nor is there any benefit for addressing the applications – considered a massive problem. LPAs often fail to honour the allocated time for responding to application, surpassing the deadline</p> <p>Major issue of what to do when the allocated response time to the LPA has elapsed – particularly during screening, scoping and determination decisions. Once statutory time periods elapse, the developer is faced with one of 2 decisions:</p> <p>‘let things roll’ – often chosen by developers in the hope that matter will still be resolved quicker than if the decision went to the SoS. Also preferable because no ‘adverse position’ is created in terms of antagonising the LPA Officer by appealing to the SoS – potentially harmful because even if the decision goes to SoS, the consultants/developer will still have to deal with the same LPA officer for the rest of the application process</p> <p>appeal to SoS – developers often have no confidence in the SoS dealing with the issue in any reasonable time. Removes the obligation from the LPA, and makes the process more anonymous (in the hands of some unknown person at SoS, as opposed to at least having a personal contact at the LPA to contact). Delays from the Planning Inspectorate can be substantial. Adverse relationship could also develop with LPA (see above)</p> <p>Screening decisions also affected by LPA confidence. Lack of skills in LPA and ‘conservative’ attitude (i.e. scared of ‘getting it wrong’) means that there is more incentive for positive screening decisions to be issued by LPAs i.e. ‘Yes – EIA required’. TEP provided several pages of ‘supplementary info’ to ‘help’ Medway make their screening decision. LPA always finds it safest to ‘default’ to the lowest-risk option of saying that a development is EIA development</p> <p>Failure to respond to scoping report: 4 months after the scoping report was submitted to Medway by TEP, there was still no response from LPA – statutory time period is usually 5 weeks for LPA to respond by. At this point, TEP approached the Chief Executive of Medway Council to lodge complaint (careful not to name names for fear of ruining future relationship with LPA). Medway ended up referring the complaint to the person who initially had failed to make the decision in time.</p> <p>However, because the IC was technically not ‘EIA development’ (i.e. was not in either Schedule), the LPA were not legally bound to follow the statutory time period for response.</p> <p>Usual time frame for response to ES is 13 weeks – although Medway did not ask for anything to be revised to the ES, they still took 26 months to issue planning permission – extremely long given that there were no objections from non-statutory/statutory consultees and the period for the legal challenge had elapsed too. The developers/consultants had already exchanged draft planning conditions with Medway, which were agreed upon</p>
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	<p>– therefore any disagreement with the planning conditions would have been very surprising.</p> <p>No monitoring of mitigation measures for BritNed. Requirements for long-term management (Management Plan for site setting out how habitats would be managed) – sent to LPA for approval, and could contain follow-up/monitoring measures in the ‘approved measures’, but not mandatory.</p>
Good Practice	<p>Include other interests i.e. non-statutory consultees such as RSPB and the Wildlife Trust – mainly because developers have a culture of ‘no surprises’. Developers do not want the application determined by parties ‘kicking up a fuss’ during the period post-ES. If consultation is poor at the scoping stage, then parties can say:</p> <p>developer ‘omitted to do something’ – leads to programme delays</p> <p>developer did the assessment the wrong way – delays when it is re-done</p> <p>developer did not ‘take into account the info the consultee had’</p> <p>Good to send the SR to lots of statutory and non-statutory consultees – not particularly costly – usually involves just making several copies of leaflets etc.</p> <p>‘scoping out’ – some Scoping Reports are too big (unnecessarily). TEP emphasis is on working hard to ‘make things concise’ e.g. spending an extra 2 hours on a report to make it shorter. Some explanation of why the issue was scoped out is also necessary.</p> <p>Prior agreement between developer and CA on draft planning conditions (not technically EIA good practice but related) on draft planning conditions is important means of delivery for mitigation - is important for the CA to know that it can attach conditions that ensure mitigation is ensured. Draft form important for ability to resolve if issues that either party not happy about. Allows liaison with statutory consultees during the decision-making period – done after ES submission and before decision issued</p>

