

Oxford Brookes University

Impacts Assessment Unit

**The Operation of the EIA Directive in the
Wadden Sea Region
Draft Final Report**

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Impacts Assessment Unit

The Operation of the EIA Directive in the Wadden Sea Region

Executive Summary

1. In 2003 the Impact Assessment Unit (IAU) at Oxford Brookes University was asked by the Wadden Sea Forum (WSF) to undertake a study of certain aspects of territorial legislation, planning and management relating to the Wadden Sea region. The IAU's final report for that study, entitled the *'Review of International Legal Instruments, Policies and Management in respect of the Wadden Sea Region'* (IAU, 2003) found that the implementation of the EIA Directive was very much a top-down process, with competent authorities having little opportunity to do more than strictly adhere to national legislation. The study found that there were wide variations in the approach used to operate the EIA Directive in the Wadden Sea region and as a result of these findings the WSF commissioned the Impact Assessment Unit to complete additional research into the operation of the EIA Directive in the region.

2. The principal aim of the study was to test the findings of the previous examination of the implementation of the EIA Directive. In particular the study aims to identify differences between the three countries in respect of :

- administrative practices in screening and scoping;
- the application and consideration of the screening criteria set out in Annex III of the EIA Directive;
- the degree of negotiation with project proponents during screening and scoping process and procedures and whether these negotiations lead to changes or adaptations to projects;
- the requirement for EIA for identical project types (from Annex I and Annex II of the Directive);
- preventing project proponents from circumventing the need for EIA ("salami slicing") and in the procedures used to screen changes and extensions (adaptations) to existing projects (Annex II 13 project types);
- the approach used to identify the likely significant effects for consideration in the EIA (scoping) and to identify where there are differences in the issues covered in EIAs for identical project types;
- the consideration of cumulative effects and how those effects are dealt with in the EIA process;

- the resources used by competent authorities in the screening and scoping procedure; and
- the extent to which the provisions of the Trilateral Wadden Sea Plan (TWSP) are considered during the key stages of EIA within the region.

3. To accomplish these aims the study team produced a questionnaire that was distributed by the Common Wadden Sea Secretariat (CWSS) to 5 Danish, 6 Dutch and 31 German competent authorities in the Wadden Sea region¹. There were 15 respondents to the questionnaire, 7 from Germany, 4 from Denmark and 4 from the Netherlands. The responding authorities include national, regional and local tiers of government and while not providing comprehensive coverage of all EIA activity in the Wadden Sea region, the sample does provide sufficient information on EIA activity from which to draw some general conclusions. The analysis of the questionnaire, and follow up requests for clarification and further information, was supplemented by the examination of case study material supplied by some of the competent authorities surveyed. Interim findings were discussed and tested at a workshop held in Bremen on June 1st 2004 that was attended by 14 EIA practitioners from the region.

4. The report will set out some of the context and background to the survey and some general points regarding the responses. The key stages of EIA as it operates in the Wadden Sea will be reviewed in turn – Screening, Scoping, Consultation and Review. The report will then briefly examine the degree to which the TWSP is taken into consideration in the decision-making process of EIA in the region. General conclusions will be drawn from the above analysis and recommendation will be made on the basis of this analysis.

5. The study has identified major differences in the way in which screening procedures operate in the three countries. All three countries employ what is often characterised as the 'traffic light approach' to EIA screening. This approach requires the development of different thresholds to trigger EIA - inclusion thresholds (EIA always required – Red), exclusion thresholds (EIA never required - Green) and indicative or guidance thresholds (EIA may be required - Amber). In Denmark there are no exclusion (green) thresholds and so below the mandatory thresholds for Annex II projects all projects are made subject to screening on a case by case basis (amber). In the Netherlands there are exclusion thresholds for most Annex II projects above which projects are screened on a case by case basis (amber). Inclusion (red) thresholds are used in the Netherlands for some Annex II as well as Annex I projects as under their EIA legislation they have 'Part C' projects where EIA is mandatory for projects above inclusion thresholds and 'Part D' where screening is based on a case by case assessment above exclusion thresholds. In Germany there is a somewhat more complex

¹ The large number of German authorities reflects the division of responsibilities within the German system and different tiers of Government and agencies with EIA responsibilities.

arrangement, a system of mandatory thresholds is used, above which EIA is compulsory. Below these levels, additional indicative thresholds are also used and these distinguish between “general” and “site-related” screening. For “general screening” criteria is based on Annex III of the Directive, for “site-related screening” the thresholds are lower and concentrate on the criteria that relate only to the proposed project site.

6. The IAU’s previous report to the WSF highlighted the differences in the EIA screening thresholds between the three countries. These differences were examined again for this research through the survey and case studies. For example in the case of wind turbines the thresholds are as follows:

- the Danish mandatory threshold (EIA always required above this level) for windfarms is 80m height or 3+ turbines;
- the German mandatory threshold is 35m height or 10MW and with 20+ turbines;
- there is no mandatory threshold for windfarms in the Netherlands and the exclusion threshold (EIA never required below this level) is a total capacity of 10 megawatts or 10 turbines

These differences have clear implications for the consistency of approach across the Wadden Sea region as a whole and in at least one of the case studies that were subject to EIA would not have been if it had been located in the other countries of the Wadden Sea. What is more, there appears to be no specific mechanisms in place to prevent ‘salami slicing’ – the design of individual projects so that they fall just below the thresholds for EIA

7. Some EIA activity within the Wadden Sea region takes place within the context of land use planning, while in others it also takes place under pollution control legislation and a variety of other licensing systems. In Denmark the EIA-directive is transposed through the Planning Act whereas in Germany and Holland the Directive is implemented through a variety of legislative and licensing arrangements each of which have their separate procedures. In Denmark negotiation between the competent authority and the project proponent take place at the screening stage and in most cases this leads to a decision not to ask for an EIA because of the introduction of mitigation measures. The workshop discussions and the case studies suggest that this approach is not confined to the Danish system. The report suggests that there are dangers in this approach. The amendments made to the EIA Directive in 1995 explicitly require that the measures required to mitigate impacts must be made public and the public must be given the opportunity to comment on those measures. By agreeing a mitigation package, and on the basis of that, deciding that an EIA is not required could be interpreted as circumventing the Directive by excluding the public from scrutinising the mitigation measures.

8. The average number of EIAs between 1988 and 1999 was 72, this increased for the period 2000 and 2003 to 198, an increase of 275%. 49% of EIAs were for Annex I projects

prior to 2000 whereas 22% of EIAs were for Annex I post 2000 (although in the case of two of the respondents no distinction is made between Annex I and II projects). These changes reflect the amendments made to the Annexes by Directive 97/11/EC and the introduction of more project types and the reduction in the thresholds for other projects, in particular intensive livestock. There is a significant difference in screening activity for intensive livestock projects in the Wadden Sea region (see below). Of the 101 EIAs that took place in the study period (2000 – 2004), 34 appear to be Annex I projects where no screening exercise is required as EIAs are mandatory. Around 9.5% of all the Annex II projects screened were converted to EIAs. For intensive livestock Annex II projects (the single largest number of screening decisions (516)) only about 1% of screening decisions result in EIAs being undertaken. If the livestock screening decisions are removed from the total then the conversion rate for Annex II projects in the Wadden Sea region is around 31% - that is 31% of projects that are screened go on to require an EIA. As a comparison, the UK's conversion rate for screening to an EIA appears to be around 46%². This figure is for all areas of England and Wales, and not just for an environmentally sensitive area like the Wadden Sea region where one would expect the conversion rate to be higher.

9. By far the largest area of screening activity takes place for intensive livestock projects (almost 73% of all screening decisions). There were 18 EIAs for intensive livestock in the region as a whole, with 17 of these in Denmark, and it appears that most if not all of these were Annex I projects. In fact for Ribe County none of the 351 screening decisions for Annex II intensive livestock projects led to an EIA. A similar situation exists in Sønderjylland county where a great deal of screening for Annex II projects takes place but few if any cases result in an EIA. In the Netherlands and Germany the number of Annex II livestock projects screened under EIA regulations appears to be very small, if there are any at all. This may be as a result of a number of factors. One is the level at which screening thresholds have been set for such projects and the other is the amount of intensive livestock farming that takes place in the Wadden Sea area of the two countries. Information gathered by the IAU since the Bremen workshop suggests that there is intensive livestock activity within the German and Dutch areas of the Wadden Sea but that most of that activity is regulated under specific regulations rather than EIA legislation

10. The high level of screening activity for intensive livestock farming in the Danish area of the Wadden Sea region has important implications for the operation of the EIA Directive in the region as a whole. To screen virtually all intensive livestock projects can be seen as representing good practice because of the type of polluting material produced. It is also clear from correspondence with the officers involved, that, due to the high level of screening activity, they know a great deal about intensive livestock operations in the Wadden Sea

² This is based upon screening determinations made by the Secretary of State for the Environment between October 1988 and October 1997 – see Weston J. (2000) EIA, Decision Making Theory and Screening and Scoping in UK Practice, in Journal of Environmental Planning and Management, Vol. 43, No. 2, pp. 185-203

region of Denmark. The information they amass enables them to make positive use of the screening process to monitor the impact of the industry on the Wadden Sea and surrounding countryside. This would not take place if large exclusion thresholds were introduced to match those in operation in the Netherlands and Germany.

11. Given the wide scope and broad meaning of the EIA Directive required by the European Court of Justice, and the requirement of the Directive to screen all Annex II projects that are not made exempt by explicit exclusion thresholds, it is of interest to note that in the research period – 2000 to 2004 – there have only been 3 screening decisions and 2 EIAs for urban development projects in the respondent authority areas. The lack of screening decisions for urban development projects needs an explanation and none was forthcoming at the Bremen workshop. Indeed the question was raised at the Bremen workshop why there and been no EIA activity relating to urban development or industrial or manufacturing projects at Brünsbüttel in Germany where, apparently, such projects are concentrated.

12. The screening criteria provided by Annex III of the EIA Directive includes ‘sensitive areas’ and it is for Member States to define these areas for screening purposes. Under the Danish EIA legislation the Wadden Sea Cooperation Area is specifically designated as a ‘special area’ for EIA purposes. However, for the majority of the competent authorities in the Wadden Sea region the ‘sensitive area’ is confined to areas previously designated for wildlife conservation. Under the terms of the operation of the EIA Directive in the Wadden Sea, the fact that a proposed project is located within a ‘sensitive area’ does not make EIA mandatory; it is simply something that must be considered within the screening process as part of the application of national regulations.

13. There are a variety of approaches to scoping taking place within the Wadden Sea region. Most of the competent authorities have mechanisms in place for consultation with other agencies and with certain NGOs on the scope of an EIA. There is no consistent pattern to the consideration of alternatives within the Wadden Sea region. The evidence from the survey and the case studies suggests that a consideration of alternatives and their relative environmental impacts is not a defining feature of EIA in the three countries of the Wadden Sea. There are no specific or common mechanisms in place for the scoping of cumulative impacts. The examination of the case studies at the Bremen workshop demonstrated that the consideration of cumulative impacts in the Wadden Sea region largely reflects the application of the national EIA legislation of the three countries. The consideration of biodiversity in EIA appears to be surprisingly weak within the region. In some cases biodiversity is only a consideration if the project is within a protected habitat, while in others it is only considered under the terms ‘flora and fauna’ and not given any particular weight in decision-making as it is considered to be ‘part of the procedure’.

14. Consultation with a neighbouring authority is a common feature of EIA in the Wadden Sea region and takes place at the screening, scoping and assessment phases. Consultation also occasionally takes place across national and international borders. Consultation with the Common Wadden Sea Secretariat appears to be rare. Some procedures exist for informing the CWSS of the outcome of EIA decisions, but in most other cases the authorities have no special provisions for informing the CWSS and rely on their normal publicity mechanisms and the use of websites. Concerns over the impact of projects on the Wadden Sea are more normally dealt with by consultation with national or regional nature conservation authorities. For a Wadden Sea perspective to be applied to screening and scoping decisions there needs to be consultation with a body that can provide that perspective and the CWSS remains the only such body available.

15. The main source of quality control over EIA in the region appears to be the use of Annex IV of the Directive as a checklist. The Dutch system does include the review by the national EIA Commission and the German and Danish EIA legislation incorporates the Annex IV criteria. The Danish Forest and Nature Agency also reviews EIA statements and this helps to establish quality standards for EIA. But it would appear that it largely remains for the competent authority to judge whether an EIA is adequate or not.

