Work Programme

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COD

NNE5-2001-00633

Concerted action for Offshore wind energy Deployment

KEY ACTION 5 AND 6

ENERGIE5-G2

Abstract

The objective is to speed up the responsible deployment of offshore wind energy in the EU by early identification and possibly removing non-technical barriers: legal, administrative, policy, environmental and grid infrastructure planning issues, by co-ordination between energy agencies of most sea-bordering member states of the EC. Of these, 8 countries (NL, DK, UK, DE, SE, PO, BE and IRE) representing >90% of the technical Offshore potential in the EU are contractors. The other 6 sea-bound countries (FI, FR, ES, PO, IT, GR) will be approached to have full access to working group meetings, the private part of the web-site, and draft and final documents. COD will interact with NGO's such as EWEA, Seas-at-Risk, through a Advisory Board. The information will be fed into governmental decision-makers. Innovative is the non-technical trans-national co-ordination so early in the development of a renewable energy resource. The participants involved ensure high-profile project dissemination, creating a focal point for information, better understanding and more harmonised European processes for deployment, environmental impact analysis and permission procedures for Offshore Wind Energy Farms, and improved EU industry competitiveness.

Content

B1 Summary

Objectives
The objective of this proposal is to **speed up the environmentally responsible implementation of offshore wind energy** in the European Community by early identification and possibly **removing non-technical barriers**: legal, administrative, policy, environmental and grid infrastructure planning issues. These non-technical issues need to be resolved to enable offshore wind energy to contribute to EC's strategic goals and Kyoto objectives. The proposal aims to provide a harmonised European Offshore Wind Energy process for deployment, environmental impact analysis and for permission procedures for Offshore Wind Energy Farms.

Description of the work
The objectives will be achieved by co-ordination and exchange of information between **the national energy agencies** of most sea-bordering member states of the EC. Of these, 8 countries (NL, DK, UK, DE, SE, PO, BE and IRE) representing >90% of the technical Offshore potential in the EU are contractors. The other 6 (FI, FR, ES, PO, IT, GR) will be approached to have full access to working group meetings, the private part of the web-site, and draft and final documents These Member States are stimulating the deployment of offshore wind energy and experience identical barriers in the non-technical fields. They want to co-ordinate their (overlapping) activities. As a result, efficiency will be greatly increased.

The **legal, administrative and policy issues** to be addressed include conflict between regional, national and European law, jurisdiction issues, energy labelling, conflicts of interests with other groups (oil- and gas industry, fishery, shipping lanes, nature and defence), and balance between local (consumer) and global interests.
The **environmental issues** include birds, benthic flora and fauna, sub-sea noise, visual intrusion, and coastal impacts and spatial planning.
The **electrical grid infrastructure planning** issues include the geographical distribution and time scheduling of the installed wind power, locations of onshore grid connection points, the present characteristics and expansion plans of the national grids.

To increase the coherence of activities at as many levels as possible, the information gathered will be made openly available to all interested parties of the member- and associated states through several different means of communication, like internet, newsletters, etc. In particular, the information will be fed into national and multilateral governmental organisations and the EC with the power of solving legal, administrative, policy, and environmental hurdles through a **multilateral ministerial body of the participating Member State countries** and possibly the OSPAR treaty.

COD will **exchange information** between national Offshore Wind Energy programmes, Non-governmental organisations and interest groups such as the North Sea Foundation, EWEA, Seas-at-Risk, European Union for Coastal Conservation. This is achieved **by their involvement in a Advisory Board.**

The activities of COD will run for three years, taking place in 7 Work Packages:
WP1: Network Management
WP2: Co-ordination with other networks and organisations
WP3: Collection of information on legal, administrative, and policy issues
WP4: Collection of information on environmental issues
WP5: Benchmark of environmental, legal, policy, and administrative procedures
WP6: Formulation of guidelines for Offshore Wind Energy Deployment
WP7: Dissemination of information
WP8: Collection of information on electrical grid infrastructure planning issues

Innovative is the trans-national co-ordination **of national energy agencies** so early in the development of Offhore Wind Energy. COD also has a **high added value to EU policies**: reducing the risks of the energy supply and contributing to Kyoto objectives. Harmonisation of approaches in the 8 or more countries will have a **positive impact** on the competitiveness European Wind Energy industry. The participating organisations are very experienced with managing renewable energy projects and dissemination of results thereof, ensuring a **high-quality management** and a **high-profile project** implementation.

Milestones and expected results

1. A **common information base** with a commonly accessible web site with up-to-date information on non-technical aspects of Offshore Wind Energy; an accepted focal point and knowledge resource for administrative, business community, financial institutions, and NGO's
2. **Harmonised Working methodology** (in the form of guidelines or standardised procedures) for environmental impact assessment (EIA) of Offshore wind farms in the participating countries
3. **Proposal for uniform guidelines** and proposals for permission procedures of Offshore Wind Energy farms, especially in the Exclusive Economical Zones
4. **Reduced costs for R&D** and increased understanding of non-technical issues of wind energy application at sea.

B2 Scientific and Technical Objectives and Innovations

Objective

The objective of this proposal is to **speed up the environmentally responsible implementation of offshore wind energy** in the European Community by early identification and possibly **removing non-technical barriers**: legal, administrative, policy, environmental and grid infrastructure planning issues. These non-technical issues need to be resolved to enable offshore wind energy to contribute to EC's strategic goals and Kyoto objectives. The proposal aims to provide a harmonised European Offshore Wind Energy process for deployment, environmental impact analysis and for permission procedures for Offshore Wind Energy Farms. In concreto the aims are:

1. Create a reliable central focal point for info on non-technical aspects of offshore wind energy.
2. To exchange and disseminate information generated within national programmes.
3. Guidelines and best practices for Environmental impact assessments and planning procedures
4. To inform decision makers in the planning of national programmes activities.
5. To initiate and co-ordinate cross-border projects as appropriate.

State of the art of Offshore Wind Energy

Wind energy is one of the if not the **most promising renewable energy source**. The market for Offshore Wind Energy is now growing strongly. According to the "World Market update 2000 and forecast 2001-2005", the practical exploitable technical potential in near-shore (<20 km) shallow water is more than 100 GW, almost completely in the North Sea and Baltic Sea. The COD participants i.e. Netherlands, Sweden, Denmark, United Kingdom, Ireland, Germany, Belgium and Poland are all bordering that potentials, and together have projects in the pipeline for more than 3000 MW by 2005. The other 6 countries *(FI, FR, ES, PO, IT, GR)* are studying their potential.