<p>Total cost of undertaking an EIA for this project:</p> <p>Team: 12 people – 2 environmental consultants/co-ordinators (TEP); 1 from developer (National Grid) for project description etc; 3 specialists from National Grid (electric and magnetic fields; electro-magnetic compatibility; and audible noise); 2 ecologists; 2 highway planners; 2 archaeologists. Supported by other technical advisers and support staff and guided by overall project team meeting approximately monthly and reviewing progress.</p>			
EIA Component	Person-hours spent (if applicable)	Cost of undertaking (based on notional Cost of £70/hr)	Cost as % of total cost of EIA
Preliminary studies (work undertaken prior to start of EIA)	Say 150 person hours assessing environmental implications of alternatives and preferences (much additional time spent looking at other aspects of alternatives including marine issues and technical/financial aspects	£10,500.00	
Screening (determining whether certain project must be subject to EIA)	Very little time; short justification of decision with reference to Regulations. Other time spent liaising with determining authority confirming this view is third party related.	£1,500.00	
Scoping (determining what information is required in the EIS)	Approximately 1 week full-time. Express decision to postpone as many surveys as possible to 'post-consent' to be addressed by conditions due to high overall risk of project as it required separate additional consents for subsea elements and components in Netherlands	£3,000.00	
Environmental Studies (conduct of environmental studies and preparation of EIS)	<p>Accurate costs records are not available and for some elements it is difficult to take costs separately from range of other works related to project design and development. Estimates as follows:</p> <p>Introductory Chapters say 100 person hours £7,000.00</p> <p>Geology, Soils and Hydrology say 75 person hours £4,200.00</p> <p>Land Use say 20 person hours £1,400.00</p> <p>Landscape and Visual Assessment say 75 person hours £4,200.00</p>	£43,000.00	

	Ecological Assessment say 100 person hours	£7,000.00		
	Cultural Heritage Assessment say 75 person hours	£4,200.00		
	Transport (assessment only) say 100 person hours	£7,000.00		
	Audible Noise and Vibration say 50 person hours	£3,500.00		
	Air Quality (very small scope in this case) say 15 person hours	£1,050.00		
	Electric and Magnetic Fields say 30 person hours	£2,100.00		
	Electro-Magnetic Compatibility say 20 person hours	£1,400.00		

A.6.2 Cricklewood Gate – urban development scheme

Name of project	Cricklewood Gate
Type of project	<p>Primarily residential development at the gateway to the Brent Cross (BXC) Regeneration Area. Involves the regeneration of a brown-field site formerly occupied by Parcelforce depot. Will have 1900 sq m of commercial space, new landscaped public space and 473 1-3 bedroom apartments.</p> <p>Client bought site from main developers. Site developed in accordance with the SPG for BXC; seen as the first site identifying what the rest of the wider site would look like.</p>
Developer and Consultancy Experience with EIA	<p>Developer - Keystone Housing Ltd. Relatively new company; main focus is on housing; experience of EIA is fairly good. Keystone project management team has had EIA experience – highly valuable.</p> <p>Consultancy – Environmental Perspectives (referred to as EP). Significant EIA experience; consultancy specialises in socio-economic impact assessment (either as stand-alone assessments or as EIA chapters)</p>
Competent Authority	London Borough of Barnet
Statutory consultees	London Borough of Brent; English Nature;
Project implementation phase	Decision was made in August 2007; planning permission rejected – complex issue dependent on a larger regeneration scheme coming through for the area; high density of the scheme also an issue. Rejection unrelated to EIA issues. Site has been sold to another developer
Main environmental impacts	Main issue was cumulative impacts – BXC development had a build program of 25 years in phases; 3-4 other residential developments also planned in the area. Challenge of understanding cumulative impacts on phase and determining baseline now and in the future.
Key issues	<p>LB Barnet wanted planning applications from both BXC developers and Keystone to come at the same time. Site was close to the boundary of LB Brent: developers then had to consult with LB Brent in terms of scope.</p> <p>In determining cumulative impacts, EP looked at criteria (referring to IEMA guidance) – local development likely to be permitted in the next 5 years/already permitted; those seen as major applications; those likely to have other zones of influence (e.g. within 2 km). These were taken to the LPA and asked if they were appropriate. LB Barnet agreed but also requested that the developers accommodate for the link road (not to be built for another 15 years) in the technical specs. LB Barnet requested that the developers build in measures to mitigate impacts of the link road: e.g. triple glazing, mechanical ventilation (e.g. AC because opening windows for fresh air would lead to increased noise that would breach WHO standards). Such measures (e.g. AC) very expensive to design into project (needs various void spaces to be identified) and would add additional burdens to developer for meeting their obligations (see costs and benefits below)</p> <p>Consultants (Environmental Perspectives) concerned because BXC scheme was only in outline and may not necessarily happen in the way it was designed. Masterplan likely to change as the site gets sold off to developers and the link road may not actually get built at all (developers therefore would have incurred cost that was unnecessary yet unrecoverable)</p>