16. Only one authority considered the Wadden Sea Plan of primary importance at all of the key decision-making stages of EIA. Most of the other respondents only appear to consider the plan when a project is located directly within the co-operation area while many more rarely if ever take the plan into consideration. The level of EIA screening activity, the number of EIAs and the arrangements for scoping and the assessment process appear to be little influenced by the Trilateral Wadden Sea Plan. The plan is seen as a non-binding policy statement and the authorities feel more tightly bound by the legislative requirements of their national or regional governments. While it is true that the competent authorities do take into consideration the wildlife considerations imposed by the Birds and Habitats Directives, they only tend to apply those consideration to proposed projects that lie within the protected areas. The fact that the Wadden Sea is an internationally recognised and valued wildlife habitat and that the Stade Declaration recognises the importance of the links between the protected areas and the wider Wadden Sea region does not seem to be reflected in the approach to EIA generally in the area. Clearly the case studies illustrate, and this was acknowledged at the Bremen workshop, that some projects that would be subject to EIA in one part of the Wadden Sea would not be in another. That means that in one part of the region the impacts of a project are considered to be significant and need to be fully assessed and mitigated and that the assessment and mitigation must be subject to public scrutiny, while in other parts of the region – an area acknowledged to be of international importance and to be considered as a single ecosystem – the impacts of similar projects go largely un-assessed and unreported. One explanation for this lack of awareness was identified in the IAU's earlier report (IAU, 2003) as being that there is no clearly identifiable geographical entity that could be called the

'Wadden Sea region'. Indeed, there would appear to be some reluctance to the creation of such a regional identity. The conclusion must be drawn, therefore, that there would appear to be an absence of a wider Wadden Sea 'regional consciousness' in the application of the EIA Directive and that this is partly explained by the absence of an identifiable geographical region and the absence of support from national and regional legislation.

17. The results of the questionnaire survey, the examination of the case studies and the Bremen workshop largely uphold the results of the earlier report on the *'Review of International Legal Instruments, Policies and Management in respect of the Wadden Sea Region'* (IAU 2003). The competent authorities responsible for the operation of the EIA Directive in the Wadden Sea region have little opportunity, within strict national or regional legislation, to do more than is required of them by that legislation. In the absence of changes to national and regional legislation a conclusion of this report must be that the operation of the EIA Directive will remain largely un-coordinated and inconsistent in application across the region.

18. The Stade Declaration invited, at paragraph 27, competent authorities to take the opportunity of the amendments to the EIA Directive by Directive 97/11/EEC to specifically consider the Wadden Sea when establishing thresholds and screening criteria for Annex II projects. There is no evidence that this opportunity was taken up. The national and regional EIA legislation will shortly need to be amended again to transpose the provisions of the Aarhus Convention³ and a recommendation of the IAU's previous report to the WSF (IAU, 2003) was that this would be an opportunity to put in place specific EIA screening and scoping procedures for the Wadden Sea region. This remains a recommendation of the IAU in respect of this report.

19. In the absence of fundamental changes to legislation that would harmonise the operation of the EIA Directive in the Wadden Sea region, the recommendations of this report are largely restricted to informal arrangements. These recommendations are as follows:

a) that the Common Wadden Sea Secretariat should be designated as a statutory consultee on all EIA projects within the Wadden Sea Region (see recommendation g below) to provide the overall Wadden Sea perspective and that consultation with the CWSS should be for projects that are above pre-determined agreed thresholds and located in pre-determined agreed locations/areas;

³ See Directive 2003/35/EC providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC http://europa.eu.int/eur-ex/en/dat/2003/l_156/l_15620030625en00170024.pdf

b) that further research should be commissioned to identify the level of intensive livestock activity within the Wadden Sea region as a whole so as to consider the likely impacts of this potentially polluting industry on the Wadden Sea (this is research that is likely to be required under the Water Framework Directive);

c) that common assessment guidance be produced to allow competent authorities and developers to follow the same procedures for completing at least the ecological impact sections of EIAs and that guidance should specifically refer to how the interests of the Wadden Sea are to be considered in such assessments and how cumulative impacts should be assessed and considered;

d) that training should be provided for all competent authority officers working on EIA within the Wadden Sea region to make them aware of the Wadden Sea Plan and the implications of development outside of the co-operation area on the protected habitats, this training should not be confined to those senior officers who already participate in trilateral cooperation initiatives;

e) that an annual or bi-annual workshop of EIA officers be held to familiarise practitioners with the different approaches to EIA within the region, the way mitigation is applied to different types of impacts in different areas of the region and to ensure that all EIA officers (and not just those already committed to the principles of the State Declaration) are aware of the need to consider the Wadden Sea in their screening and scoping decisions;

f) that work should commence on the delineation of a Wadden Sea region for the purpose of:

- identifying the area that should be subject to the application of specific Wadden Sea EIA guidance documents and consultation procedures;
- identifying the administrative areas covered by EIA competent authorities for specific Wadden Sea training purposes;
- identifying the area that should be subject to any Wadden Sea ICZM plans;

g) that pending the final delineation of a region in (f) above, the Wadden Sea region should be considered for consultation and other purposes to be the Wadden Sea Cooperation Area plus the adjacent municipalities in the Netherlands and Denmark and the counties in Germany and the offshore area within the territorial sea;

h) that a register of EIA projects within the Wadden Sea region, currently maintained at the IRWC secretariat, should be improved and maintained (at the trilateral level) to enable the production of periodic overviews of EIA projects and activity in the Wadden Sea region and as a basis for the activities referred to in e and g above;

i) that in the forthcoming revisions required to transpose the amendments made to the EIA Directive the national legislation of the three countries of the Wadden Sea Region should be amended to specifically designate the Wadden Sea Cooperation Area as a 'sensitive area' as has already been done in the Danish EIA legislation

Impacts Assessment Unit

The Operation of the EIA Directive in the Wadden Sea Region

1. Introduction

1.1 In 2003 the Impact Assessment Unit (IAU) at Oxford Brookes University was asked by the Wadden Sea Forum (WSF) to undertake a study of certain aspects of territorial legislation, planning and management relating to the Wadden Sea region. The IAU's final report for that study, entitled the 'Review of International Legal Instruments, Policies and Management in respect of the Wadden Sea Region' (IAU, 2003) found that the implementation of the EIA Directive was very much a top-down process, with competent authorities having little opportunity to do more than strictly adhere to national legislation. The report also found that there is little recording of EIA activity at national or regional level within the area. The research discovered that there are apparent in-consistencies and wide variation between the approaches used by the competent authorities operating the Directive within the Wadden Sea region. Furthermore, in its review of the operation of the EIA and other key environmental EU legislation the research discovered that there was no firm identifiable geographical area or any delineation of the Wadden Sea region and no real regional Wadden Sea consciousness. As a result of these findings the WSF commissioned the Impact Assessment Unit (IAU) of Oxford Brookes University to complete additional research into the operation of the EIA Directive in the region.

1.2 The IAU is a well established, and an EC Europa Centre of Excellence for research, training and education in Environmental Impact Assessment (EIA), Environmental Policy and Environmental Decision-Making. The IAU is led by **Professor John Glasson**, Research Dean for the School of the Built Environment of which the Department of Planning forms part. The research project manager for this study is **Joe Weston BA (Hons), MSc, Diploma in Urban Planning, MRTPI**. Other key team members are **Dr. Graham Wood** and **Dr. Jake Piper**. In recent years, these team members have been involved in the following research projects funded by the European Commission; Joe Weston has acted as Project Manager for all of these:

- 2002-2003: *Five Year Report to the European Parliament and the Council on the Application and Effectiveness of the EIA Directive*,
- 2000 – 2001: *Preparation of a Methodological Guide on the procedures to follow for Plans and Projects significantly affecting Natura 2000 Sites (Articles 6.3 & 6.4 of Directive 92/43/EEC)* and
- 1998: *Independent study in relation to the proposed road development on the N21/N22, County Kerry, Republic of Ireland* (with PriceWaterhouseCoopers (Northern Ireland)).

2. The Study Aims and Objectives

2.1 The principal aim of the study is to test the findings of the previous examination of the implementation of the EIA Directive. In particular the study aims to identify differences between the three countries in respect of :

- administrative practices in screening and scoping;
- the application and consideration of the screening criteria set out in Annex III of the EIA Directive;
- the degree of negotiation with project proponents during screening and scoping process and procedures and whether these negotiations lead to changes or adaptations to projects;
- the requirement for EIA for identical project types (from Annex I and Annex II of the Directive);
- preventing project proponents from circumventing the need for EIA ('salami slicing') and in the procedures used to screen changes and extensions (adaptations) to existing projects (Annex II 13 project types);
- the approach used to identify the likely significant effects for consideration in the EIA (scoping) and to identify where there are differences in the issues covered in EIAs for identical project types;
- the consideration of cumulative effects and how those effects are dealt with in the EIA process;
- the resources used by competent authorities in the screening and scoping procedure; and
- the extent to which the provisions of the Trilateral Wadden Sea Plan (TWSP) are considered during the key stages of EIA within the region.

2.2 To accomplish these aims the study team produced a questionnaire that was distributed by the Common Wadden Sea Secretariat (CWSS) to 5 Danish, 6 Dutch and 31 German competent authorities in the Wadden Sea region⁴. The analysis of the questionnaire, and follow up requests for clarification and further information, was supplemented by the examination of case study material supplied by some of the competent authorities surveyed. Some of the case study material was submitted in written form while other material was presented at a workshop held in Bremen on June 1st 2004. The case studies have been used to highlight particular issues and to identify areas of similarity and disparity in practice. The workshop was attended by 14 practitioners from the three countries of the Wadden Sea plus

⁴ The large number of German authorities reflects the division of responsibilities within the German system and different tiers of Government and agencies with EIA responsibilities.

staff from the WSF secretariat and the IAU. In addition to gathering information on the case studies, the workshop was also used to test the findings of the study to date and to discuss some key areas of the implementation of the EIA Directive as a result of those findings. Brief details of the case studies can be found at Appendix 1 and are:

- Restoration of an old Mineral Oil Factory site in the city of Wedel, Germany;
- Surface covering for waste deposit Ecklak, Germany;
- JadeWeserPort (development of a port and associated sand extraction process), Jade, Germany
- Extension of the productive capacity for Aldel aluminium plant in Delfzijl, Netherlands;
- Area for greenhouse cultivation in the municipality of Eemmond, Groningen Netherlands;
- Akzo Nobel Chlorine plant at Delfzijl, Netherlands
- Extraction of 20.000 m³ of marine sediment, Brøns, Skærbæk, Denmark;
- Extraction of 50.000 m³ of sand, Bredebro, Denmark;
- Demolition of 13 small, old and inefficient wind turbines and the installation of 3 larger, modern wind turbines, Fanoë, Ribe County, Denmark;
- Bypass on main road no. 11 at Ribe, Ribe County, Denmark;
- Digging of marine clay, Brohoved, Denmark;

This report provides an analysis of the operation of the EIA Directive within the Wadden Sea Region based on the above material and other documentary and other evidence collected during the study. The report also provides some recommendations that flow from the analysis.

3. Structure of the Report.

3.1 Following this introduction, the report will set out some of the context and background to the survey and some general points regarding the responses. Then the key stages of EIA as it operates in the Wadden Sea will be reviewed in turn – Screening, Scoping, Consultation and Review. The report will then briefly examine the degree to which the TWSP is taken into consideration in the decision-making process of EIA in the region. General conclusions will be drawn from the above analysis and recommendation will be made on the basis of this analysis.

4. The Legal and Policy Context

4.1 The European Union's considers the Directive 85/337/EEC (as amended by Directive 97/11/EC) on the assessment of the effects of certain public and private projects on the environment (hereafter the EIA Directive) to be one of the European Union's (EU) 'principal pieces of environmental legislation'⁵. The underlying, if not central, purpose of Environmental Impacts Assessment (EIA) is to provide decision makers, and the public, with a systematic, comprehensive and objective assessment of the environmental consequences of an action in advance of decisions that sanction that action. First developed in the USA in the 1960s, EIA is now a procedure common to development consent systems around the world. It is a systematic procedure that is based upon a number of key stages and these stages are in themselves points at which crucial decisions have to be made. The stages of EIA are:

EIA Stage	Decision
Screening	Is the project one for which an EIA is necessary?
Scoping	What environmental impacts need to be examined?
Prediction	What is the size, magnitude or extent of the impacts?
Assessment	Is the impact significant ?
Mitigation	What can be done to reduce the impact?
Review	Is the assessment and the environmental information adequate?
Decision	Should the project be authorised to proceed?
Monitoring and Auditing	Was the prediction of impacts accurate and do the mitigation measures work?

The purpose of environmental assessment is seen as being a transparent proactive environmental management measure to identify and mitigate significant adverse environmental effects and thus allay public fears over the consequences of an action⁶. As a tool to aid decision making, EIA is widely seen as a key mechanism in achieving the EU's wider environmental concerns and policy principles. The main strands of those principles are that pollution should be dealt with at source, that the polluter should pay and that a precautionary principle should be applied⁷.

4.2 There are some key legal principles underpinning the transposition and operation of European Union environmental law at the level of the Member States. Possibly the most important of these is the principle of supremacy, which requires that all domestic law, that is created to transpose European law, must be applied and interpreted so as to comply with the original⁸. The principle of supremacy extends to the interpretation of the EU legislation by the courts, with the European Court of Justice (ECJ) being the final arbiter of all EU legislation. The second key principle is that of subsidiarity, that requires policy and law to be enacted by

⁵ See CEC (2001) Environmental Impact Assessment Guidance on Screening, Brussels, CEC.