In the EC, most RTD activities in the field of Offshore Wind Energy are supported by National programme's. Besides the necessity to develop robust, reliable, and cost effective Offshore wind turbines, the non-technical aspects are relevant potential bottlenecks for a fast, uninterrupted, and responsible deployment of Offshore Wind Energy. These issues are now being addressed in all countries separately. COD is set out to ensure a better co-ordination of the national and European Offshore Wind Energy programmes in order to create a more coherent set of Offshore Wind Energy programmes within the EU.

Whilst each country has a unique position built up from national policy, offshore wind resource, industry capabilities and energy supply structures, it is also recognised that many of the issues facing offshore wind energy are common. The opportunity now exists to share knowledge to both remove the unnecessary duplication of work and to accelerate progress up the learning curve. The project will focus on knowledge sharing, knowledge compilation and knowledge dissemination of studies and experience with these projects for 3 years (mid 2002-mid 2005).

The R&D budgets for Wind Energy in Japan, USA and in the EU are of the same order of magnitude (20-40 million Euro/year), but in Japan and the USA great attention is given to the coherence of the programme. The European budget comes for 90% from the National programmes and less than 10% from the EC. Co-ordination of these distributed budgets is of prime importance, especially in an area where the EU industry

has a leading edge: Offshore! Having one focal point for the non-technical issues, the industry is greatly facilitated, and costly legal and procedural complications are avoided. Non-governmental organisations are involved to ensure an environmentally responsible and socially acceptable deployment. The EWEA has communicated their appreciation of the COD effort and interest in becoming a member of the Advisory Board. The research community (EUREC) strongly support this initiative.

Environmental issues of importance to be collected:

1. Birds; flight patterns, intensity, migration, day/night relating to the estimation of the risk of collision
2. Birds; the disturbance of living/foraging areas
3. Appreciation of the landscape and getting used to the wind park;
4. The influence on fish and sea mammals of sound under water;
5. The variation and densities of underwater organisms;
6. The consequences for other users of the North Sea. (Fishing industry and other users)
7. The risks to shipping and the follow-on damage;
8. The consequences to the extraction of minerals and raw materials;
9. Morphological changes.
10. Spatial planning

Legal, administrative, policy issues of importance to be collected:

1. conflicts of interests (oil- and gas industry, fishery, shipping lanes, nature and defence),
2. planning procedures,
3. spatial planning, and
4. permission consent
5. conflicts of laws and jurisdiction
6. deregulation and liberalisation of energy markets
7. infrastructure for grid connection regulations
8. avoiding market distortion

Electrical grid infrastructure issues of importance to be collected:

1. Planning of installed wind power (geographical and time-wise),
2. Location of onshore grid connection points,
3. electrical aspect of the offshore wind farms (with respect to grid integration
4. present and planned national grid configurations

Other concerted activities

Two other multi-national actions on Offshore wind energy exist: SEALEGAL (legal issues) and OWEE (technical issues), both implemented by the industry and research community and not by national energy agencies or environmental groups. OWEE concludes that the **type** of environmental impacts and legal conflicts are known but not the **magnitude** of these impacts, let alone possible solutions! Other groups active in the technical field are the IEA, the IEC, and EUREC.

The COD partners think these issues need input from decision making and policy advice bodies, and environmental NGO's, and international co-ordination between these organisations. This is one of the strengths of the COD group.

Target groups of COD

There are several parties interested in the results of the first offshore projects. These can be divided into 4 target groups:

- Regional and National governments, and multinational bodies such as EC, IEA, OSPAR
- Non-governmental Interest groups, such as EUCC, North Sea Foundation, Seas-at-Risk
- Commercial entities and their interest groups: industry (EWEA), financial institutions, utilities, etc.
- General public

With the first three target groups, the COD proposal will maintain relations through either the Advisory board, the dissemination channels, or by direct input to national policy.

Scientific objectives

The first Offshore wind energy projects which are being, or going to be, realised will bring the experience which is needed for large scale application of offshore wind. These projects will be monitored extensively by

the various members of the COD proposal. This concerted action will gather and combine information from 4 sources:
1. Activities from national programmes of the participating countries
2. Projects associated with offshore wind farms in operation, construction or development
3. Non-technical research and monitoring activities associated with these projects
4. Input from other networks and Advisory board members

Innovative in this project is
- the trans-national co-ordination **of national energy agencies** in this early stage of the development of a renewable energy technology
- with involvement of environmental NGO's and
- direct input to decision making governmental bodies
- Coverage of 90% of shallow-water Offshore potential in the EU
- Open and unrestricted flow of information
- Enormous dissemination coverage of participating agencies, enduring it to become a focal point

The non-technical issues in which the COD proposal will co-operate are virtually without elements of private intellectual property or vested interests. The areas are considered to be public domain.

Exploiting the potential of new ICT's
Internet and business intelligence will be crucial in the collection, ranking and dissemination of the information. Innovative is the collection of non-technical issues, which are for a larger part hard to quantify. The participants will use their experience (present in their national organisation) in generating reliable information and merge the data and databases into a larger common database. No large IT complications are foreseen, as the amount of data is limited and entirely within the grasp of the participants. Also, the COD group has close links to OWEE, and will merge its web-distribution with the www.offhsorewindenergy.org site. Business intelligence tools will be exploited to enable the target groups to come to opinion forming and to decision making.

B3 Contribution to the Goals of the Thematic Priorities and Target Actions of the Work Programme

Contributions to Key Actions:

- **5.2.2: Wind energy optimisation**. Overcoming bottlenecks which hinder the exploitation of wind energy is at the core of this work. While many efforts are being made in the technical field: larger turbines, sea-bed foundation etc, the non-technical issues have proven to be crucial to the acceptability, legal possibilities, the speed of permission procedures, and the cost of avoiding or repairing environmental damage, and thereby of the cost of wind energy. By removing these barriers in an early stage, the COD helps to realise at least **3 GW** cumulative installed power of offshore wind energy by the end of 2005. If successful, and environmentally, legally and policy wise acceptable, this could then grow to an estimated 10-20 GW by 2010, fulfilling half of the EC goal for wind energy.

- **5.3.3: Improving the acceptability of renewable energy.** The COD project is actually addressing the problems to be solved according to this Work Programme issue: "noise, visual intrusion and environmental concerns and other non-technical obstacles:" The work of COD in benchmarking and formulation of harmonised guidelines for environmental impact assessment are *in concreto* general solutions to these problems.