	<p>Lack of EIA expertise within the Competent Authority (LB Barnet) became fairly apparent. LB Barnet appeared not to understand the EIA procedure particularly well (despite fairly high development pressure in the local area). EP helped the LPA through the process and a Scoping Report was agreed upon.</p>
Changes in project design as result of EIA	<p>Designs accommodate mitigation at early concepts (not a 'retro-fit' at the end). Schemes such as SUDS – sustainable drainage systems – are built in early on. SUDS helps to achieve ecological enhancement value.</p> <p>Systems such as SUDS pick up on mitigation requirements but also sustainable initiatives (e.g. energy strategies, info to residents on greener living, buying energy, rainwater harvesting) – these are all done by the environmental consultant. Difficult to say for sure whether these measures taken as direct result of EIA or because developers have to comply with standards such as 'ecohome label' as part of obligations.</p>
Other factors affecting effectiveness	<p>EP took out legal guidance regarding the issue of considering the link road. Outcome of the legal guidance was that under the Regs, there was no need to look at this issue or to build into the design to address it. However, the development team took the decision to do it anyway so LB Barnet were less likely to object at the decision-making stage; perhaps a more political decision, based upon the assumption that the planning process would be made smoother</p>
Screening	<p>Screening was done in-house (EP) – generally the case with EP. EP looked at the details of the scheme and assessed the sensitivity of the location. They were best-placed to know certain details e.g., site had no archaeology impact and was not ecologically sensitive.</p> <p>EP used the criteria in the EIA guidance (Circular) as guidance for their screening exercise, esp flow chart – EP used the diagram to take LPA through the process. Using the guidance was also seen as adding credence to the screening process.</p> <p>1 EP consultant goes through the site detail with MC (Partner) and then comes to conclusion on whether EIA needed; MC will review the screening report and either agree/disagree.</p> <p>Screening letter is then written (approx 8-10 pages) – effectively goes through the Circular guidance. EP followed up with 3-week consultation, calling the LPA to see they have everything and asking for a screening decision to be made.</p> <p>Most of EP's projects are Schedule 2 projects</p>
Scoping	<p>The Cricklewood ES excluded telecoms assessment. EP have emphasis on scoping out insignificant issues, and they were aware from experience that as the site was in a dip, there was clearly no effect. Assessment generally seen to be 'pointless' anyway. Scoping exercise seen by EP as essential to restricting the scope. Usually 2-3 areas scoped out – in Cricklewood case, was archaeology and telecoms. Key issues were: transport, noise, air quality, contaminated land, daylight, sunlight and wind. Also some issues are of 'medium scope' (desk-based investigation). 'High scope' usually involves desk-based investigation and site investigation.</p> <p>Scoping tends to be fairly 'straightforward'. Consultants who work on similar types of projects (e.g. generally housing or residential) know what will need to be scoped in because they know about the effects of the residential scheme – e.g. brownfield site ecology, contaminated land, transport,</p>