⁶ See Weston, J. (2004) 'EIA in a Risk Society' in Journal of Planning and Environmental Management , Vol 47, No. 2, 313-325

⁷ Bell, S. and S. McGillivray (2000) Environmental law, 5th Edition, London, Blackstone Press, p.128

⁸ *ibid*, p.71

the level of government most relevant to that policy or action⁹. The subsidiarity principle also extends to the transposition of EU environmental law at Member State level, with Directives, such as the EIA Directive, providing Member States with a good deal of discretion over how the law should operate in their individual countries¹⁰. There is, of course, the potential for tensions to arise between the operation of these two principles. The discretion permitted by the principle of subsidiarity has the potential to reduce the overall effectiveness of a Directive if that discretion is applied in such a way as to undermine the purpose of the Directive as a whole. In the case of the EIA Directive, this situation has arisen in a number of cases that have found their way to the ECJ. As a result there is now an extensive body of ECJ case law on EIA¹¹ that makes clear that the Directive should always be given a 'wide and broad purpose' and that the precautionary principle should be applied to decision making.

4.3 These key principles are of particular importance for the enhancement and maintenance of those areas of Europe that have been designated for special protection under EU legislation. The Wadden Sea region is just such an area and as was reported in *'Review of International Legal Instruments, Policies and Management in Respect of the Wadden Sea'* (IAU, 2003) the area is not only recognised within Europe as an important wildlife habitat and designated for special protection under the Birds and Habitat Directives, but is also protected under other international agreements including the Ramsar Convention¹² and the OSPAR Convention¹³, the area is also a Particularly Sensitive Sea Area¹⁴ (PSSA) and a potential candidate for World Heritage Site status. This level of protection is recognition of both the sensitivity of the Wadden Sea and its international value. The fact that the Wadden Sea extends across national boundaries and is the responsibility of three countries to maintain and enhance raises a number of problems and many of these were highlighted in the report cited above (IAU, 2003). It is just because of these

⁹ Sands, P. (2003) *Principles of International Environmental law* (2nd Edition), Cambridge, Cambridge university press, p751.

¹⁰ Macrory, R. and S. Turner, (2002) *Participation Rights, Transboundary Environmental Governance and EC Law*, in *Common Market Law Review*, 39, pp. 489 – 522.

¹¹ notably *C-72/95 Aannemersbedrijf P.K. Kraaijeveld BV e.a. v Gedeputeerde Staten van Zuid-Holland* (the *Dutch Dykes* case), *C-431/92 the Grosskrotzenburg case*, *C-396/92 Bund Naturschutz in Bayern e V v Freistaat Bayern* (Bavarian Road case), *C-392/96 Commission v Ireland* and *C-435/97 World Wildlife Fund and Others v Autonome Sektion Provinz Bozen and Others* (the *Bozen Case*).

¹² Ramsar sites are designated under the 'Convention on Wetlands of International Importance especially as Waterfowl Habitat' (commonly known as the Ramsar Convention). In becoming parties to the convention the three countries of the Wadden Sea it accepted a commitment to designate suitable wetlands within their territory for inclusion in a List of Wetlands of International Importance, which is maintained by the International Union for the Conservation of Nature and Natural Resources bureau (IUCN).

¹³ The OSPAR Convention is a long term strategy for the protection of ecosystems and biological diversity, and for the promotion of the establishment and management of a system of marine protected areas (OSPAR MPA Programme). A Marine Protected Area, as per the definition developed by the World Conservation Union (IUCN) is "any area of the intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment" MPAs are used as management tools to protect, maintain, or restore, natural and cultural resources in coastal and marine waters. The establishment and management of a system of Marine Protected Areas, is an aim of the OSPAR MPA programme. Marine Protected Areas provide a range of benefits to coastal communities and the public by enhancing fisheries, safeguarding marine habitats and increasing economic opportunities.

¹⁴ The International Maritime Organisation (IMO) has a sea area designation scheme for the protection of sensitive areas that are vulnerable to damage. These PSSA's are areas that are considered to be in need of special protection through action by the IMO. There are currently only six designated PSSAs in the world, one of which is the Wadden Sea. A PSSA can be protected from marine pollution by ships routing measures – such as an area to be avoided. The Wadden Sea PSSA was designated in October 2002 and is largely defined by its single ecosystem characteristics.

problems, and the responsibilities that come with the designations, that the three countries entered into trilateral agreements to co-ordinate the protection of the Wadden Sea. This cooperation became more firmly established with the approval of the Trilateral Wadden Sea Plan (WSP) at the trilateral ministers' conference in Stade, Germany in 1997. The WSP embodies:

- a common delimitation of a Wadden Sea Area and the Wadden Sea Conservation Area;
- a common vision for the Wadden Sea, the guiding principle and the management principles;
- Common Eco-Targets and measures and activities to reach those Targets; and
- the implementation of a joint monitoring and assessment programme.

4.4 The 'guiding principle' of the Trilateral Wadden Sea Plan is that the Wadden Sea should be considered as a single ecosystem and managed so as **'to achieve, as far as possible, a natural and sustainable ecosystem in which natural processes proceed in an undisturbed way'**. In addition there is an explicit recognition within the WSP that development activities outside of the designated areas have the potential to adversely impact upon the area and that the management and enhancement of the designated areas must be seen within the context of the social and economic interests of the wider Wadden Sea region (WSP, Paras. 7 and 12). In light of the guiding EU policy and legal principles discussed above and the spirit of the trilateral co-operation, EIA should be seen as a major tool in achieving the aims of the Wadden Sea Plan.

5. EIA in the Wadden Sea Region

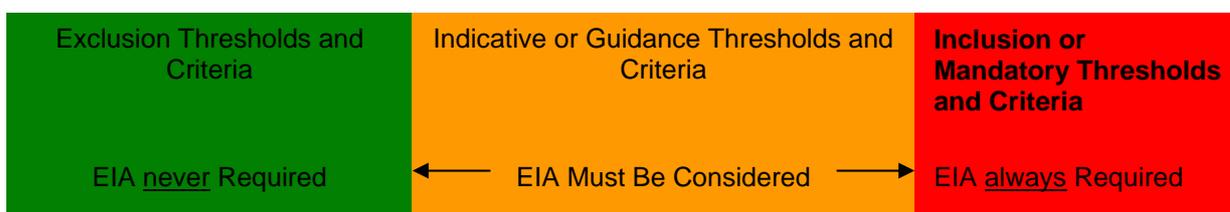
5.1 The European Commission's five year review of the operation of the EIA Directive¹⁵ found a wide variety of approaches to the implementation of the Directive across Europe. This variety was illustrated most clearly in the manner in which Member States had established their screening procedures for determining which projects should be subject to EIA. The Directive provides two lists (Annex I and Annex II) of projects subject to its provisions. All Annex I projects must be subject to EIA while Annex II projects only require EIA 'where there are likely to be significant environmental effects'. Under the principle of subsidiarity, Member States may choose the mechanisms for determining whether an Annex II project should be subject to an EIA. They may employ thresholds (based upon factors such as size, scale, location etc), a case by case examination or a combination of the two. The Directive provides, at Annex III, a list of criteria that Member States must use as the basis of establishing screening thresholds and for the case by case screening of projects. Where thresholds are employed for screening there are three main systems in place and these are often characterised as the 'traffic light approach'. This approach requires the development of different thresholds to trigger EIA - inclusion thresholds (EIA always required – Red),

¹⁵ CeC (2003) Five Years Report to the European Parliament and the Council on the Application and Effectiveness of the EIA Directive, CeC, Brussels.

exclusion thresholds (EIA never required - Green) and indicative or guidance thresholds (EIA may be required - Amber). Fig. 1 provides an illustration of the 'traffic light approach'. However there are a wide variety of ways in which this approach is used, in some countries there are only exclusion (green) and inclusion (red) thresholds and so there is a clear break off point between when an EIA is required and when it is not. In other cases there are no exclusion (green) thresholds and below the inclusion (red) thresholds all projects have to be screened on a case by case basis.

5.2 The choice of approach used and the level at which thresholds have been set by particular Member States largely dictates the level of screening activity and the number of EIAs that are required. The EC's 5 year review found a large variation in the level at which inclusion and exclusion thresholds had been set for the same project types across the EU as a

Figure 1: 'Traffic Light' Approach to Screening



whole. This was also found to be the case in the three countries of the Wadden Sea (IAU, 2003). For example in the case of wind turbines the thresholds are as follows:

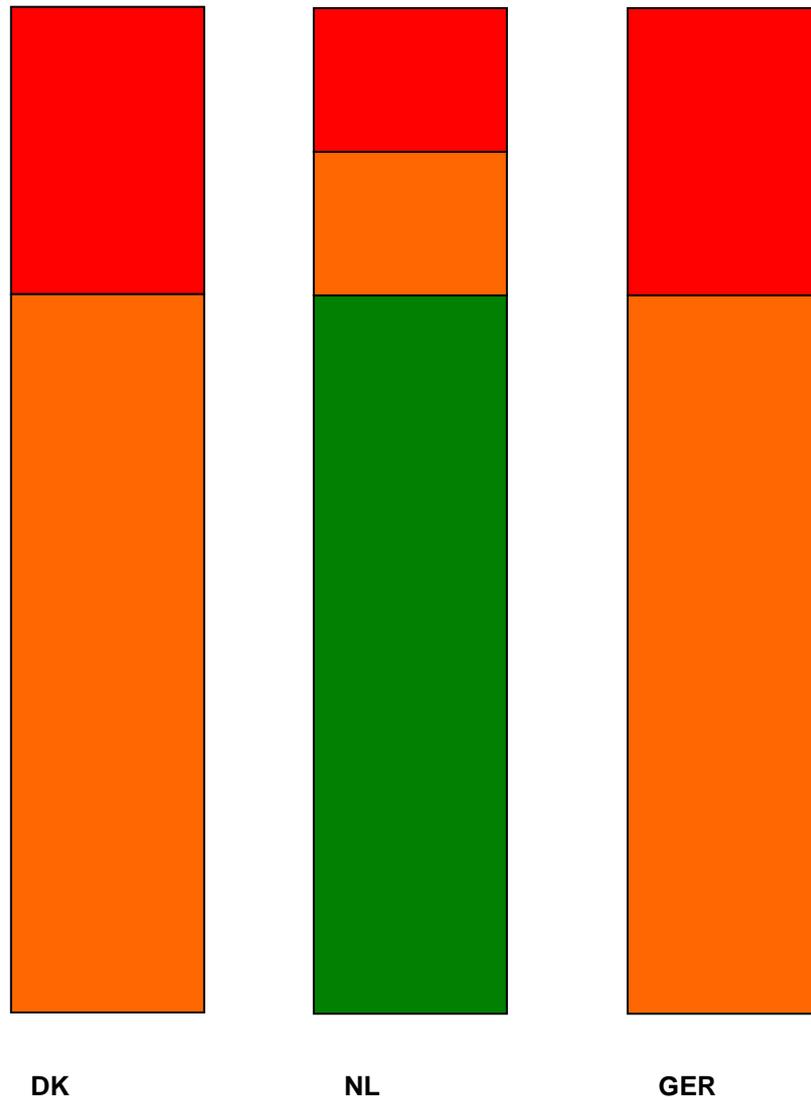
- the Danish mandatory threshold (EIA always required above this level) for windfarms is 80m height or 3+ turbines;
- the German mandatory threshold is 35m height or 10MW and with 20+ turbines;
- there is no mandatory threshold for windfarms in the Netherlands and the exclusion threshold (EIA never required below this level) is a total capacity of 10 megawatts or 10 turbines

There are also significant differences in the way the 'traffic light' principles are used in the three countries of the Wadden Sea. In Denmark there are no exclusion (green) thresholds and so below the mandatory thresholds for Annex II projects all projects are made subject to screening on a case by case basis (amber). In the Netherlands there are exclusion thresholds for most Annex II projects above which projects are screened on a case by case basis (amber). Inclusion (red) thresholds are used in the Netherlands for some Annex II as well as Annex I projects as under their EIA legislation they have 'Part C' projects where EIA is mandatory for projects above inclusion thresholds and 'Part D' where screening is based on a case by case assessment above exclusion thresholds. In Germany there is a somewhat more complex arrangement, a system of mandatory thresholds is used, above which EIA is compulsory. Below these levels, additional indicative thresholds are also used and these

distinguish between “general” and “site-related” screening. For “general screening” criteria is based on Annex III of the Directive, for “site-related screening” the thresholds are lower and concentrate on the criteria that relate only to the proposed project site. For some Annex II project types EIA is always required (e.g. construction of railway tracks). Figure 2 provides a ‘traffic light’ representation of the screening approaches in the three countries.