- **6.6.3: Market changes and technology absorption:** The COD project is actively engaged through the national ministries in the process of liberalisation, deregulation, and cross-national transmission networks. One of the issues to be addressed in the COD project is (non-technical) infrastructural aspects of connecting large wind farms at sea to a national grid. By an open dialogue with NGO's and other networks, COD can contribute to the (possibly conditional) acceptability of Offshore wind energy.

Contributions to the 'Priorities of strategic importance to the EU'

1. **Management of Greenhouse Gases (GHG) emissions and mitigation of climate change:** COD will uncover the bottlenecks for a fast and vast implementation of Offshore Wind Energy and formulate guidelines for a more harmonised EU approach, which will speed up the implementation of Offshore Wind energy and with that the reduction of CO_2 emission. In addressing the boundary conditions for the implementation of Offshore Wind Energy, such as the issue of infrastructure for grid connection, COD could also spin off possible solutions for other decentralised renewable energy sources such as very large PV systems

2. **Socio-economic research related to energy technologies and their impact:** Through a thorough investigation of the different solutions for non-technical Offshore Wind Energy problems, and especially the dissemination of the results of these, COD will give an increased insight in the impact of wind energy. In striving for a better coherence of the national and European activities, COD will seek the opportunities to increase the exchange between centres of excellence. COD will give attempt to exchange information and knowledge with East European Candidate Members of the EC.

3. **International co-operation, co-ordination with Member State research programmes, and EU wide research networks.** Because of the involvement of 8 national energy agencies, which are deeply involved in the R&D network in their respective country, and by means of national sounding boards around these programmes, the coherence and co-ordination of these programmes will be improved, and the networks will be strengthened. The urgency of this activity lies in the front position of the EU in the area of Offshore Wind Energy Industry, which will have spin-off towards the general competitiveness in wind energy with respect to the USA and Japan. In better tuning the EU and Member State programmes, Europe may capitalise on his strong position in the field of Wind Energy.

4. **Pre-normative research of interest at EU level: Concerning** normative work COD will investigate the possibilities to increase the coherence of the national normative activities within the different Member States. In doing so COD will aim for a standardisation at European level in order to create a larger, more harmonised European market access for the European Offshore Wind Energy industry safeguarding the European philosophy concerning safety, quality, and reliability.

B4 Work Plan

The participating organisations in COD are very experienced with managing renewable energy programmes and dissemination of results thereof, ensuring a **high-quality management** and a **high-profile project** implementation. COD will co-ordinate

1. Activities from national programmes of the participating countries
2. Projects associated with offshore wind farms in operation, construction or development
3. Non-technical research and monitoring activities associated with these projects

During the COD project much new information will become available through monitoring of the first Offshore installations, the planning and procedures of larger future installations and other studies. The **approach and planning of COD** will be

- To design an information and database structure **at the start of the project** *(WP7)*
- to **continuosly** manage the network, **co-ordinate** with other networks and **disseminate** the information to the target groups *(WP1, WP2, WP7)*
- to **repetitively** collect and qualify information on non-technical issues, to **quarterly refresh** the information in the common database, and to **quarterly upload** the fresh information to the internet *(WP3, WP4, WP7, WP8)*
- to compare and benchmark the status in the respective projects and countries **during the first/second year** *(WP5)*
- to compile guidelines and recommendations **in the second/third year** *(WP6)*

There will be three groups which will give input to the work and who will directly benefit form the results

- **Advisory board** of European interest groups and NGO's. This group will **meet 2 times** in the project period.
- **Ministerial group, EC** and/or multilateral bodies (such as OSPAR), they will **meet once** towards the end of the project in a specially organised conference
- **National fora** established or to be established in the participating countries, **annually meeting**

The COD project consists of **8 work packages**, most of these will run throughout the whole project.

WP1: Network **Management**
WP2: Co-ordination with **other networks** and organisations
WP3: Collection of information on **legal, administrative, and policy issues**
WP4: Collection of information on **environmental issues**
WP5: **Benchmark** of environmental, legal, policy, and administratiev procedures
WP6: **Formulation of of guidelines** for Offshore Wind Energy Deployment
WP7: **Dissemination** of information, including working government level conference
WP8: Collection of information on **electrical grid infrastructure planning issues**

All contracting participants *(NL, DK, UK, DE, SE, PO, BE and IRE)* in the COD project will participate in work packages 1 through 8. All communications will therefor be directed to all partners. The co-ordination will be performed by partner 1.
The other 6 (FI, FR, ES, PO, IT, GR) will have full access to working group meetings, the private part of the web-site, and draft and final documents, and will be activated through the co-ordinator in WP1. They will not participate in the ministerial working group. They are all members of the EnR network and have already been invited to attend COD meetings early july 2002.

Many actor groups (industry, environment, legal, research) see the importance of this concerted action and have sent a letter of support. These have all been very interested to join the Advisory board to give input for the execution of the project and comment on the outcomes directly. See part C and attached letters of support.

Table B 2 Project planning and timetable

Project month **WP**	**1-6**	**7-12**	**13-18**	**19-24**	**25-30**	**31-36**
WP1: Network **Management**	X X Kick-off	X X 2nd meeting	X X 3rd meeting	X X 4th meeting	X X 5th meeting	X X
WP2: Co-ordination with **other networks**	X Advisory board meet.	X X	X X	X X	X X	X X Advisory board meet.
WP3: Collection of information on **legal, adm.&policy issues**	X	X X	X X	X X	X X	X X
WP4: Collection information on **environ. issues**	X	X X	X X	X X	X X	X X
WP5: **Benchmark** procedures						
WP6: **Formulation of of guidelines**						
WP7: **Dissemination**		X X	X X Workshops	X X Workshops	X X Workshops	X X Ministerial Conference
WP8: Collection of information on **electrical grid infrastructure planning issues**			X X	X X	X X	X X

X: repetitive activity

Work Package	**Start (month)**	**End (month)**
WP1: Network Management	1	36
WP2: Co-ordination with other networks and organisations	3	36
WP3: Collection of information on legal, administrative, and policy issues	3	36
WP4: Collection of information on environmental issues	*3*	*36*
WP5: Benchmark of environmental, legal, policy, and administratiev procedures	6	24
WP6: Formulation of of guidelines for Offshore Wind Energy Deployment	12	36
WP7: Dissemination of information	6	36
WP8: Collection of information on electrical grid infrastructure planning issues	13	36

Table. Work load distribution over partners and work packages in manmonth; and totals for direct costs, overheads, travel, and other costs (More detailed breakdowns in C7.)