	<p>wind/overshadowing (because of increasing tower block trend), PPS25 (flood risk), energy strategy (due to Mayor of London interests), socio-economic impact assessment (helps with Section 106 matters – e.g. whether a developer needs to build a clinic on site, for example)</p> <p>Scope is fairly well-understood from previous examples (less understood if extra aspects crop up – e.g. if developer wanted to build a marina, this would need capital dredging and incur other costs such as integrating with Port of London Authority (need different consents for dredging) – need for more detail would therefore affect scoping exercise. Need to consult to a greater extent with technical teams</p> <p>Cricklewood was fairly 'easy' in terms of scoping</p> <p>Scoping exercise takes 2 weeks (1 wk full-time of consultants' time). Scoping Report then issued to the LPA. LPA has 5 weeks to come back to the consultant. LPA consult internally as well as to the statutory consultees during this time – they may have comments on the scope of the work – usually minor.</p> <p>Scoping Report usually considered to be binding. Cricklewood SR morphed and changed. Consultants spoke to Natural England, Environment Agency, local council technical specialists etc – if things change during this consultation, then the scope also changes at this time. Small details are being 'tidied up' during discrete discussions – minor changes. Early discussions with consultees help to avoid the ES appearing as a 'shock' to the consultees</p>
Costs of delays due to the EIA – over and above obtaining development consent (e.g. additional set-up costs etc)	<p>Approx £300k – extra 'burden' added to the application process as a result of difficulties in understanding cumulative process. i.e. additional cost in legal support to developer on how to address the issue; additional time to the assessment process because specialist consultants now had to be re-advised on the scope of the work e.g. traffic, noise and air quality consultants now had to re-run the assessment model to show the implications associated with the link road</p> <p>£300k resulting from the discussion is not just 'EIA cost'; also includes the burden of talking to GLA etc (e.g. Indigo talking to other organizations). Reassessment of models does fit 'EIA cost'. Can say that some of this £300k burden is directly associated with enabling the EIA process</p>
Typical activities of consultant	<p>Reviewing legal position; phasing; meetings to discuss issues; writing various chapters; getting information from the team; 3 specific design team meetings (BXC scheme, SPG compliance)</p>
Typical range of costs for developer	<p>Standard rule is that EIA without 'political interference', 'hiccups' (legal challenge, changes) is £100,000. This is purely cost of specialists undertaking technical assessments, writing supporting chapters, management of EIA process. Does not include planning consultants, transport studies, or client time when EIA is discussed at project meetings. Indigo (planners) provided some input to the ES (which is factored into the £100k estimate) but they also had to meet e.g. TFL, GLA, LPA – all of which is not counted. Only production of ES and technical works is factored into £100k cost.</p>
Factors influencing who undertakes the EIA	<p>Most important part of EIA consultants is that they provide interface between the different specialists and allow for more coherent discussions.</p>

<p>Total cost of undertaking an EIA for this project:</p> <p>Team: 12 people – 3 environmental consultants; 2 legal (Clifford Chance); 3 from developer team (Keystone); 2 planning consultants (Indigo); 2 noise consultants (ERM); 1 air quality consultant (WSP); 1 transport consultant</p> <p>Average hourly rate: £250 per hour</p>			
EIA Component	Person-hours spent (if applicable)	Cost of undertaking	Cost as % of total cost of EIA
Preliminary studies (work undertaken prior to start of EIA)			
Screening (determining whether certain project must be subject to EIA)	1.5 days – 1 consultant to write screening report in 1 day; another to review – 0.5 days	£1500	
Scoping (determining what information is required in the EIS)	1 week full-time over a 2-wk timescale. Waiting for info from database holders and other technical info holds up process.	£4900	
Environmental Studies (conduct of environmental studies and preparation of EIS)	<p>Contributing to the ES chapters takes approx. 22 days (3 wks) EP contribution: intro; EIA methodology; alternatives; proposed devt; ecology; water resources; socio-economic IA; cumulative aspects; residual & conclusions</p> <p>Non-ES specialists difficult to estimate (EP do not count their hours spent). Work on: land use planning; landscape & visual; archaeology; transport; noise & vibration; air quality; soil conditions, groundwater and contaminated land</p>	<p>22 days' EP work on ES chapters = £14840</p> <p>Technical specialists work on ES chapters = £46450</p>	