5.3 Some EIA activity within the Wadden Sea region takes place within the context of land use planning, while in others it also takes place under pollution control legislation and a variety of other licensing systems. In Denmark the EIA-directive is transposed through the Planning Act whereas in Germany and Holland the Directive is implemented through a variety of

Fig. 2: Comparing the Screening Principles



legislative and licensing arrangements each of which have their separate procedures. This is an issue that arises in some of the case studies, with different parts of a project - sand and gravel extraction for a port development – being controlled by different legislation and subject to EIA under different rules. The wide variety of different instruments used to implement EIA in the Wadden Sea region does make it extremely difficult to characterise the procedures used. As noted at the Bremen workshop, this use of different licensing regimes also has implications for the way in which EIA takes place. For example different regimes have different mandatory timescales for screening and scoping and different requirements in terms of who should or should not be consulted. The German Pollution Control Act, for example, has different requirements for the consideration of alternatives than does the Nature Protection Act. As noted in the previous IAU report (IAU,2003) all these different systems under which EIA takes place result in a large number of competent authorities in the Wadden

Sea region, having varying levels of EIA responsibility. The complexity of EIA implementation responsibilities largely reflects the federal nature of Germany, with different tiers of Government having different responsibilities. In the Netherlands there are also different tiers of Government with different EIA responsibilities but there is also a national independent EIA Commission that supervises the operation of EIA. It was a feature of the Bremen workshop that participants were not fully aware of the different approaches used in the three countries, for example some of the participants from the Netherlands and Germany were not aware that under the Danish system it is the competent authority that conducts the EIA and produces the EIA report or statement, whereas in the other two countries it is the project proponent who produce the report. In all three countries an EIA report or Environmental Impact Statement, (often extending to several volumes) is produced.

6. Competent Authorities

6.1 There were 15 respondents to the questionnaire, 7 from Germany, 4 from Denmark and 4 from the Netherlands. The responding authorities include national, regional and local tiers of government and while not providing comprehensive coverage of all EIA activity in the Wadden Sea region, the sample does provide sufficient information on EIA activity from which to draw some general conclusions. It should be noted that not all of the respondents provided answers to all of the questions put to them. Only one respondent said they had no direct EIA responsibilities for the Wadden Sea co-operation area while all other respondents had a variety of responsibilities from screening all Annex I and Annex II projects to dealing only with particular issues such as mineral extraction or oil and gas pipelines. Table 1 sets out the responsibilities that each of the respondents has for EIA work in the region.

6.2 Table 2 below provides a list of the respondent authorities together with the number of staff working on EIA, the staff time dedicated to working on EIA and the average number of EIAs the authorities have received over the past three years. These figures display a wide range in both the effort put into EIA work and the number of EIAs processed. This range will reflect the type and tier of the authority and the level of responsibility they have for EIA. For example, some of the authorities listed have national EIA responsibilities and so their staff levels will reflect national rather than Wadden Sea workloads. The differences may also be explained by different EIA legislation in the three countries and the level at which thresholds and other key factors relating to the need for EIAs have been established. In most cases EIA work is part of the general duties of staff and few of the authorities appear to have staff dedicated purely to EIA work. The number of staff hours dedicated to EIA work appears to vary considerably and, in some cases, does not seem to correlate easily with the number of EIAs dealt with. This is explained in part by the fact that Denmark have no 'exclusion' thresholds and therefore screen all projects on a case by case basis and, as a result, have a much higher work load than in Germany and the Netherlands where quite high exclusion thresholds exists and therefore much less screening activity takes place.

Table 1. EIA Responsibilities

		EIA Responsibilities Trilateral Wadden Sea Co-operation Area
Germany		
G1	Landesbergamt CLZ	Small projects on the islands or river crossings
G2	Bezirksregierung Weser-Ems (District Government)	The District Government of Weser-Ems is responsible for a lot of different kind of projects listed in EIA Directive / national EIA Act (permission authority).
G3	Kreis Nordfriesland	No
G4	State Agency for Nature and Environment of Schleswig-Holstein	waste dumps, waste removal (with exception of incineration), ground water abstraction
G5	Wasser-und Schifffahrtsdirektion Nordwest	Project Approval Procedure for the Jade Weser Port Containerterminal CT4 (Bremerhaven)
G6	Landkreis Aurich	Yes –screening all projects
G7	Landesamt für Straßenbau und Verkehr S-H	Occasionally – oil, gas pipelines, sand & gravel quarrying
Denmark		
D1	Sønderjyllands Amt, Planning department	All EIA and screening decisions on land in the Sønderjyllands area of the Wadden Sea area
D2	Ribe County	All EIA and screening decisions on land in the Ribe area of the Wadden Sea area
D3	The National Forest and Nature Agency (Denmark)	There are areas designated for extraction of raw material which the authority have EIA responsibilities
D4	Danish Energy Authority	Cable connection to Horns Reef off shore wind farm
Netherlands		
N1	Min. of Agri. Nature Managem & Fisheries (Netherlands)	Legal advice on EIA for all northern regions
N2	Provincie Groningen	Competent authority for some EIA-projects
N3	Provincie Fryslân	Competent authority for a range of EIA-projects in the Wadden Sea area:
N4	Provincie Noord-Holland	Competent authority for a range of EIA-projects in the Wadden Sea area:

7. Screening

Screening Approach

7.1 The evidence from the survey, and the discussions held at the Bremen workshop, show that the majority of the competent authorities have little opportunity to do more than apply national regulatory procedures to the screening process. One major constraint identified at the workshop is the tight time limits imposed by national legislation for key decision areas such as screening and scoping. The IAU's previous report to the WSF highlighted the differences in the screening thresholds between the three countries as illustrated above at paragraph 5.2. These differences have clear implications for the consistency of approach across the Wadden Sea region as a whole and at least one of the case studies that were subject to EIA would not have been if it had been located in the other countries of the Wadden Sea.

Table 2 Workload and resources for EIA in competent authorities

		Staff working on EIA	Hours Per year	No. of EIAs per year
	Germany			
G1	Landesbergamt CLZ	5 staff as part of other duties	7,000	6
G2	Bezirksregierung Weser-Ems (District Government)	Within scope of other work	No figure	5
G3	Kreis Nordfriesland	Within scope of other work	100	No Figure
G4	State Agency for Nature and Environment of Schleswig-Holstein	Within scope of other work	Approximately 1.500 hours per year	22
G5	Wasser-und Schiffahrtsdirektion Nordwwest	Within scope of other work	No figure	2
G6	Landkreis Aurich	1	About 315 hours per annum	No Figure
G7	Landesamt für Straßenbau und Verkehr S-H	Project leaders also cover EIA Subjects	No figure	No Figure
	Denmark			
D1	Sønderjyllands Amt, Planning department	8	Approx. 10.000 staff hours/year	1
D2	Ribe County	7	15.-16.000	
D3	The National Forest and Nature Agency (Denmark)	Two persons	No hours have been dedicated to EIA work	No Figure
D4	Danish Energy Authority	5	No Figure	1
	Netherlands			
N1	Min.of Agri, Nature Managem. & Fisheries (Netherlands)	0.5 staff on EIAs 2 others partly work on EIAs	550-600 hours per year	12
N2	Provincie Groningen	2 EIA -co-ordinators	Two full time jobs (38 hours/week)	11
N3	Provincie Fryslân	0,8 EIA-coördinator	1000 hours per year	6
N4	Provincie Noord-Holland	1,5 EIA-coördinatoren	500 + 650 hours per year in total	12

7.2 The screening criteria provided by Annex III of the EIA Directive have largely been incorporated into the national regulations or guidance used for screening. In Schleswig-Holstein, a screening check-list exists for case-by-case assessments. There are no specific measures in place within the region to prevent 'salami-slicing' other than the application of national regulations. It would appear that in most cases the competent authorities consider the screening process to be a largely technical exercise based upon testing the project descriptions against regulatory thresholds. In Denmark there is a specific opportunity for the public and interest groups to challenge as screening decision as these have to be made public and there is an appeal mechanism whereby the national Nature Complaints Board can

override the competent authority's screening decision. In the Netherlands and Germany screening decisions can only be challenged as part of a judicial review of a project consent. All three countries have time restrictions on making screening decisions and some of these are more conducive to consultation than others, for example, under some of the German EIA legislation only one week is allowed for screening, otherwise the proponent has the right to demand that the application for consent is determined without an EIA.

7.3 As will be seen below, in Denmark negotiation between the competent authority and the project proponent take place at the screening stage and in most cases this leads to a decision not to ask for an EIA because of the introduction of mitigation measures. The workshop discussions and the case studies suggest that this approach is not confined to the Danish system. The view was expressed at the workshop that mitigation had to be taken into consideration, as in some legislation a project which was likely to have significant impacts would be denied outright. It was also argued that an environmental gain could be achieved by negotiating with developers in the screening stage. Furthermore, it has been pointed out to the IAU that most development proponents want to avoid lengthy and costly EIA procedures and therefore agree to mitigation measures. There has been some debate within Europe, and in particular in the UK, as to whether this is the correct approach to screening. The EIA Directive states that there must be an EIA for an Annex II project where there are 'likely to be significant environmental effects'. The key term here is 'likely to be' and given the broad and wide purpose of the Directive, and within the precautionary principle, this must be seen as meaning that EIA can only be discounted when there are 'unlikely to be' significant environmental effects. The UK courts have ruled that there are two types of mitigation measures – those that are designed into a project and where the outcome of the mitigation has a degree of certainty, and those measures that require additional action, further licensing or work outside of the control of the project proponent or competent authority. The outcome of the second type of mitigation is inherently uncertain at the screening stage and so the availability of that mitigation should be discounted in the screening decision¹⁶. This approach is in-line with the approach adopted for screening for appropriate assessments under the Habitats Directive¹⁷ where screening decisions must be made in the absence of a consideration of mitigation. Furthermore, the amendments made to the EIA Directive in 1995 explicitly require that the measures required to mitigate impacts must be made public and the public must be given the opportunity to comment on those measures. By agreeing a mitigation package, and on the basis of that, deciding that an EIA is not required could be interpreted as circumventing the Directive by excluding the public from scrutinising the mitigation measures.

¹⁶ See *R (on the application of Lebus) v South Cambridgeshire District Council* [2002] EWHC 2009 and *BT plc and Bloomsbury Land Investments v Gloucester City Council* ([2000] EWHC Admin. 100)

¹⁷ *CeC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Non Mandatory Methodological Guidance* < CeC, Brussels.

Screening Decisions

7.4 The average number of EIAs between 1988 and 1999 was 72, this increased for the period 2000 and 2003 to 198, an increase of 275%. 49% of EIAs were for Annex I projects prior to 2000 whereas 22% of EIAs were for Annex I post 2000 (although in the case of two of the respondents no distinction is made between Annex I and II projects). These changes reflect the amendments made to the Annexes by Directive 97/11/EC and the introduction of more project types and the reduction in the thresholds for other projects, in particular intensive livestock. Table 3 provides details of the number of screening decisions for key project types that have taken place within the respondent authorities between January 2000 and January 2004. Data has not been provided in all cases and so the data is incomplete and it should also be noted that the sample respondents may not be 'typical' of EIA activity in the area as a whole. However, Table 3 does graphically illustrate the effect of the different approaches to screening in the three countries. For example, there is a significant difference in screening activity for intensive livestock projects and this will be discussed in detail below. Table 4 sets out the screening decisions made by each respondent authority and, because of the prevalence of intensive livestock projects, highlights the screening decisions made for these. Of the 101 EIAs, 34 appear to be Annex I projects where no screening exercise is required as EIAs are mandatory. Around 9.5% of all the Annex II projects screened were converted to EIAs. For intensive livestock Annex II projects (the single largest number of screening decisions) only about 1% of screening decisions result in EIAs being undertaken. If the livestock screening decisions are removed from the total then the conversion rate for Annex II projects in the Wadden Sea region is around 31% - that is 31% of projects that are screened go on to require an EIA. As a comparison, the UK's conversion rate for screening to an EIA appears to be around 46%¹⁸. This figure is for all areas of England and Wales, and not just for an environmentally sensitive area like the Wadden Sea region where one would expect the conversion rate to be higher.