WP	P1	P2	P3	P4	P5	P6	P7	P8	**ALL**	**COSTS (Euro)**
Manmonth	Novem	ENS/DEA	STEM	SWS	DTI	TU Berlin	EC BREC	3 E		
1. Network management	2	1,5	1,5	0,5	0,5	0,5	1	0,4	**7,9**	**45474**
2. Co-ordination	1	5	1	0	0	0	0	0	**7**	**41140**
3. Legal/admistrative/policy	1	1	6	1	1	1	1,5	0,7	**13,2**	**73601**
4. Environmental issues	1	1,5	2	**1**	1	3	1	0,7	**11,2**	**59439**
5. Benchmark	1	1	1	1	2	1	1	0,5	**8,5**	**38358**
6. Formulation guidelines	3	1	1	1	1,5	1	1	0,7	**10,2**	**54775**
7. Dissemination	2	1	1	1	1	0,5	1,5	0,5	**8,5**	**45425**
8. Grid issues	0	0	0	0	0	0	0	3,9	**3,9**	**25595**
Total manmonth per partner	**11**	**12**	**13,5**	**5,5**	**7**	**7**	**7**	**7,4**	**70,4**	
direct cost total	**83150**	**65350**	**85750**	**33163**	**50.000**	**37476**	**30590**	**48331**	**433810**	**433810**
travel	48000	15000	10500	8000	8.000	8640	10500	7000	**115640**	**115640**
subcontracting	25000	0	0	0	0	0	0	3000	**28000**	**28000**
Other specific project costs	75000	5000	0	0	0	0	0	0	**80000**	**80000**
overhead	16630	13070	17150	6633	10.000	7496	6119	9666	**86763**	**86763**
total costs	**247780**	**98420**	**113400**	**47795**	**68.000**	**53612**	**47209**	**67998**	**744.214**	**744.214**

Table B 3-1 Work package description

Work package Title: **Network management**		WP No: **1**
Starting date: month **1**	Duration: **36** months	Total Effort: **7,5 MM**
Member involved	*Role of Member*	*Effort (man-months):*
1	**Work Package co-ordinator**; Input from WP 5	2
2	Input from WP 2	1,5
3	Input from WP 3	1,5
4	Participant	0,5
5	Participant	0,5
6	Input from WP 4	0,5
7	Participant	1,0
8	Participant	0,4

Objectives:
- Co-ordination of activities of the different Work Packages
- Ongoing tuning with the European Commission
- Co-ordination and final editing of the interim and final reports
- Involve as many of the 7 other sea-bordering EU countries in meetings and access to documents

Description of work / tasks:
T1.1. Co-ordination of the exchange of information on progress and results between the different work packages
T1.2. Organisation of 5 COD meetings and compilation of proceedings
T1.3. Collection, final editing, and submission to the EC of the interim/final reports and deliverables
T1.4. Financial, legal and administrative communications to the European Commission
T1.5. Solicitate and realise involvement of other member states *(FI, BE, FR, ES, PO, IT, GR) and realise access to meetings, (draft) documents, and the web site.*

Deliverables:

D1.1. Progress reports	months	9, 18, 27
D1.2. Final report	month	36

Milestones and criteria:

M1.1. COD project kick-off meeting:	month	1
M1.2. 4 COD meetings	months	8, 15, 21, 30
M1.3. Half-term report	month	18
M1.4. Final Report	month	36

Interrelation with other work packages:
Because of its objectives Network Management interrelates to all other work packages, co-ordinating their activities and tuning planning's. Network Management furthermore safeguards the interrelations between the other work packages.

Table B 3-2 Work package description

Work package Title: **Co-ordination with other networks and organisations**		WP No: **2**
Starting date: month no. **1**	Duration: **36** months	Total Effort: 7 **MM**
Member involved	Role of Member	Effort (man-months):
1	Co-ordination with **non-technical (legal and environmental)** groups	1
2	**Work Package co-ordinator** Co-ordination with industry	5
3	Co-ordination with **technical networks** (OWEE, EUREC, IEC, E^nR, others)	1

Objectives:

- Co-ordination of the activities of COD with other already existing or starting networks or organisations
- Where possible: division of COD activities and the already existing or starting networks or organisations
- Creation of a EU level Advisory Board

Description of work / tasks:

T2.1. Inventory of already existing or starting networks and organisations with adjoining goals or activities and selection of the networks and organisations of interest and their activities in the field of Offshore Wind Energy
T2.2. Formulation of the overlapping and complimentary goals and activities of the different networks and organisations
T2.3. Invitations to Advisory Board of selected Organisations
T2.4. Organisation of co-ordination meetings between COD and the (co-ordinators of) other networks and organisations
T2.5. Negotiations on co-ordination and the exchange of results.
T2.6. Two Advisory board meetings with representatives from Industry groups, Reasearch groups (EUREC), Environmental groups (North Sea Foundation, EUCC,), Interest groups, and others (OWEE)
T2.7. Regular updating of network inventory

Deliverables:

D2.1. An overview of the different networks and organisations with interests in the field of Offshore Wind Energy and their objectives/activities — month 3
D2.2. Minutes of 2 Advisory Board meetings — month 8, 36
D2.3. Advisory Board position paper on Final Report COD — month 36

Milestones and criteria:

M2.1. Inventory of the activities of the selected networks and organisations — month 6
M2.2. Agreement on shared actions and where possible division of activities — month 9
M2.3. Advisory Board Established, first meeting, second meeting — month 3, 6, 34
M2.4. Advisory Board position on COD result known — month 36

Interrelation with other work packages:

WP1: Tuning of the future strategies of COD and the other networks and organisations
WP3–5: Tuning of the activities, avoiding overlap and repetition of earlier performed work and exchanging where possible and desired information and results
WP6: Sharing information on the existing networks and the fields in which new networks are needed

Table B 3-3 Work package description

Work package Title: **Collection of information on legal, administrative and policy issues of Offshore Wind Energy**		WP No: **3**
Starting date: month **1**	Duration: **36** months	Total Effort: 13,2 **MM**
Member involved	*Role of Member*	*Effort (man-months):*
1	Collection of information in home country	1,0
2	Collection of information in home country	1,0
3	**Work Package co-ordinator**	6,0
4	Collection of information in home country	1,0
5	Collection of information in home country	1,0
6	Collection of information in home country	1,0
7	Collection of information in home country	1,5
8	Collection of information in home country	0,7