Review and Decision Making (formal review of EIA by CA and advisors and process whereby CA decides whether or not to approve project, based on EIA findings)	EP work on ES review: 1st review; finalisation; project management/co-ordination; meetings; energy; Ecohomes label; Sustainability Appraisal; invoicing	EP costs for review aspect = £33407.5	
TOTAL		£101097.5	1% (assuming project development cost of £10m)
OTHER – e.g. changes to accommodation schedule, scheme etc.	Approximately 35% of the EIA work at the outset of the project	Approx. £35000	
OTHER – cumulative assessment requirements	157 hours (20.93 days at 7.5 hrs = 1 day) – this totals all work undertaken by technical specialists and EP themselves	£199687.50 (app. £200k)	
TOTAL COST OF THE EIA PROCESS		£335,897 (excluding additional cost impact of taking link road into consideration) +taking link road into consideration = £703397	
Mitigation measures due to EIA (measures to address the potential adverse effects of a development e.g. measures to safeguard protected species)	3.5 additional weeks likely to have been added to project time due to link road issue.	3.5 wks = 122.5 hrs x £3000 p/hr (12 ppl x £250 p/hr) = £367500 app. – purely consultant time	

Lessons for EIA –

In the last 5-10 years, EIA has gathered momentum. Some LPAs and statutory consultees still have no familiarity with it.

Case law and experiences have had huge impact, esp. Crystal Palace case on reserved matters

MC view is that all this has definitely shaped EIA undertaking. Litigation has led to need for more legal input now – massive cost implications. Legal review can sometimes appear a bit unnecessary (i.e. simply rewriting words!)

EIA seen by Environmental Perspectives as an ‘umbrella process’ to pick up all technical works that would have been needed anyway – it is not a stand alone process. Difficult to deal with some LPAs because of their thinking that EIA will be hugely different from ‘bunch of 6 technical reports’ (what would have still been needed even if no EIA required)

EP’s involvement sometimes is just at the screening process (i.e. if negative screening decision, then they have nothing else left to do on that). Not seen as good practice to ask developers to do an ES when they don’t need to – even if an EIA is not needed on that occasion, clients will most likely go back to the consultant for another project (which might need it). Some consultants do ask for ‘unnecessary work’ however. EP try to ensure, as the Project Managers, that consultants do not do ‘unnecessary work’ – therefore they scope out various issues and state in the Scoping Report that ‘issues x, y, z will not be addressed’

A.6.3 Greater Gabbard Offshore Windfarm

Name of project	Greater Gabbard Windfarm
Type of project	<p>The primary objective of the windfarm is to generate energy from a renewable source. The electricity generated from renewable energy sources (e.g. wind) produces no emissions, and by offsetting the combustion of fossil fuels, helping to reduce emissions of environmentally harmful gases.</p> <p>The key national policy document relating to offshore wind farm projects in the UK is the Energy White Paper (2003), which strongly endorses the development of offshore wind. Windfarms will help to provide a significant percentage of the UK's renewable energy target for 2010 (Greater Gabbard will provide almost 5% of this), and will enhance the security of energy supply for the UK.</p> <p>The Greater Gabbard project is the first project of its kind to apply for consent outside UK territorial waters. It will consist of: up to 140 wind turbines each with a rated capacity of 3-7 MW. The wind turbines will be inter-connected within each turbine array by buried subsea cables. These cables will be rigidly fixed to the seabeds by foundations. These subsea cables will be connected into up to four offshore transformer platforms, which will transform the turbine interconnection voltage to 132 kV for transmission ashore by up to four export cables.</p> <p>The project also has onshore works, which consists mainly of a new sub-station sited on private land. A buried electrical cable will be installed within agricultural land between the cable landfall and the sub-station location.</p>
Developer and Consultancy Experience with EIA	<p>Developers – Joint venture between Airtricity and Fluor to construct, operate and decommission an offshore wind farm located off the Suffolk coast.</p> <p>Airtricity is an Irish windfarm developer established in 1997, responsible for the development, construction and operation of windfarms in Europe, North America and China. The project manager for Airtricity has had 5 years of EIA-related work, dealing with onshore windfarms in Ireland.</p> <p>Consultancy – Project Management Support Services (PMSS) Ltd. Developer in this case had a list of 'first choice' environmental consultants in mind. Also the developer had hands-on approach (fairly unusual) in terms of being directly involved in selecting the subs and their scope of work e.g. developer knows birds to be a top issue, and therefore hires top-notch 'bird consultants'</p>
Consent issues	<p>UK offshore windfarms must adhere to following regimes of consent:</p> <p>Section 36 Electricity Act (covers all projects > 50 MW) – covers windfarm</p> <p>Section 36 of the Food and Environment Protection Act (FEPA) OR Town and Country Planning Act – covers anything interfering with seabed i.e. cable between windfarm and onshore substation (choice of either Regulation for this component)</p> <p>The developers decided to follow the Town and County Planning</p>