Intensive Livestock

7.5 By far the largest area of screening activity takes place for intensive livestock projects (almost 73% of all screening decisions). There were 18 EIAs for intensive livestock in the region as a whole, with 17 of these in Denmark, and it appears that most if not all of these were Annex I projects. In fact for Ribe County none of the 351 screening decisions for Annex II intensive livestock projects led to an EIA. A similar situation exists in Sønderjylland county where a great deal of screening for Annex II projects takes place but few if any cases result in an EIA. The EIAs for intensive livestock projects that have taken place (see Table 3) have been almost exclusively for Annex I projects where EIA is mandatory. According to information

¹⁸ This is based upon screening determinations made by the Secretary of State for the Environment between October 1988 and October 1997 – see Weston J. (2000) EIA, Decision Making Theory and Screening and Scoping in UK Practice, in Journal of Environmental Planning and Management, Vol. 43, No. 2, pp. 185-203

Table 3. Screening Decisions by Project Type and Country (Jan 2000 – Jan 2004)

Project type	No of Projects Screened			No of Projects where EIA Required ¹⁹		
	DK	NL	GER	DK	NL	GER
Intensive Livestock installations (Annex I (17) and Annex II (1)[e] projects)	516	0	0	17	0	1
Intensive fish farming (Annex II (1)[f] projects)	0	0	1	0	0	0
Extraction of minerals (including sand and gravel) by marine or fluvial dredging (Annex II (2) [c])	6	0	6	6	1	14
Quarries for sand, gravel and other minerals (Annex I (19) and Annex II (2) [a] projects)	18	0	0	2	0	1
Drilling for water supplies (Annex II (2) [d] projects)	7	1	0	0	0	0
Installations for the harnessing of wind power for energy production (Annex II (3) [i])	14	7	9	6	7	0
Waste Disposal projects (Annex I (9) (10) and Annex II 11[b] projects)	8	2	6	3	0	5
Waste Water treatment plants (Annex I (13) and Annex II (c) projects)	6	0	5	0	0	0
Chemical installations and plants (Annex I (6) and Annex II (6) projects)	3	1	0	0	2	0
Installation for the slaughter of animals (Annex II (7) [f] projects)	1	0	0	0	0	0
Pipelines (Annex I (16) and Annex II (10) [l] projects)	2	0	1	0	0	1
Extraction of oil and gas (Annex I (14) projects)	0	0	0	0	1	0
Overhead power lines (Annex I (20) projects) Type	2	0	1	1	1	1
Road, railway or airport runway (Annex I (7) and Annex II (10) [c] [d] [e] projects)	3	0	45	2	0	16
Port development, harbours, piers and inland waterways (Annex I (8) and Annex II [e] [f] projects)	1	0	3	1	0	3
Industrial estate development projects (Annex II, 10 [a])	1	4	2	0	1	0
Urban Development Projects (Annex II, 10 [b])	3	0	0	2	0	0
Dams and other installations designed to hold or store water (Annex I (15) and Annex II (10 [g] projects)	0	3	5	0	1	3
Groundwater Abstraction (Annex I (11) and Annex II (10) [l] projects)	2	0	3	0	0	0
Coastal work to combat erosion and maritime works capable of altering the coast through the construction of dykes, moles, jetties and other sea defence work (Annex II, 10 [k])	0	0	5	0	0	0
Racing and test tracks (Annex II (11) [a] projects)	3	0	0	0	0	0
Tourism and leisure (Annex II, 12)	2	0	0	2	0	0
Totals	598	18	92	42	14	45
	708			101		

provided by respondents, the national guidelines in Denmark²⁰ have 'the principle rule', that an EIA is not required for Annex II projects, unless the environment is particularly vulnerable to pollution or to other impacts from the project. The approach taken by the Danish authorities is to examine projects on an informal basis to assess whether there are likely to be significant effects. Where significant impacts are identified, negotiations take place with the farmer and his/her consultants in order to alter the project and to reduce its impacts on the environment to an acceptable level. Once the mitigation is accepted the project is resubmitted and the formal screening procedures take place. The negotiations on mitigation are in accordance with guidelines from the Nature Complaints Board. In Sønderjylland the number of livestock units has remained relatively constant over the past few years with older installations closing

¹⁹ The figures given in this column do not indicate the number of screening decisions that lead to an EIA as many of the projects where EIA was required were Annex I projects for which EIA is mandatory.

²⁰ From the Ministry of the Environment and the guidelines and practise of the Danish Naturklagenævnet ("The Nature

down and being replaced by newer units. The number of screening decisions (153 over the research period) does not, therefore, necessarily represent an increase in overall activity. Most projects screened are changes to existing livestock units, including a change of livestock type. In these

Table 4: Screening Decisions by Competent Authorities

		Total No of projects screened	Total No Projects where EIA required	No of Intensive Livestock Projects Screened	No. of Intensive Livestock Projects where EIA Required
	Germany				
G1	Landesbergamt CLZ	3	3	0	0
G2	Bezirksregierung Weser-Ems (District Government)	26	2	0	0
G3	Kreis Nordfriesland	13	2	0	0
G4	State Agency for Nature and Environment of Schleswig-Holstein	7	5	0	0
G5	Wasser-und Schifffahrtsdirektion Nordwest	3	3	0	0
G6	Landkreis Aurich	0	15	0	1
G7	Landesamt für Straßenbau und Verkehr S-H	40	15	0	0
	Denmark				
D1	Sønderjyllands Amt, Planning department	165	6	153	5
D2	Ribe County	426	29	363	12
D3	The National Forest and Nature Agency (Denmark)	5	5	0	0
D4	Danish Energy Authority	2	2	0	0
	Netherlands				
N1	Min.of Agri, Nature Managem. & Fisheries (Netherlands)	7	12	0	0
N2	Provincie Groningen	6	0	0	0
N3	Provincie Fryslân	2	0	0	0
N4	Provincie Noord-Holland	3	2	0	0
	Total	708	101	516	18

Complaints Board", that deals with complaints about EIA screening decisions)

cases screening still takes place but it is not considered that the overall number of screening decisions reflects a significant increase in the intensity and magnitude of impacts.

The screening process in the two Danish counties examines the likely impact on:

- ground water quality (nitrate pollution from the manure);
- nearby protected nature conservation sites (both inside and outside Natura 2000 areas);
- watercourses, lakes and the sea (the Wadden Sea and other sea areas); and
- neighbouring dwellings - obnoxious smells, etc.

7.6 Various modelling techniques are used to assess impacts, based on national standards, load thresholds and guidance. The cumulative effects of projects are assessed within the framework of these standards and load thresholds. However, the counties acknowledge that it is very difficult to assess the cumulative impact of such large numbers of projects because of the wide range of sources and origins of water-borne pollution such as nitrogen and phosphorus. However, monitoring does take place, for example in Ribe County the total amount of nitrogen and phosphorus transferred each year to the Wadden Sea from sources in Ribe County has been assessed at close intervals. The results of this monitoring are used together with the amount of nitrogen and phosphorus pollution generated by the project being screened, as a starting point for a cumulative assessment. It is also clear from correspondence with the officers involved, that, due to the high level of screening activity, they know a great deal about intensive livestock operations in the Wadden Sea region of Denmark. The information they amass enables them to make positive use of the screening process to monitor the impact of the industry on the Wadden Sea and surrounding countryside. This would not take place if large exclusion thresholds were introduced to match those in operation in the Netherlands and Germany.

7.7 In the Netherlands and Germany the number of Annex II livestock projects screened under EIA regulations appears to be very small, if there are any at all. This may be as a result of a number of factors. One is the level at which screening thresholds have been set for such projects (see Table 5 below) and the other is the amount of intensive livestock farming that takes place in the Wadden Sea area of the two countries. Indeed, respondents to this study report that little intensive livestock farming takes place in either the Dutch or German areas of the Wadden Sea. Information gathered by the IAU since the Bremen workshop suggests that there is intensive livestock activity within the German and Dutch areas of the Wadden Sea but that most of that activity is regulated under specific regulations rather than EIA legislation. In the Netherlands intensive livestock operations are licensed through national legislation that is administered at municipality level. A licence is required for all new and extended units and in the licensing process emissions to water air and soil are considered. The information received by the IAU on this system would suggest that the Dutch authorities consider that the licensing and IPPC procedures cover the requirements of the EIA Directive. A similar situation exists in Germany where the majority of intensive livestock operations are dealt with under separate laws to the EIA legislation (mainly the Federal Emissions Act (BimSchG) and IPPC legislation) and it is also claimed that those laws deal with the same concerns as EIA. It is not the role of this research to determine whether or not specific legislation in operation within the Wadden Sea region complies with the EIA Directive, however the research has suggested that there may be areas where this does need to be carefully checked. Article 2 (2a) of the EIA Directive (inserted by 97/11/EC) permits Member States to provide for a single procedure to fulfil the requirements of the both the EIA and IPPC Directives. However, that single procedure must ensure that the full requirements of the Directives are incorporated into procedures, including those requiring public consultation that allows for a consideration of the minimum information required under Article 5(3).

7.8 The high level of screening activity for intensive livestock farming in the Danish area of the Wadden Sea region has important implications for the operation of the EIA Directive in the region as a whole. To screen virtually all intensive livestock projects can be seen as representing good practice because of the type of polluting material produced. This approach to screening Annex II projects is clearly in line with the requirements of the EIA Directive and is important because of the links between EIA and the future implementation of the Water Framework Directive and its focus on diffuse pollution. The Danish authorities appear to be operating a tiered approach to EIA. The tiered approach to EIA permits assessments at different levels of detail and is used by the UK's Environment Agency for its flood and coastal defence works²¹, the USA's NEPA and by the EU in the assessment of projects that it intends to fund, outside of the EU²². The tiered approach makes use of initial informal screening and

²¹ see Environment Agency (2001) Agency Management Systems Document: The Appropriate Level of EIA and Consenting Regime for Agency Projects, Environment Agency, London.

²² see Impacts Assessment Unit (IAU) (2002) 'Defining Screening Criteria for 'Changes or Extensions' to Decommissioning Nuclear Reactors' Research Report, Oxford Brookes University, Oxford

can result in one of four outcomes rather than the simple yes/no decision that is produced by formal EIA screening procedures. The four possible outcomes of informal screening are as follows:

- EIA not required; or
- a 'desktop' study or simplified EIA is required and mitigation measures are used to remove significant effects; or
- a single issues assessment is required (e.g. traffic); or
- a full formal EIA is required.

The approach has some advantages in that it ensures that there is at least some level of recorded assessment for all but the very smallest of projects and in that it accords with the precautionary principle. The Danish system of informal screening intensive livestock projects prior to the final submission of the project for formal screening, including the consideration of

Table. 6 Screening Thresholds for Annex II Intensive livestock Projects		
Denmark	Germany	Netherlands
Mandatory or Inclusion Thresholds (Annex II)		
Installations with a capacity of 250 livestock units, or more than 210 livestock units for broilers Note: these 'units' roughly translate to be 2,500 pigs and 2,100 hens	>2,000 places for pigs (>30kg); > 6,000 places for piglets (up to 30kg) > 750 places for sows; > 42,000 places for hens & turkey hens; > 84,000 places for pullets & fattening poultry. > 350 places for cattle; >1,000 places for calves; > 1,000 places for fur breeding animals;	– No mandatory Annex II thresholds
Indicative or Guidance Thresholds (Annex II)		
- case by case assessment	Site-related screening: <ul style="list-style-type: none"> • 1,500-2,000 places for pigs (>30kg); • 4,500-6,000 places for piglets (up to 30kg) • 560-750 places for sows • 15,000-42,000 places for hens & turkey hens • 30,000-84,000 for pullets & fattening poultry; • 250-350 places for cattle; • 300-1,000 places for calves; • 750-1,000 places for fur breeding animals; 	3000 - 2,200 places for production pigs 900 - 350 places for sows 60.000 - 45,000 places for hens 85.000 - 60,000 places for broilers
Exclusion Threshold		
None	<ul style="list-style-type: none"> • 1,500 places for pigs (>30kg); • 4,500 places for piglets (up to 30kg) • 560 places for sows • 15,000 places for hens & turkey hens • 30,000 for pullets & fattening poultry; • 250 places for cattle; • 300 places for calves; • 750 places for fur breeding animals; 	2,200 places for production pigs 350 places for sows 45,000 places for hens 60,000 places for broilers and all other types of intensive livestock's

impacts and the design of mitigation, would appear to be EIA activity but largely at a 'desk top' or simplified level, rather than the full EIA procedures which lead to the publication of an EIA report or statement. The system also allows for situations whereby should significant effects remain after initial mitigation a full EIA can be required. In addition, unlike the two other countries of the Wadden Sea region, in Denmark it is the competent authority that is responsible for conducting the EIA (in consultation with the developer) and this tiered

approach to EIA would appear to be appropriate in those circumstances. However the requirements of the Directive will only be met under the simplified EIA procedure where no significant environmental effects are identified or where significant impacts are mitigated and those mitigation measures are made open to public scrutiny.

7.9 This examination of the screening of intensive livestock projects also identified the difficulties faced in examining the cumulative impacts of such projects. The assessment of cumulative effects in the screening of livestock projects in Denmark appears to only consider the accumulation with other livestock projects. No explicit information has been identified in this study which enables us to comment on the possible frequency of cumulative effects derived from the accumulation with other project types, e.g. cumulative impacts upon landscape derived from intensive farming plus, for example, windfarms. Furthermore, the distribution of livestock units within the Wadden Sea area closest to the German border is not known [to this project] - there may be some potential for a transboundary effect. It is also the case that intensive livestock operations have been undergoing some structural change in all three countries over recent years. Farms are getting larger and intensive livestock operations are becoming more concentrated. This process can bring benefits in that large modern livestock units tend to have better environmental control systems in place. However, the release of pollutants can also become more concentrated in particular areas.

Urban Development

7.10 The European commission's 5 year review of the operation of the EIA Directive defines an 'urban development' (Annex II, 10 [b]) in the following way:

“Based upon the broad interpretation of the Directive required by the ECJ, an urban development project should be seen as a project that is urban in nature regardless of its location²³,”

Given this definition, and the requirement of the Directive to screen all Annex II projects that are not made exempt by explicit exclusion thresholds, it is of interest to note that in the research period – 2000 to 2004 – there have only been 3 screening decisions and 2 EIAs for urban development projects in the respondent authority areas. Once again this may be related to the thresholds used by the three countries of the Wadden Sea (see Table 7 below),

²³ CeC (2003) Five Years Report to the European Parliament and the Council on the Application and Effectiveness of the EIA Directive, CeC, Brussels.