Objectives:

- Collection of information on activities (projects) of participating countries
- Collection of information on legal, policy and administrative issues in participating countries,
- Composition of a coherent overview with information gaps
- Regular Updating

Description of work / tasks:

T3.1. Selection of the sort of information to be collected, including at least experience with planning procedures, spatial planning, and commissioning of first Offshore wind energy projects
T3.2. Definition of the formats in which the information should be presented
T3.3. Collection of the selected information in the required format
T3.4. Selection of the most user friendly format to present the information for both the benchmark (WP5) and the dissemination (WP7)
T3.5. Editing of a 'living' information package
T3.6. Continued collection of information concerning changes in the issues, programmes and activities
T3.7. Distribution of information package to other (non-participating) EU member states

Deliverables:

D3.1. Coherent format for data presentation on non-technical issues/activities month 3
D3.2. A common information base for legal, administrative and policy issues month 9
D3.3. Updates in common information base month 12, 24, 36

Milestones and criteria:

M3.1. Coherent format for presentation month 3
M3.2. Information base operational month 9, 15, 27
M3.3. Information delivered to WP 5 month 12, 24, 32

Interrelation with other work packages:

WP5: The information collected in WP3 will form the basis for the benchmark of the EU and national programmes
WP6: The information collected in WP3 will be the main source for the database for the web site and for the other means of information dissemination

Table B 3-4 Work package description

Work package Title: **Collection of information on environmental issues of Offshore Wind Energy**		WP No: **4**
Starting date: month **1**	Duration: **36** months	Total Effort: 11,2 **MM**
Member involved	*Role of Member*	*Effort (man-months):*
1	Collection of information in home country	1,0
2	Collection of information in home country	1,5
3	Collection of information in home country	2,0
4	Collection of information in home country	1,0
5	Collection of information in home country	1,0
6	**Work Package co-ordinator**	**3,0**
7	Collection of information in home country	1,0
8	Collection of information in home country	0,7

Objectives:

- Collection of information on activities (projects) of participating countries, including at least birds, benthic flora and fauna, sub-sea noise, visual intrusion, and coastal impacts
- Collection of information on legal, policy and administrative issues of participating countries,
- Composition of a coherent overview with white spots
- Regular Updating

Description of work / tasks:

T4.1 Selection of the sort of information to be collected, including at least experience with monitoring of first Offshore wind energy projects
T4.2 Definition of the formats in which the information should be presented
T4.3 Collection of the selected information in the required format
T4.4 Selection of the most user friendly format to present the information for both the benchmark (WP5) and the dissemination (WP7)
T4.5 Editing of a 'living' information package
T4.6 Continued collection of information concerning changes in the issues, programmes and activities
T4.7 Distribution of information package to other (non-participating) EU member states

Deliverables:

D4.1 Coherent format for data presentation on non-technical issues/activities	month	3
D4.2 A common information base for environmental issues and activities	month	9
D4.3 Updates in common information base	month	12, 24, 32

Milestones and criteria:

M4.1 Coherent format for presentation	month	3
M4.2 Information base operational	month	9, 15, 27
M4.3 Information delivered to WP 5	month	12, 18, 30

Interrelation with other work packages:

WP5: The information collected in WP3 will form the basis for the benchmark of the EU and national programmes
WP6: The information collected in WP3 will be the main source for the database for the web site and for the other means of information dissemination

Table B 3-5 Work package description

Work package Title: **Benchmark of environmental, legal, policy, and administrative Offshore Wind Energy procedures**		WP No: **5**
Starting date: month no. **1**	Duration: **36** months	Total Effort: **8,5 MM**
Member involved	Role of Member	Effort (man-months):
1	**Work Package co-ordinator, supervision of subcontractor**	**1,0**
2	member of working group	1,0
3	member of working group	1,0
4	member of working group	1,0
5	member of working group	2,0
6	member of working group	1,0
7	member of working group	1,0
8	member of working group	0,5

Objectives:

- Formulation of the criteria for the comparison of the Member States Offshore Wind Energy implementing (concessioning) procedures and environmental impact assessment procedures
- Comparison of best practices for permission procedure timeframe, and causes for delay and relation with international law.

Description of work / tasks:

T5.1 Selecting the information required for a good benchmark and definition of success criteria
T5.2 Reformulating the information (where not done in WP3-4) to a format, making comparison possible; Development benchmark methodology (subcontract);
T4.1. T5.3 Defining an international average standard for success of Offshore Wind Energy permission procedures and environmental impact assessment
T5.4 Comparing the Member State situation using the objective success criteria
T5.5 Recommendations for best practices (input to WP6)
T5.6 Input from Advisory Board

Deliverables:

D5.1 Benchmark report	month	24

Milestones and criteria:

M5.1 benchmark methodology and criteria agreed	month	6
M5.2 Definition of standards for success of Offshore Wind Energy projects	month	15
M5.3 Benchmark of EU and national programmes ready	month	24

Interrelation with other work packages:

WP3/4: The information collected in WP3 and WP4 will be the basis of the benchmark in this WP5
WP6: The outcome of the benchmark (WP5) will be an important input to the formulation of standardisation and harmonisation of procedures and dissemination
WP7: The outcome of the benchmark will be essential input for future networks

Table B 3-6 Work package description

Work package Title: **Formulation of guidelines for Offshore Wind Energy Deployment**		WP No: **6**
Starting date: month no. **1**	Duration: **36** months	Total Effort: **10,2MM**
Member involved	Role of Member	Effort (man-months):
1	**Work Package co-ordinator**	3
2	member of working group	1,0
3	member of working group	1,0
4	member of working group	1,
5	member of working group	1,5
6	member of working group	1,0
7	member of working group	1,0
8	member of working group	0,7

Objectives:

- Formulation of guidelines for environmental impact assessment procedures of Offshore Wind Energy Projects
- Formulation of a proposal for uniform permission procedures of Offshore Wind Energy Projects especially in the Exclusive Economical Zones (>12 miles form the coast)
- Response from Advisory board, the EC and national and multinational organisations such as OSPAR

Description of work / tasks:

T6.1 Identification of areas of agreement and conflicts of interest between issues, countries and the EU/national practice
T6.2 Formulate the paths leading towards of harmonised approach and solving conflicts of interests
T6.3 Preparation of a draft guideline, based on this identification
T6.4 Organistion of multilateral governmental working conference (subcontract)
T6.5 Input of findings in bilateral, multilateral and European conferences between responsible ministers of energy, transport, and/or environment
T6.5 Reworking the draft to a recommended guideline
T6.6 Presentation and discussion in Advisory Board