	<p>Act, which allowed more 'ownership' for the locals, and gave them more opportunity for involvement – this was more of a 'strategic' decision on the developer's part to increase local participation.</p> <p>2 separate EIAs would have been required – onshore Environmental Statement has to reference the offshore Environmental Statement and have it in its Appendix. However, the developer decided to have 1 Environmental Statement with everything in it; this was submitted to Department for Environment, Food and Rural Affairs (Defra), Department for Trade and Industry (DTI) and the local council. All determined their relevant sections at different speeds. The local council refused the onshore section. The developers then reapplied with a separate Environmental Statement but the onshore ES still had the offshore ES attached as part of the application, although reference to the original onshore chapter (that had been refused) was removed.</p> <p>Consent from DTI and Defra took 15 months – however, the developer claims the process could have taken only 9 months, especially as no major issues had arisen.</p>
Competent Authority	Department for Trade and Industry (DTI) was the lead competent authority. Defra and Suffolk Coastal District Council were also competent authorities for compliance with other Regulations.
Statutory consultees	Coastguard Agency (reporting to Department for Transport); Environment Agency; Natural England; Joint Nature Conservation Committee (JNCC) (involved because the project was outside territorial waters).
Project implementation phase	Development consent granted
Key issues	<p>Defra and DTI have no deadlines in which to respond (unlike local council, who have timeframes set). The only pressure to respond quickly for these Government departments is political in terms of meeting national targets (e.g. targets for renewable energy creation)</p> <p>Political differences between the separate Government departments can mean there is a noticeable lack of coordination</p> <p>Problems with statutory consultees: Coastguard Agency tended to give no response on anything until Defra/DTI had responded; JNCC and Natural England originally co-ordinated a 'joint response' but when English Nature became Natural England, Natural England raised objections at the 'eleventh hour' and asked for more involvement, leading to an estimated delay of 6 months</p> <p>One of the main issues was 'other users of the sea' i.e. commercial shipping, military, fishermen and recreation – all were likely to lobby.</p>
Overlaps with other Directives	<p>The DTI initially spent 2 years looking for appropriate sites to build windfarms on; then do an Appropriate Assessment (AA) on the Strategic Environmental Assessment (SEA), then award sites on windfarms.</p> <p>The SEA was done only for the offshore section and not the onshore section. It was found to be inadequate and had several gaps, and therefore did not assist the EIA. The developer view is that although</p>