Table 7. Urban Development (Annex II, 10 [b]) Thresholds		
Denmark	Germany	Netherlands
Mandatory or Inclusion Thresholds (Annex II)		
case by case assessment	Car parks covering 1ha or more; Shopping centres with floorspace of 5,000 sq.m. or more; or other urban development projects with surface area of 100,000 sq.m. or more	Housing development of 2,000 or more dwellings outside the built environment; Housing development of 4,000 or more dwellings in the built environment.
Indicative or Guidance Thresholds (Annex II)		
case by case assessment	car parks covering 0.5-1.0ha; shopping centres with floorspace of 1,200-5,000 sq.m.; or other urban development projects of 20,000-100,000 sq.m.	Housing development of 2,000-4,000 dwellings in the built environment; Other urban development projects covering 100ha or more or with a commercial floorspace of 200,000 sq.m. or more
Exclusion thresholds		
None	Car parks less than 1 ha Shopping centres less than 5.000 sq.m. Urban development projects with a surface area less than 10 ha	Housing development less than 2,000 dwellings outside the built environment; Housing development less than 4,000 dwellings in the built environment. All other urban development projects including car parks, shopping centres etc.

yet, for example, if the Danish case-by-case screening approach is applied to urban development projects (as defined above) in the same way as it is used in the case of intensive livestock projects then one would expect a far higher number of screening decisions than are actually occurring. So the lack of screening decisions for urban development projects needs some other explanation and none was forthcoming at the Bremen workshop. Indeed the question was raised at the Bremen workshop why there and been no EIA activity relating to urban development or industrial or manufacturing projects at Brünsbüttel in Germany where, apparently, such projects are concentrated.

Sensitive Areas

7.11 The screening criteria provided by Annex III of the EIA Directive includes 'sensitive areas' and it is for Member States to define these areas for screening purposes. Under the Danish EIA legislation the Wadden Sea Cooperation Area is specifically designated as a 'special area' for EIA purposes. However, for the majority of the competent authorities in the Wadden Sea region the 'sensitive area' is confined to areas previously designated for wildlife conservation (Birds and Habitats Directive, Ramsar Convention etc). Only three authorities consider a wider inland area to the Wadden Sea (adjacent municipalities) as a 'sensitive area' for EIA screening purposes. Other 'sensitive areas' identified by the respondents include groundwater protection areas, soil protection areas, areas of archaeological interests, areas of high landscape value and holiday resorts (summer cottage areas, hotels, camp sites etc.). However, under the terms of the operation of the EIA Directive in the Wadden Sea, the fact that a proposed project is located within a 'sensitive area' does not make EIA mandatory; it is

simply something that must be considered within the screening process as part of the application of national regulations.

8. Scoping and the Assessment Process

8.1 There are a variety of approaches to scoping taking place within the Wadden Sea region. Most of the competent authorities have mechanisms in place for consultation with other agencies and with certain NGOs on the scope of an EIA. In a limited number of cases the competent authority provides the public with an opportunity either to comment on a draft scoping report or to indicate what impacts they believe should be assessed. Yet public involvement in scoping is not practised throughout the region and in some cases it would appear that the competent authority simply agrees the scope with the project proponent with little or any consultation taking place.

Alternatives

8.2 There is no consistent pattern to the consideration of alternatives within the Wadden Sea region. In some cases the competent authority provides the public with an opportunity to suggest alternatives, while in others there are no set procedures and in still further cases it is for the project proponent to suggest alternatives. The Dutch EIA Commission normally

Table 8. EIAs by Project Type 2000 - 2004

Project type	No of Projects where EIA Required
Extraction of minerals (including sand and gravel) by marine or fluvial dredging (Annex II (2) [c])	21
Intensive Livestock installations (Annex I (17) and Annex II (1)[e] projects)	18
Road, railway or airport runway (Annex I (7) and Annex II (10) [c] [d] [e] projects)	18
Installations for the harnessing of wind power for energy production (Annex II (3) [i])	13
Waste Disposal projects (Annex I (9) (10) and Annex II 11[b] projects)	8
Port development, harbours, piers and inland waterways (Annex I (8) and Annex II [e] [f] projects)	4
Dams and other installations designed to hold or store water (Annex I (15) and Annex II (10 [g] projects)	4
Quarries for sand, gravel and other minerals (Annex I (19) and Annex II (2) [a] projects)	3
Overhead power lines (Annex I (20) projects) Type	3
Chemical installations and plants (Annex I (6) and Annex II (6) projects)	2
Urban Development Projects (Annex II, 10 [b])	2
Tourism and leisure (Annex II, 12)	2
Industrial estate development projects (Annex II, 10 [a])	1
Pipelines (Annex I (16) and Annex II (10) [l] projects)	1
Extraction of oil and gas (Annex 1(14) projects)	1
Total	101

provides competent authorities with suggestions on the requirement for considering alternatives. The Bremen Workshop discussions identified a problem in defining the meaning of the term 'alternative' and it was suggested that project proponents tend to argue that alternatives, which are much more cost intensive, should not be considered as realistic alternatives. Examples from Germany illustrated that the consideration of alternatives is often policy related. The German national EIA legislation is only framework legislation, based on a number of different laws. As mentioned above, the Pollution Control Act, for example, has different requirements for the consideration of alternatives than the Nature Protection Act. The evidence from the survey and the case studies suggests that a consideration of alternatives and their relative environmental impacts is not a defining feature of EIA in the three countries of the Wadden Sea region.

Cumulative Impacts

8.3 There are no specific or common mechanisms in place for the scoping of cumulative impacts. The examination of the case studies at the Bremen workshop demonstrated that the consideration of cumulative impacts in the Wadden Sea region largely reflects the application of the national EIA legislation of the three countries. Some of the competent authorities say they do consider cumulative effects during the scoping process, while others state that it is not part of the procedures as laid down by national legislation. It was further noted at the workshop that cumulative impacts are only considered at the screening stage in Germany. The discussion of the case studies at the Bremen workshop also highlighted the difficulties competent authorities have with cumulative assessment at both the screening and scoping stages of EIA. These are the standard difficulties encountered in practice around the world – establishing boundaries – how far from the project will other projects have impacts – and establishing responsibilities – different projects with different owners/operators and competent different authorities.

Biodiversity

8.4 The consideration of biodiversity in EIA appears to be surprisingly weak within the region. In some cases biodiversity is only a consideration if the project is within a protected habitat, while in others it is only considered under the terms 'flora and fauna' and not given any particular weight in decision-making as it is considered to be 'part of the procedure'. However, there appears to be a good level of knowledge about the provisions of Art. 6 of the Habitats Directive 92/43/EEC. Respondents to the questionnaire indicate that provisions of some kind are in place, generally involving integration of Article 6 assessment within EIA studies. Other comments made by the authorities were that:

- the competent authority of any Natura 2000 site is involved in screening, scoping and project authorisation by means of commentary upon any adverse effects upon the site; and

- designated nature conservation sites are contained within GIS map overlays so are always considered and it is “standard procedure to consult the nature [conservation] department who will assess relevant impacts”

8.4 There appears from the responses to be little use of specific guidance material on methodologies for completing ecological assessments within the Wadden Sea region. Some national level guidance exists though there is nothing specifically designed to help consider the broader implications of a project on the Wadden Sea as a whole. There is no general approach to consultation with wildlife specialists on EIA within the region. In some cases the competent authorities have their own in-house expertise, as demonstrated in some of the case studies, but this appears to be rare. In most cases the project proponent is not required to contact or consult with wildlife experts as part of the EIA process and this usually only occurs as part of the consultation process once the EIA report has been completed.

9. Consultation

9.1 Consultation with a neighbouring authority is a common feature of EIA in the Wadden Sea region and takes place at the screening, scoping and assessment phases wherever

- this is called for by guidelines in place (Germany);
- whenever there is an apparent likelihood of a neighbouring area being affected (Germany, Netherlands);
- as a matter of routine (Germany, Denmark); and,
- separate rules exist for any project near the German border.

9.2 Consultation also occasionally takes place across national and international borders. A Danish authority reported that where a “new” type of project, (i.e. not previously assessed in the area) is the subject of an application, then neighbouring authorities are contacted in order to “share their experience of the scoping phase”. Cross border consultation was also evident in some of the case studies and in such cases the public concerned in a neighbouring country are also consulted.

9.3 Consultation with the Common Wadden Sea Secretariat (CWSS) appears to be rare and yet there is variation in approach. A German authority refers to three cases where there has been consultation, all involving ports or rivers and/or dredging - EIA was required in all these cases. A Danish authority refers to consultation on a pig farm and on a marine sediments extraction project. Again, EIA was required in both cases. However, in many cases it would appear that there has been no consultation with the CWSS - possibly because

this is not required by national or regional legislation. Other respondents have said that when a project is in the Trilateral Area or close to it then there is consultation with the CWSS while in other cases concerns over the Wadden Sea are dealt with by consultation with national or regional nature conservation authorities. A respondent from the Netherlands stated that the CWSS are not consulted but were sometimes informed about projects undergoing EIA. Projects within the Dutch Wadden Sea area are placed on a website and information is mailed to the IRWSC which maintains a data base of EIA activity in the Wadden Sea. Some procedures exist for informing the CWSS of the outcome of EIA decisions, but in most other cases the authorities have no special provisions for informing the CWSS and rely on their normal publicity mechanisms and the use of websites.

9.4 Participants at the Bremen workshop took the view that the CWSS had neither the resources nor the expertise for formal consultation on all projects. In addition the participants at the workshop made clear that the time-scales for decision making at key stages, as laid down by their respective legislation, would make it difficult for them to extend their consultation procedures. However, the information provided in both the case studies and the questionnaire does suggest that the competent authorities do have a degree of flexibility for consultation at the scoping phase. In addition the CWSS contends that while resources are always a problem their recent response to consultation on the JadeWeserPort proposals demonstrates that they do have the expertise and they are able to meet consultation deadlines. For a Wadden Sea perspective to be applied to screening and scoping decisions there needs to be consultation with a body that can provide that perspective and the CWSS remains the only such body available.

10. Review and Post Decision Monitoring

10.1 The main source of quality control over EIA in the region appears to be the use of Annex IV of the Directive as a checklist. The Dutch system does include the review by the national EIA Commission and the German and Danish EIA legislation incorporates the Annex IV criteria. The Danish Forest and Nature Agency also reviews EIA statements and this helps to establish quality standards for EIA. But it would appear that it largely remains for the competent authority to judge whether an EIA is adequate or not. All the competent authorities stated that they have mechanisms in place to refuse consent for projects accompanied by inadequate EIAs. However, in most cases this would appear to happen only rarely as all the systems have provisions in place for seeking further information from developers. Only if that further information fails to materialise or does not complete the EIA will a project be refused. As most of the competent authorities appear to have a very open approach to negotiations and exchanging information with developers from the very earliest stages of EIA, it would seem unlikely that many developers fall foul of this provision.

10.2 There is a very mixed approach to the post-consent monitoring of the construction and operation of projects. In most cases there is little if any real monitoring, although there are some legal requirements to conform with construction plans. Monitoring and the enforcement of any conditions of construction and operation is often left to lower tier authorities and not project authorisation competent authorities. There is therefore a distinction between the authorities that grant consent for a project and those that have the responsibility of ensuring that the project is constructed and operated in accordance with that consent. This compliance monitoring is not the same as impact monitoring and there appears to be no evidence that the predicted impacts of a project are monitored in the Wadden Sea region.

11 Awareness of the Trilateral Wadden Sea Plan

11.1 Table 9 below sets out the level of consideration that is given to the Trilateral Wadden Sea Plan (WSP) at each stage of EIA. As can be seen, only one authority considered the plan of primary importance at all of the key decision-making stages of EIA. Most of the other respondents only appear to consider the plan when a project is located directly within the co-operation area while many more rarely if ever take the plan into consideration. One German authority stated that the “provisions of the Trilateral Wadden Sea Plan are considered to be a political declaration of intent” and therefore it is not considered binding in cases of EIA or a permission procedure.

11.2 Formal procedures for ensuring that staff are fully aware of the Trilateral Wadden Sea Plan are not common, although one authority (German) states that the information and documents of the Plan are given to all relevant departments within the authority and another referred to an in-house circular on the subject. Other authorities state that “Project leaders are aware” (Germany) or that essential parts of the Plan are “common knowledge” (one authority in each country). The participants at the Bremen workshop generally agreed that similar workshops in the future would be a good vehicle for extending the knowledge of the WSP, EIA procedures and specific information on mitigation and alternatives for different project types. Furthermore, at the workshop it was noted that many of the people responsible for EIA in the region are also actively involved in various Wadden Sea workshop groups. However, it cannot be stated with any confidence that the WSP and the Trilateral agreements are widely understood by EIA practitioners.