Deliverables:

D6.1 guidelines or standardised procedures for environmental impact assessment month 36
D6.2 **Proposal for uniform** permission procedures of Offshore Wind Energy month 36

Milestones and criteria:

M6.1 Identification of bilateral, multilateral and European conferences month 12
M6.2 Draft guidelines ready for discussion month 18
M6.3 Discussion in Advisory board month 24
M6.4 Discussion in Ministerial Working Conference of COD and OSPAR month 32
M6.5 Final guidelines and standardised procedures ready month 36

Interrelation with other work packages:

WP3/4: The collected and frequently updated information of WP3 and WP4 will be an essential source of information for the formulation
WP5: The benchmark of the EU and national programmes will be the basis for the formulation of the European Offshore Wind Energy guidelines

Table B 3-7 Work package description

Work package Title: **Dissemination of information**		WP No: **7**
Starting date: month no. **1**	Duration: **36** months	Total Effort: **8,5MM**
Member involved	Role of Member	Effort (man-months):
1	**Work Package co-ordinator** Co-ordination of subcontractors	2,0
2	dissemination in home country	1,0
3	dissemination in home country	1,0
4	dissemination in home country	1,0
5	dissemination in home country	1,0
6	dissemination in home country	0,5
7	dissemination in home country	1,5
8	dissemination in home country	0,5

Objectives:

- Maximum dissemination of information on non-technical issues in the field of Offshore Wind Energy
- Design and Uploading of common information base on commonly accessible website (www.offshorewindenergy.org)

Description of work / tasks:

T 7.1 Design of interactive database for storing and retrieving multiple-source quantitative and qualitative information
T 7.2 Definition of target groups: governmental, interest groups, commercial, general public
T7.3 Selection of information and marking quality for dissemination
T7.4 Selection of dissemination channels, amongst which the internet
T7.5 Design and Regular uploading of information via the web-site www.offshorewindenergy.org (subcontract)
T7.6 Dissemination via other means; measurement of feedback necessary for generating high profile of COD work by market impact analysis (subcontract)
T7.7. Organisation and participation in workshops, conferences and meetings
T7.7 Identification of Offshore Wind Energy issues requiring further co-ordination within the European community

Deliverables:

D7.1 Overview of target groups and dissemination channels	month 6
D7.2 Web site and database with info (regular updates)	month 12, 24, 36
D7.3 Report on impact and effectiveness of dissemination	month 36

Milestones and criteria:

M7.1 Selection of target groups, information and channels	month 6
M7.2 Test run for the selected dissemination channels	month 9
M7.3 Database established; Website operational; newsletter established	month 12, 24, 26

Interrelation with other work packages:

WP2: The other networks and organisations operational within the EU will be counted as an essential part of the target group. The information from these networks and organisations will be added or referred to in the COD dissemination channels
WP3: The selection of the database and information for dissemination in WP6 will be used as input for the collection of information in WP3.
WP ¾: The information collected in WP3/4 will be the basis for the data to be disseminated
WP5: The outcome ofWP5 will be an important part of the disseminated information

Table B 3-8 Work package description

Work package Title: **Collection of information on electrical grid infrastructure issues of Offshore Wind Energy**		WP No: **8**
Starting date: month **1**	Duration: **36** months	Total Effort: 3,9 **MM**
Member involved	Role of Member	Effort (man-months):
1	Collection of information in home country	0,0**
2	Collection of information in home country	0,0**
3	Collection of information in home country	0,0**
4	Collection of information in home country	0,0**
5	Collection of information in home country	-
6	Collection of information in home country	0,0**
7	Collection of information in home country	-
8	**Work Package co-ordinator**	3,9

** *All participants will deliver information to this workpackage. It is expected this will take a very limited amount of time, also due to the experience contractor 3 E already has with the subject of grid infrastructure planning.*

Objectives:
The objective of this task is to develop a coherent vision on the required development of the grid infrastructure for offshore wind in the EU in partnership with the main industry and governmental stakeholders.

Description of work / tasks:
T8.1 Collect information relevant for grid integration on existing and planned projects: installed power, geo-information, grid connection points, the electrical aspects of offshore wind farms, power management systems and solutions for grid connection issues in the North Sea bordering countries.

T8.2 Collect reliable information (from member states and ETSO) on the existing grid capacity, future expansion of the countries grid towards the countries sea borders. Technological options for grid connection/reinforcement and associated costs will be characterised by a selected industrial expert.

T8.3 Manage and update the information in GIS linked data base.
T8.4 Selection of the most user friendly format to present the information for both the benchmark (WP6) and the dissemination (WP7)
T8.5 Editing of a 'living' information package
T8.6 Continued collection of information concerning changes in the issues, programmes and activities
T8.7 Distribution of information package to other (non-participating) EU member states
T8.8 Preliminary analysis of grid infrastructure planning issues

Deliverables:

D8.1 Coherent format for data presentation on non-technical issues/activities	month	15
D8.2 A common information base for grid infrastructure planning issues and activities	month	21
D8.3 Updates in common information base, including a preliminary analysis	month	24, 32

Milestones and criteria:

M8.1 Coherent format for presentation	month	15
M8.2 Information base operational	month	21, 27
M8.3 Preliminary analysis of grid infrastructure planning issues	month	18, 30

Interrelation with other work packages:
WP7: The information collected in WP5 will be the main source for the database for the web site and for the other means of information dissemination

Table B 4 Overview of deliverables

No[1]	Due Date[2] [month]	W.P. / Task No.	Nature[3]	Description
D1.1	9, 18, 27	1	report	Progress reports
D1.2	36	1	Report	Final report
D2.1	3	2	Table	An overview of the different networks and organisations with interests in the field of Offshore Wind Energy and their objectives/activities
D2.2	8, 36	2	Minutes	Minutes of 2 Advisory Board meetings
D2.3	36	2	Paper	Advisory Board position paper on Final Report COD
D3.1	3	3	Format	Coherent format for data presentation on non-technical issues/activities
D3.2	9	3	Database	A common information base for legal, administrative and policy issues
D3.3	12,24,36	3	Database	Updates in common information base
D4.1	3	4	Format	Coherent format for data presentation on non-technical issues/activities
D4.2	9	4	Database	A common information base for environmental issues
D4.3	12,24,36	4	Database	Updates in common information base
D5.1	24	5	Report	Benchmark report
D6.1	36	6	Guidelines booklet	**guidelines** or standardised procedures for environmental impact assessment
D6.2	36	6	Procedure booklet	**Proposal for uniform** permission procedures of Offshore Wind Energy
D7.1	6	7	Table	Overview of target groups and dissemination channels
D7.2	12,24,36	7	Website content	Website and database with info (regular updates)
D7.3	36	7	Report	Report on impact and effectiveness of dissemination
D8.1	15	8	Format	Coherent format for data presentation on non-technical issues/activities
D8.2	21	8	Database	A common information base for grid infrastructure planning issues and activities
D8.3	24,32	8	Database	Updates in common information base including preliminary analysis of grid infrastructure issues