	SEA should help to inform EIA, it is usually not effective in these cases and there is no point in conducting a SEA at all.
Changes in project design as result of EIA	Project design unlikely to have been affected by EIA – all windfarms are likely to require an EIA.
Screening/scoping	<p>Screening – at the beginning, work is usually outsourced to a planning lawyer, whose role is to ‘decipher’ the Regulations (seen as EIA cost), as well as to validate the ES to see if it complies with the Directive from a legal standpoint. Practically all offshore windfarms always require an EIA and therefore ‘self-screen’ (i.e. do not seek a screening opinion)</p> <p>Scoping – the Scoping Report (SR) is usually undertaken by the developer (either officially/unofficially). The Scoping Report is sent to DTI for an opinion. The SR also needs to be submitted to the Local Planning Authority for the onshore part of the offshore windfarm (if submitted separately).</p> <p>Scoping itself can be done quite informally, i.e. talking to stakeholders about several projects at the same time and getting hold of information. Pre-scoping consultation – asking what the key issues are likely to be – to avoid issues cropping up in the SR and to ‘warn’ consultees of the project ahead. Tens of thousands of pounds can be spent on a lot of consultation at the scoping stage – although this is important for developers to obtain a reply. Consultation also has advantages to the developers of facilitating early responses, and faster responses.</p>
Other factors affecting effectiveness	<p>Effectiveness can be seemingly influenced by the need to secure other consents; there is an apparent lack of co-ordination between EIA and other requirements. The requirement for a FEPA licence was particularly time-consuming; it required 7 years of environmental monitoring – pre, post and during the construction of the project. 51 conditions of environmental monitoring were in place – e.g. fish monitoring; bird monitoring; seabed morphology; archaeology etc. Developers were required to collect data to see if the impact was as they said it would be. Developer views this as costly, a factor in delaying projects and often unnecessary, arguing that there is no link between EIA and FEPA requirements. It is possible that such requirements are driven by a Member State’s fear of challenge on the grounds of the Habitats Directive. Such a FEPA requirement of 7-year environmental monitoring for example, on birds, appears more non-sensical when an EIA finds there to be no impact on birds on the site.</p> <p>It takes 7-10 years to build windfarms – this is likely to conflict with EU targets of 20% of all energy to be renewable by 2020 – because projects would need to commence now to reach this target. However, UK Government only likely to award sites in 2010 (SEA to be carried out from 2008-10). Concerns from windfarm developers that the ‘precautionary principle’ is slowing down progress and that positive impacts for climate change not being considered enough.</p> <p>Concerns that developer also effectively paying for studies to be done that ‘ought to be paid by the public/electorate’, or at least partially funded. Millions of pounds are being spent on data</p>

	collection, particularly for offshore (e.g. paying for boats to transport people to do the studies). Other Member States, e.g. apparently the Netherlands, do not ask windfarm developers to pay for the studies themselves. More effective SEAs may reduce the amount of monitoring needed to be undertaken by the developer later on. Simulation costs (e.g. inputting data on birds into a model) and coastal data collection are particularly expensive.
Time taken	<p>Scoping took 4-6 months</p> <p>Baseline data took 12-18 months to collect – the majority of surveys were done in the summer.</p> <p>Impacts – 6 months to study. Alternatives and consultation done in parallel to this.</p> <p>Preparation of the ES – 3 months. Developers constantly reviewing the ES in parallel to the preparation. Iterative process; possible lack of coherence in ES because chapters were written by different consultants.</p> <p>Estimated man hours spent by Airtricity, consultants and developers between January 2004 and October 2005 was 50-60,000. Mostly spent on offshore surveys. 2 Airtricity employees worked on the project; estimate 500 man-hours per month in total.</p>
Cost	Developer reluctant to agree with the 1% cost estimate (i.e. costs spent on EIA as a proportion of costs of the overall project). Views it as 'unfair representation' of EIA cost because substantial amount of money spent before planning permission obtained. Can be high risk investment at times; e.g. hundreds of thousands of pounds lost when one windfarm application was refused (planning outcome for onshore projects can be risky – less than 50% chance of being granted planning permission; offshore application costs higher but more certainty of outcome)
Good Practice	<p>Although it is not necessary for the developers to know the EIA Directive well, it is advantageous to know the stakeholders well.</p> <p>Project Manager usually keeps a list of 'first-choice' environmental consultants</p> <p>Having a 'hands-on' approach in terms of being directly involved in selecting the sub-consultants and their scope of work</p> <p>Consultation important; developers seen to be showing involvement</p>