Table 9 Level of consideration of the Trilateral Wadden Sea Plan

EIA Stage	Number of Competent Authorities seeing TWSP as:		
	Primary Consideration	Only taken into account if a project is within the co-operation area	Rarely or never taken into account
Screening	1	6	5
Scoping	1	6	5
Assessment of environmental effects	1	6	5
Project authorisation	1	5	6
Monitoring of impacts	0	6	6

11.3 One explanation for this lack of awareness was identified in the IAU's earlier report (IAU, 2002) as being that there is no clearly identifiable geographical entity that could be called the 'Wadden Sea region'. Indeed, there would appear to be some reluctance to the creation of such a regional identity and some of the individuals consulted for this research did not want the IAU to use the word 'region' at all, preferring it to be called the Wadden Sea area. The creation of a physically identifiable region is seen by the IAU as a crucial requirement for establishing common procedures and practices for EIA. This issue was discussed at the Bremen workshop and it was clear that the delimitation of a Wadden Sea region would be problematic because of the need to determine clear boundaries and that these could be based on either administrative boundaries or geological/hydrogeological/ecological boundaries or a mixture of both. The nature of the wider geographical area is that activities at a great distance from the Wadden Sea co-operation area had the potential to impact upon it and so wherever the boundaries are set problems would remain. Yet there appeared to be a consensus on the need to establish a regional geographical identify for not only the implementation of the EIA and Habitats Directives but also the implementation of the Water Framework Directive. It was suggested that the implementation of the EU initiative on Integrated Coastal Zone Management (ICZM) could be used as a catalyst for the identification of a Wadden Sea region.

12. Conclusions and Recommendations

Conclusions

12.1 The results of the questionnaire survey, the examination of the case studies and the Bremen workshop largely uphold the results of the earlier report on the '*Review of International Legal Instruments, Policies and Management in respect of the Wadden Sea Region*'. The competent authorities responsible for the operation of the EIA Directive in the Wadden Sea region have little opportunity, within strict national or regional legislation, to do

more than is required of them by that legislation. In the absence of changes to national and regional legislation a conclusion of this report must be that the operation of the EIA Directive will remain largely un-coordinated and inconsistent in application across the region.

12.2 There would appear to be more informal contact with the CWSS and the IRWC on EIA matters than was discovered by the first IAU report, but this contact still appears to be very limited. The level of EIA screening activity, the number of EIAs and the arrangements for scoping and the assessment process appear to be little influenced by the Trilateral Wadden Sea Plan. The plan is seen as a non-binding policy statement and the authorities feel more tightly bound by the legislative requirements of their national or regional governments. While it is true that the competent authorities do take into consideration the wildlife considerations imposed by the Birds and Habitats Directives, they only tend to apply those considerations to proposed projects that lie within the protected areas. The fact that the Wadden Sea is an internationally recognised and valued wildlife habitat and that the State Declaration recognises the importance of the links between the protected areas and the wider Wadden Sea region does not seem to be reflected in the approach to EIA generally in the area. The fact that only 31% of screening decisions result in the completion of an EIA, that the 'special area' concept does not automatically trigger an EIA, and that the TWSP is rarely considered, would suggest that the competent authorities of the region are not fully applying the spirit of the trilateral co-operation or the precautionary principle to their decision making. The conclusion must be drawn, therefore, that there would appear to be an absence of a wider Wadden Sea 'regional consciousness' in the application of the EIA Directive and that this is partly explained by the absence of an identifiable geographical region and the absence of support from national and regional legislation.

12.4 An obvious question arises out of this report and that is that while it is clear that the EIA Directive is not being implemented consistently and uniformly across the region as a whole, what actual harm is being caused by this to the Wadden Sea itself? That question must largely remain unanswered in terms of the physical harm because of the lack of monitoring of project impacts that takes place. In administrative and legal terms, the question must be related to the key EU policy principles discussed at the beginning of this report and the spirit, if not always the letter, of the trilateral agreements. Clearly the case studies illustrate, and this was acknowledged at the Bremen workshop, that some projects that would be subject to EIA in one part of the Wadden Sea would not be in another. That means that in one part of the region the impacts of a project are considered to be significant and need to be fully assessed and mitigated and that the assessment and mitigation must be subject to public scrutiny, while in other parts of the region – an area acknowledged to be of international importance and to be considered as a single ecosystem – the impacts of similar projects go largely un-assessed and unreported. If we cannot, therefore, report the actual physical or ecological harm that is caused by the inconsistency of EIA procedures, we can

report that the spirit and purpose of the trilateral agreements is being undermined by this lack of a coordinated approach and at the very least the precautionary principle is not being fully applied.

Recommendations

12.3 Discussions at the Bremen workshop and evidence from the earlier studies suggest that little can be done to harmonise EIA procedures in the Wadden Sea outside of changes in national and regional legislation. The State Declaration invited, at paragraph 27, competent authorities to take the opportunity of the amendments to the EIA Directive by Directive 97/11/EEC to specifically consider the Wadden Sea when establishing thresholds and screening criteria for Annex II projects. There is no evidence that this opportunity was taken up. The national and regional EIA legislation will shortly need to be amended again to transpose the provisions of the Aarhus Convention²⁴ and a recommendation of the IAU's previous report to the WSF (IAU, 2003) was that this would be an opportunity to put in place specific EIA screening and scoping procedures for the Wadden Sea region. This remains a recommendation of the IAU in respect of this report. However, the participants of the Bremen workshop, while generally agreeing that this would be necessary to harmonise the operation of the EIA Directive in the Wadden Sea region, they had no confidence that their national or regional governments would do so.

12.3 In the absence of fundamental changes to legislation that would harmonise the operation of the EIA Directive in the Wadden Sea region, the recommendations of this report are largely restricted to informal arrangements. These recommendations are as follows:

a) that the Common Wadden Sea Secretariat should be designated as a statutory consultee on all EIA projects within the Wadden Sea Region (see recommendation g below) to provide the overall Wadden Sea perspective and that consultation with the CWSS should be for projects that are above pre-determined agreed thresholds and located in pre-determined agreed locations/areas;

b) that further research should be commissioned to identify the level of intensive livestock activity within the Wadden Sea region as a whole so as to consider the likely impacts of this potentially polluting industry on the Wadden Sea (this is research that is likely to be required under the Water Framework Directive);

c) that common assessment guidance be produced to allow competent authorities and developers to follow the same procedures for completing at least the ecological impact

²⁴ See Directive 2003/35/EC providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC http://europa.eu.int/eur-ex/en/dat/2003/l_156/l_15620030625en00170024.pdf

sections of EIAs and that guidance should specifically refer to how the interests of the Wadden Sea are to be considered in such assessments and how cumulative impacts should be assessed and considered;

d) that training should be provided for all competent authority officers working on EIA within the Wadden Sea region to make them aware of the Wadden Sea Plan and the implications of development outside of the co-operation area on the protected habitats, this training should not be confined to those senior officers who already participate in trilateral cooperation initiatives;

e) that an annual or bi-annual workshop of EIA officers be held to familiarise practitioners with the different approaches to EIA within the region, the way mitigation is applied to different types of impacts in different areas of the region and to ensure that all EIA officers (and not just those already committed to the principles of the State Declaration) are aware of the need to consider the Wadden Sea in their screening and scoping decisions;

f) that work should commence on the delineation of a Wadden Sea region for the purpose of:

- identifying the area that should be subject to the application of specific Wadden Sea EIA guidance documents and consultation procedures;
- identifying the administrative areas covered by EIA competent authorities for specific Wadden Sea training purposes;
- identifying the area that should be subject to any Wadden Sea ICZM plans;

g) that pending the final delineation of a region in (f) above, the Wadden Sea region should be considered for consultation and other purposes to be the Wadden Sea Cooperation Area plus the adjacent municipalities in the Netherlands and Denmark and the counties in Germany and the offshore area within the territorial sea;

h) that a register of EIA projects within the Wadden Sea region, currently maintained at the IRWC secretariat, should be improved and maintained (at the trilateral level) to enable the production of periodic overviews of EIA projects and activity in the Wadden Sea region and as a basis for the activities referred to in e and g above;

i) that in the forthcoming revisions required to transpose the amendments made to the EIA Directive the national legislation of the three countries of the Wadden Sea Region should be amended to specifically designate the Wadden Sea Cooperation Area as a 'sensitive area' as has already been done in the Danish EIA legislation.

Appendix One:

Impacts Assessment Unit

The Operation of the EIA Directive in the Wadden Sea Region

Case Studies

Denmark

Case One: Extraction of 20.000 m³ of marine sediment, 665 Brøns, Skærbæk, Denmark

This project was for the extraction of 20.000 m³ of marine sediment, screened under the Planning Act (EIA legislation), the Mineral Extraction Act (extraction permit), and the Nature Protection Act. According to Planning Act, all mineral extraction from open quarries, and digging of peat, are on Annex II. There are no thresholds regarding area, time or volume. For Annex I projects the thresholds are "open quarries larger than 25 hectares, or digging of peat on an area larger than 150 hectares". Mineral extraction from an open quarry, with a total time span of more than 10 years are also Annex I projects, except where the digging is for 'commonly found' sand, gravel and stone and where these resources are found within the mineral extraction areas designated in the regional plan. Brøns is not a designated extraction area in the regional plan.

The factors taken into consideration during the screening process were the impact on:

- nature conservation, as the area is an SPA;
- landscape; and
- archaeology .

Various departments of the County administration (including the nature conservation and landscape departments) were consulted on the screening decision. The regional museum (archaeological interests) and the Municipality of Skærbæk were also consulted. The impact on the Habitat area were considered by the Nature Department of the County administration and they concluded that the area would be improved as a habitat for water birds, as the open water surface of the lake was enlarged. Cumulative effects were not considered 'as this is the only mineral extraction site in the area'.

"The screening decision is a made as a quick glance in this kind of project. There is older legislation which says that one must have a permit in order to extract minerals, and there is an old administration practice, that takes a number of environmental factors into account, but not exactly in the way the screening /EIA legislation is written. So the screening decision is kind of "pasted on" afterwards".

The decision in this case was that an EIA was not required, as no negative effects on nature, landscapes were expected and the extraction was considered to be an improvement to the adjacent lake and bird sanctuary.

Case Two: Extraction of 50.000 m³ of sand, 52 Mollerup, Visby, Bredebro, Denmark.

This project was for the extraction of 50.000 m³ of sand and was screened under the Planning Act (EIA legislation), the Mineral Extraction Act (extraction permit), and the Contaminated Soil Act (reestablishment after extraction). The site is within an area designated by the regional plan for mineral extraction.

Various departments of the County administration (road department, agricultural commission) and the Municipality of Bredebro were consulted on the screening decision. The main considerations were:

- impact on ground water;
- nature conservation; and
- traffic (effects on local traffic from the increased traffic with lorries due to extraction).

The area is farmland, and will be re-established as farmland, there are no protected nature areas, and the increased traffic is regarded as not reason enough to require an EIA. The project is smaller than 25 ha, and is within an area reserved in the regional plan. Consent has been granted for several extraction permits over time in the area, in total more than 25 ha, but the excavated areas have been re-established, so only about 10 ha have been open at a time. There is no general way of handling accumulation with other projects, each project is considered separately, but the fact that it is an appointed area for mineral extraction means, that the regional plan has dealt with any possible conflicts (traffic, noise, landscape, archaeology etc.) and that it has been considered acceptable.

Case Three: Demolition of 13 small, old and inefficient wind turbines and the installation of 3 larger, modern wind turbines, Fanoë, Ribe County, Denmark

The project was an Annex II project where the mandatory screening thresholds for an EIA are more than 80 metres in height or more than 3 turbines. The 3 new wind turbines have a tower height of 40 m and a total height (to the tip of the wing in vertical position) of 63,5 m and fell to be screened on a case-by-case basis. The wind turbines are located on the northern end of the island of Fanoë. The turbines are located just outside (in a distance of 75 – 150 feet) the Natura 2000 area. The 13 old wind turbines were located just inside the Natura 2000 area and had a tower height under 25 m and were placed in a grid pattern. Two of the new wind turbines are located on farmland, whereas the third location is in an area protected by the Nature Protection Act. A dispensation from the Act was therefore necessary in order to make

allow the construction of the third wind turbine possible. The wind turbines are equipped with 660 kW generators. The total effect is 1,98 MW. The wind turbines are set up in a line pattern with a mutual distance of 174 m (app. 565 feet). The transformer buildings are 2 x 2 x 2 m (app. 6,5 x 6,5 x 6,5 feet). The new access roads have a total length of app. 4000 feet and are app. 13 feet wide.

The screening decision was made on the basis of a recommendation from Ribe Amts planners and biologists, it was decided by Ribe Amt's Council, that the project required an EIA due to the possible impacts on the landscape and nature conservation interests. Fanoë Municipality Council and the applicant (the local "Fanoë Wind Turbine Company", who owned the 13 old wind turbines) agreed upon this recommendation and decision. Also taken into consideration were the requirements of the Nature Protection Act (protected nature and Natura 2000 areas) and the Environment Protection Act (noise from the wind turbines).

In the first public participation period ("the idea phase") Ribe Council received 3 letters with views on the proposed project. The Ministry of the Environment drew Ribe County's attention to the fact that the impacts on the nearby Natura 2000 area must be assessed according to the EU-directives. The Ministry of the Environment also suggested that Ribe County investigate, whether it would be possible to set up the new wind turbines outside the Natura 2000 area. Finally the Ministry of the Environment suggested that Ribe County investigate the possible impacts of the new and taller wind turbines on the vulnerable coastal landscape and the possibilities of establishing smaller wind turbines as the suggested 65 m high wind turbines. One private citizen was against the project and one private citizen suggested another location for the wind turbines and that the new wind turbines should be considerably smaller than proposed by the applicant. In the second participation period (the hearing based on the EIS) Ribe Council received 11 letters with views on the plan proposal and the EIA.