Table B 5 Overview of milestones			
No[1]	**Due Date**[2] **[month]**	**Brief description of milestone objective**	**Decision criteria for assessment**
M1.1	1	COD project kick-off meeting:	All partners present
M1.2	8,15,21,30	4 COD meetings	All Work packages discussed
M1.3	18	Half-term report	All Work packages discussed
M1.4	36	Final report	All deliverables substantiated
M2.1	6	Inventory of the activities of the selected networks and organisations	Completeness of inventory
M2.2	9	Agreement on shared actions and where possible division of activities	Presence of letters of co-operation
M2.3	3,6,34	Advisory Board Established, first meeting, second meeting	Members commitment
M2.4	36	Advisory Board position on COD result known	To be determined
M3.1	3	Coherent format for presentation	To be determined
M3.2	9,15,27	Information base operational	Feed back from users positive; amount of reports and data in
M3.3	12,22,32	Information delivered to WP 5	To be determined
M4.1	3	Coherent format for presentation	To be determined
M4.2	9,15,27	Information base operational	Feed back from users positive; amount of reports and data in
M4.3	12,22,32	Information delivered to WP 5	To be determined
M5.1	6	benchmark methodology and criteria agreed	Methodology accepted
M5.2	15	Definition of standards for success of Offshore Wind Energy projects	To be determined
M5.3	24	Benchmark of EU and national programmes ready	To be determined
M6.1	12	Identification of bilateral, multilateral and European conferences	Coverage of conference by decision makers
M6.2	18	Draft guidelines ready for discussion	To be determined
M6.3	24	Discussion in Advisory board	To be determined
M6.4	32	Discussion in Ministerial Working Group of COD and OSPAR	To be determined
M6.5	36	Final guidelines and standardised procedures ready	Applicability in at least 4 out of 7 COD countries
M7.1	6	Selection of target groups, information and channels	To be determined
M7.2	9	Test run for the selected dissemination channels	To be determined
M7.3	12,24,26	Database established; Website operational; Newsletters established	To be determined
M8.1	15	Coherent format for presentation	To be determined
M8.2	21,27	Information base operational	To be determined
M8.3	24,32	Preliminary analysis of grid infrastructure planning issues	To be determined

C1 Community added value and contribution to EU Policies

The main goal of COD is to increase the efficiency and coherence of the Offshore Wind Energy Programmes of the EU (hereafter indicated as 'EU and national Offshore Wind Energy programmes'), by identifying and possibly removing non-technical barriers: legal, administrative, policy, and environmental.

COD has a **high added value to EU energy-related policies**: by:
1. Improving the security and diversification the energy supply
2. Contributing to Kyoto objectives,
3. Harmonisation of approaches in participating countries and involving a Eastern European country
4. Pre-normative research and contributing to a European Research Area
5. Positive impact on the competitiveness European Wind Energy industry.
6. Feeding into EC RD&D priorities

Ad 1/2. The net "practical exploitable" potential of Offshore Wind energy for the coming 3 decades (shallow water, up to 20m km from the coast) is enormous: 300 TWh/year production by 100-125 GW installed power. If fully deployed, this will contribute to 10% of the total EC electricity consumption, thus reducing the dependence on fossil fuels considerably. For the short term (up to 2005), the participating countries in COD will realise pilot and (pre) commercial projects of 3 GW, and aspire for more than 20 GW by 2010, equal to 50% of the objectives for wind energy in the entire EC, thus adding considerably to "Kyoto". This project attempts to harmonise approaches and reduce environmental and legal barriers, thus increasing the possibility that this potential will be realised.

Ad 3. If any, the Offshore Exclusive Economic Zones (>12 miles from the coast) are areas where resources between countries are shared and national, European as well as international law applies. The countries with the largest stakes in this area for shallow water Offshore Wind now propose to harmonise their projects and processes towards exploiting that potential, with direct involvement of the EC by this concerted action.

Ad 4. COD brings together the co-ordinating national energy agencies of the Wind Energy programmes of 7 member states of the European Union and Eastern European Country. These all run (extensive) R&D programmes. By co-ordination and exchange of information, COD implements solving the problems identified by the EC in its Commissions communication 'Towards a European Research Area'. The approach described in this communication is implemented by COD: the creation of a database, the formation of a structure for the exchange of information and a harmonisation of procedures for the Offshore Wind Energy programmes within the EU.

Ad 5. The R&D budgets for Wind Energy in Japan, USA and in the EU are of the same order of magnitude (20-40 million Euro/year), but in Japan and the USA great attention is given to the coherence of the programme. The European budget comes for 90% from the National programmes and less than 10% from the EC. Co-ordination of these distributed budgets is of prime importance, especially in an area where the EC industry has a leading edge: Offshore! Having one focal point for the non-technical issues, the industry is greatly facilitated, and costly legal and procedural complications are avoided. Non-governmental organisations are involved to ensure an environmentally responsible and socially acceptable deployment. The EWEA has communicated their appreciation of the COD effort and interest in becoming a member of the Advisory Board. The research community (EUREC) strongly support this initiative.

Ad 6. COD furthermore addresses the goals of the Fifth Framework Programme concerning 'Economic and Efficient Energy for a Competitive Europe and fulfils the targets of the 'Research and Technical Activities of a Generic Nature' . The contribution of COD in this field will have an impact on the European energy economy. One of the results of COD will be identification of new Target and Key Actions for the FP6/7 in order to strengthen the world-wide competitive position of the European Offshore Wind Energy industry.

C2 Contribution to the environment and Community social objectives

The COD project contributes to the EU environmental and social objectives:
1. Improving the environment: CO2 reduction without unacceptable negative side effects
2. Improving the quality of life: legally bedding an acceptable deployment
3. Improving employment prospects: creation of an entire new industry for Offshore Wind Energy Farming

Ad 1. Offshore Wind Energy has a large potential for reduction of energy generation from fossil fuels and thus a reduction of CO_2 emissions, thus improving the environment through pollution reduction and reducing the use of natural resources. The net “practicle exploitable” potential of Offshore Wind energy for the coming 3 decades (shallow water, up to 20m km from the coast) is enormous: 300 TWh/year production by 100-125 GW installed power. Every economical activity may have its negative environmental side effects. The COD project particularly aims at identifying, studying, and discussing experiences in 7 countries and opinions from non-governmental organisations to come to an acceptable and responsible deployment with minimal environmental problems and possibly even several positive effects.

Ad 2. The reduction of CO_2 furthermore reduces the greenhouse effect and therefore increases the quality of life and health and reduces the often mentioned (though not proven) risk of a rising sea water level. The involvement of Non-governmental organisations in a Advisory Board will provide concerned European Citizens with a direct input channel towards the work of COD and thereby to the national governments. Thus visual intrusion, impact on recreational or other activities will be optimised and the quality of life for those exposed to Offshore installations and North-sea and Baltic sea resource exploitation will be safeguarded.

Ad 3. With the goal to compare and, where possible, improve, the efficiency of the EU- and national Offshore Wind Energy programmes, the network aims to provide a harmonised European Offshore Wind Energy process for deployment, environmental impact analysis and for concessioning of Offshore Wind Energy Farms. This is expected to have a positive impact on the competitiveness European Wind Energy industry, with an expected industry turnover of more than 1 billion Euro/yr and thousands of jobs, with potentially a large SME involvement.

In all of these aspects, it is expected that **Offshore wind contributes more effectively** to environmental and CO2 reduction goals than land-based wind energy because of
1. the high power output per installed MW,
2. possibly the environment is less damaged
3. population density, visual intrusion, and danger to the citizens is reduced

C3 Economic Development and S/T prospects

Strategic Impact of COD and market opportunities

The COD project has a large impact by:
1. Market Reach of participating national energy agencies
2. Support of commercial entities towards this proposal
3. Involvement and support of non-governmental organisations

Ad 1. This project will have a deep impact on the R&D activities in the participating countries, on the legislative position of the governments, and on the acceptability of offshore wind energy farms because most COD partners
- have direct access to almost all of the wind energy projects being carried out in the technical and non-technical field in their respective country.
- are deeply involved in the strategies of their countries concerning Wind energy and will actively contribute to the work of the network.
- are active in the IEA Wind Energy Implementing Agreement, and
- are represented in the OSPAR treaty.

Ad 2. The market opportunities are created for commercial entities in the EU and not for the proposers themselves. **The national agencies involved have a direct responsibility to develop renewable energy and foster the industry**. The EWEA and EUREC appreciate this COD project as having a positive impact on their position and their own work, while not overlapping with their own (partly private domain) activities.

Ad 3. By interacting with non-governmental (environmental) organisations, the barriers will be removed more sustainable, and may result in a participatory position towards a responsible Offshore Wind Energy deployment. The effect may be that the net potential is fixed to a certain ceiling, but deployment can be fast and efficient.

PLANS FOR DISSEMINATION

The target groups for dissemination are:
- Regional/National governments, and multinational bodies such as EC, IEA, OSPAR (Approx. 20)
- European NGO's, Interest groups, such as EUCC, Seas-at-Risk, IEA (Approx. 20)
- Commercial entities and interest groups: industry, financial institutions, utilities etc. (Approx. 100)
- General public

In particular, the information will be fed into the EC and national and multilateral govemmental organisations with the power of solving legal, administrative, policy, and environmental hurdles through **a multilateral ministerial bodies of the participating Member State countries** and possibly the OSPAR.

To increase the coherence of activities at as many levels as possible, the information gathered will be given a quality-mark and then be made openly available to all interested parties for their own evaluation. This will be implemented through several different means of communication:
- internet, www.offshorewindenergy.org (regular uploading (4 times per year) directed at all stakeholders)
- newsletters (by email, 4 times per year, free subscription, directed at subscribers)
- conference presentations (3 times during project)
- workshops (at least 3 times, interest groups and governments)
- personal communications with national governments (in all countries at least 6 times during project)
- one specially organised multilateral conference
- Advisory group meetings (2 meetings of 1 day)
- final report distribution (1 time during project, aimed at all stakeholders)
- press releases for general public (3 during project)

Dissemination matrix COD	National governments, EC, multilateral bodies	European Non-governmental Interest groups	Commercial entities: industry, engineering firms, financial institutions, utilities	General public
Size	**20**	**20**	**100**	**100.000.000**
internet,	X	X	X	X
newsletters	X	X	X	X
conference presentations			X	
workshops		X	X	
personal communications				
multi-lateral conference	X			
Advisory group meetings		X		
final report distribution	X	X	X	
press releases	X	X	X	X

Wider scientific and Technical prospects

There are 3 important wider prospects, which all build on co-ordination achieved in this COD project:
1. Maintaining a leading role for the European Wind Energy Industry
2. Expansion to the co-ordination of technical issues, other renewables, other countries, or land-based wind energy
3. Grid connection and grid infrastructure planning issues

Ad 1. The R&D budgets for Wind Energy in Japan, USA and in the EU are almost equal. But in Japan and the USA great attention is given to the coherence of the programme. The European budget comes for 90% from the National programmes and less than 10% from the EU Offshore Wind Energy projects. The co-ordination of these distributed budgets is of prime importance, especially in an area where the EU industry has a leading edge: Offshore! A major role for Offshore Wind Energy in the European energy generation will improve the independence of the EU with respect to its energy generation and therewith its political freedom and objectiveness. It will furthermore lead to a strong European Wind Energy industry, creating large amounts of job opportunities. The attainable size of the Offshore Wind Energy contribution to the European energy generation and of the social – economic impact thereof will be part of the outcomes of the work of COD.

Ad 2. COD is focussed on non-technical issues of Offshore wind energy. If successful, the national energy agencies involved may choose to expand their co-operation to other issues within their own competence:
- **technical** issues,
- non-technical issues for **land-base wind-energy**
- non-technical issues for **other renewables** with an important European dimension such as biomass or hydropower.

Ad 3. COD will investigate and start to map out the state of the art in grid infrastructure planning aspects, the required actions concerning grid connection of decentralised energy sources, and the possible influence of the future way of distribution of energy. The issue of grid infrastructure is a complex matter, which involves many other issues only partly related to wind energy generation. No more than a preliminary analysis will therefore be feasible within the scope of this project.