The EIA examined the likely impacts of the project on the Natura 2000 site and in particular the impacts upon foraging and breeding birds. The EIA also examined the landscape and noise impacts. The conclusions were that the project would have less harmful impact on the landscape than the existing turbines due to their height, alignment, number of turbines and the rotation speed of blades. It was also concluded that the site was sufficient distance from foraging areas (more than 300 meters) not to adversely effect birds and the slower rotor speed would also be less disruptive than the existing turbines. On the basis of previous studies it was concluded that due to the size and number of the turbines and the distance from the nearest bird breeding sites was, there would not likely be any disruption to breeding birds.

The wind turbine project was adopted by the county council in December 2002 and published in January 2002. In arriving at this decision the County took

Case Four: Bypass on main road no. 11 at Ribe, Ribe County

The project is an extension to the existing arterial road, with a dual carriageway near the town of Gredstedbro, parallel to the Bramming-Ribe-Toender railway and west of the current arterial road and the existing Ribe bypass. The total length of the new road will be 8.5 km. The bypass will traverse the marshland alongside the Ribe River west of the town of Ribe. The marshland has been designated as a Ramsar and EU Bird Protection area. The proposed development therefore threatens both the natural habitat of the birds and the intrinsic beauty of the view over the flat marshland countryside. It is an Annex 1 project and therefore always EIA mandatory.

The national authorities and the public were consulted and there were 67 written responses. The main issues were the loss of value of 80 ha EU bird protection area, loss of value of the cultural environment. The Ministry of Environment and Energy originally rejected the project because of the international protection area, but later the ministry gave consent to the project, if Ribe County would find a 90 ha compensation area for grassland in the nearby surroundings. Ribe County decided to proceed with the project, in order to increase road safety. During the EIA the 'do nothing' and an alternative alignment were considered, but neither of these would have adequately addressed the public and highway safety of traffic issues and the alternative route would have had an even greater impact upon nature conservation issues. The EIA concluded that the project would not have a significant effect on the habitats and species for which the area had been designated. Therefore there was no requirement to complete an appropriate assessment under the Habitats Directive. The compensatory measures were not therefore a requirement of the assessments.

Case Five: Digging of marine clay, Brohoved, Denmark

This case concerned two linked projects, the digging of marine clay and using the clay for the reinforcement of dikes. The reinforcement of the dikes was screened but no significant impacts were envisaged. The main issues surrounded the extraction of the clay as the proposed site was in areas designated under the Habitats and Bird Directives. The main issue was the approach to the excavation with different interest groups favouring different alternatives. The farmers and their interest organizations wanted small and deep lakes while the national authorities, and some interest groups wanted large shallow lakes for flora and fauna. Both these alternatives were assessed for the ability to enhance wildlife. However, a compromise was needed because of infrastructure and transport problems and so the final solution was to create smaller lakes to avoid too much transportation and too much disturbance in the construction period.

The Netherlands

Case Six: Area for greenhouse cultivation in the municipality of Eemmond, Groningen Netherlands

The municipality of Eemmond and the province of Groningen want to develop an area for greenhouse cultivation at the south of an industrial park near the Eemshaven (NL). The project type is category C 11.3: the construction of glass horticulture facilities with an area of 100 hectare or more. In this case the site is about 435 hectare. For Part C projects EIA obligatory under the Environmental Impact Assessment Degree of 1994. The proponents presented the 'starting note' with a brief description of the proposed activity. The competent authority (the municipal council) made the memorandum public. The groups and organisations consulted over the scope of the EIA included:

- EIA commission
- both the German and the Dutch public
- the environmental inspectorate
- the ministry of agriculture, nature management and fisheries
- several German authorities

A lot of Dutch reactions came from the people who live near the project (40 reactions). Also a lot of reaction from Germany. So many people have responded to the consultation process that a public meeting is to be held. This is an on-going project that raises issues regarding light pollution in particular

Case Seven: Extension of the productive capacity for Aldel aluminium plant in Delfzijl, Netherlands

Aldel is an aluminium plant situated on an industrial park with a lot of other chemical industrial plants. In July 2001 a screening procedure was commenced for the extension of the productive capacity from 110.000 ton to 145.000 ton/year by converting old ovens and increasing the strength of current. The project was screened under Part D section 21.4 of the Environmental Management Act, the change or extension of an establishment for the production of non ferrous crude metals from ore, concentrates or secondary raw materials by electrolytic processes in cases of 15.000 tonnes per year or more. Screening is based on a case by case approach for Part D projects that exceed the thresholds. The following were consulted on the need for an EIA in this case:

- EIA commission (not obligatory by screening)
- the Dutch public
- the environmental inspectorate (obligatory)
- the ministry of agriculture, nature management and fisheries

- the directorate-general for public works and water management (also competent authority)

It was determined that an EIA was not required as there were not likely to be any significant impacts because of the required mitigation measures. These included desulphurization (ontzwavelingsinstallatie) and reduction of the amount of anode impacts. The effects on the Wadden Sea were considered to be marginal - a small extension of the discharge of cleaned water on the surface water. There were no adverse comments received during the processing of the license and the license was granted.

Case Eight: Akzo Nobel Chlorine plant

The project was the construction of a new chlorine plant and a monochlorine acetic acid plant by AKZO Nobel Chemicals B.V at an existing 'chemical park' at Delfzijl, Netherlands. The new plant would produce 110.000 ton/year of chlorine and 70.000 ton/year of and a monochlorine acetic acid. The project was the result of a national Dutch government policy change that sought to have the production and use of chlorine in the same location to avoid the transportation of chlorine across the Netherlands. Previously AKZO imported chlorine to the site by train for use by Noveon, Teijin Twaron and the CKB-plant. As a result of the project existing chlorine plant at Delfzijl and in Hengelo will be closed.

The project is a Part C, 21.6 chemical installation for which EIA is mandatory under the Environmental Impact Assessment Degree 1994 . The main consultees during the EIA procedures were:

- Bezirksregierung Weser-Ems
- EIA commission
- both the German and the Dutch public
- the environmental inspectorate
- the ministry of agriculture, nature management and fisheries
- several German authorities
- Dutch and German societies for Nature and environment

The scope of the EIA was determined after the proponents presented the 'starting note' with a brief description of the proposed activity. The competent authorities made the memorandum public and the 'starting note' was also translated in German.

The main issue of public concern (particularly in Germany) was risk of accident and public safety. As the project was the result of a Government policy change it was believed that the

construction and operation of the plant at Delfzijl would result in an overall environmental improvement.

Germany

Case Nine: Restoration of an old Mineral Oil Factory site in the city of Wedel

This project concerned the clean up of contaminated soil as a former oil factory. The remediation measures suggested from the clean up included biological soil treatment (120.000 MG / yr), chemical soil clearing ("washing", 80.000 MG / yr), and with the option of thermal treatment. In addition soil was to be put back into the area if the remaining contaminant values allowed so. The main bodies and organisations either involved or consulted on the project were:

- Ministry of Nature, Environment and Agriculture;
- State Agency for Nature and Environment;
- State Agency for Health Care;
- Archaeological State Agency;
- State Agency for Cultural Matters („Denkmalpflege“);
- State Agency for Road Construction and Traffic;
- Kreis Pinneberg;
- Stadt Wedel, Hansestadt Hamburg;
- NGO's, including
 - NABU,
 - BUND,
 - Verein Jordsand,
 - Arbeitsgemeinschaft AG29,

The main concerns arising out of the project included:

- type and amount of contamination of the area;
- possible hazards from the contamination and ways to avoid them, basically coming from wells drilled for ground water analysis in the area;
- recent plans, land use plan of Wedel, drinking water supplies;
- recent environmental situation, protected areas etc.;
- description of the technologies used for soil cleaning;
- ways to extract, store, process, analyse and replace the soil;

- surface water treatment;
- impacts from the activities on the site during the process;
- possible residues, noise, light emissions;
- possible impacts on the river Elbe, secondary effects on the protected areas and the Wadden Sea;
- possible impacts on the fauna of the area by noise production, and to a smaller amount by dust production;
- air as the major transportation medium for emissions;
- noise and odour arising from the area, especially during the excavation, transportation and processing of the soil material; and
- interactions and trans-medial effects.

This was not an EIA Directive Annex I or Annex II project, but the EIA was seen as a mechanism for ensuring the remediation of the site was fully assessed and transparent. The project has yet to be completed as the applicant ran out of money.

Case Ten: Surface covering for waste deposit Ecklak, Germany

This project concerned the construction of an engineered covering of a waste disposal site that had been in operation for several years. Parts of the deposit are filled up and will be closed in the near future. Both the Ministry of Nature, Environment and Agriculture and the State Agency for Nature and Environment were involved in the EIA. The main screening issues included:

- amount of removed or refilled soil, possible impacts on the natural soil functions;
- need to build additional infrastructure such as roads, power stations, storage device for hazardous substances etc;
- emissions of toxic substances to air or higher amounts of substances than allowed according to the thresholds;
- emission of toxic substances to water, indirect waste water emissions, possible contaminations of surface or ground water;
- noise emissions;
- possible effects on protected areas in the vicinity, according to Nature Protection Act, FFH directive, etc. (may require an additional procedure according to FFH directive!);
- cumulative effects with other installations in the vicinity; and
- possible impacts on land use in the vicinity, agricultural production sites, forestry, traffic, recreation, housing, or other kind.

Consent was granted for the project and construction is taking place during 2004

Case Eleven: JadeWeserPort (development of a port and associated sand extraction process), Jade, Germany

Legislation:

The information required under § 6 of the UVPG are also the basis for the planning approval procedure and therefore have to be submitted at the same time, in order to initiate the planning process. The identification, description and evaluation of the potential impacts are to be presented in a separate document – the Environmental Statement (UVU). This document has to fulfil the requirements laid out in the administrative guidance document for the planning approval procedure for extensions and new developments of Federal Waterways (*Richtlinie fuer das Planfeststellungsverfahren zum Ausbau oder Neubau von Bundeswasserstrassen (PlanfR-WaStrG)*).

According to §§ 6 UVPG (German EIA Act), 20 BNatSchNeuregG (Federal Nature Protection Act) and the guidance note mentioned above, a 'Landschaftspflegerischer Begleitplan (LBP) (Landscape Conservation Support Plan) also has been produced. This focuses particularly on the mitigation and compensation measures.

The UVPG, IPPC Directive and other EU environmental directives have to be considered, as well as the Federal Nature Protection Act, other environment related national and European legislation, directives and administrative regulations.

The assessment of sand extraction falls under a different piece of legislation; that is the relevant mining/mineral extraction legislation (BundesBergbaugesetz – UVP-Bergbau-DV). The applicable legislation is Laender-specific, for example, the public consultation process in this case is required under §14 of the Nature Protection Legislation for Lower Saxony.

Alternatives:

The demand and necessity for the new development, including the associated infrastructure, must be justified. Further, any location and technical alternatives are to be considered. According to §6 para.3, no. 5 of the UVPG, it has to be justified which alternative sites to the north and south of the area are to be excluded on environmental grounds.

The Scoping Procedure:

The assessment of environmental effects is based on overall recognised assessment methods. The document required under § 6 UVPG is required to provide detailed information on the type, extent and duration of the project. Existing (secondary) information has to be referenced and it has further to be assessed whether the quality and quantity of the existing data is sufficient for the evaluation and prediction from an environmental point of view. Potential gaps in data and any other uncertainties have to be pointed out.

Descriptions and assessments have to be carried out for project-specific, operation-specific, construction-specific and accident-specific (during operation) environmental impacts respectively. If the prediction entails gaps or uncertainties, the 'worst case' scenario is to be considered; however, only in relation to impact significance and probability.

The interaction of impacts has to be considered.

Areas for extraction or other external surfaces, which have not been designated for this purpose via a public administrative process, have to be considered accordingly.

A three-dimensional, hydrodynamic-numeric model is to be produced, which covers the area of the two-dimensional modelling.

The assessment with regard to light, noise and air pollution are to be adjusted to the extended emission areas. The assessment also has to include the interactions of these emissions.

Impacts to be assessed include:

- Hydrology/Aquatic Systems;
- Soil;
- Human beings;
- Climate/Air;
- Flora/Fauna (Impacts on the National Park 'Wadden Sea Lower Saxony' are to be assessment separately, thereby taking into consideration the Birds and Habitats Directive – this requires a separate document);
- Landscape (this comprises a distance of 10km along the coast, as well as water and wadden sea areas up to 15km);
- Cultural Heritage.

The results of the scoping process are not legally binding and not exclusive. In the event that the EIA process identifies new relevant information or the planning proposal details are changed, the developer may be required to provide additional information.

Further relevant points:

- Consultation responses: Only additional consultation responses, which relate to the scoping framework and which have not yet been considered in the process, can be considered. General public comments concerning the development

proposal are dealt with in the public consultation process, which is part of the planning approval procedure;

- Additional hydrological surveys, which assess the risk of saltwater infiltration into sensitive areas, will be undertaken separately. The developer was instructed to identify measures for the protection of groundwater;
- Economic aspects are not subject of the EIA. This issue is dealt with in the planning approval procedure;
- The issue of ship safety is addressed in a separate assessment.