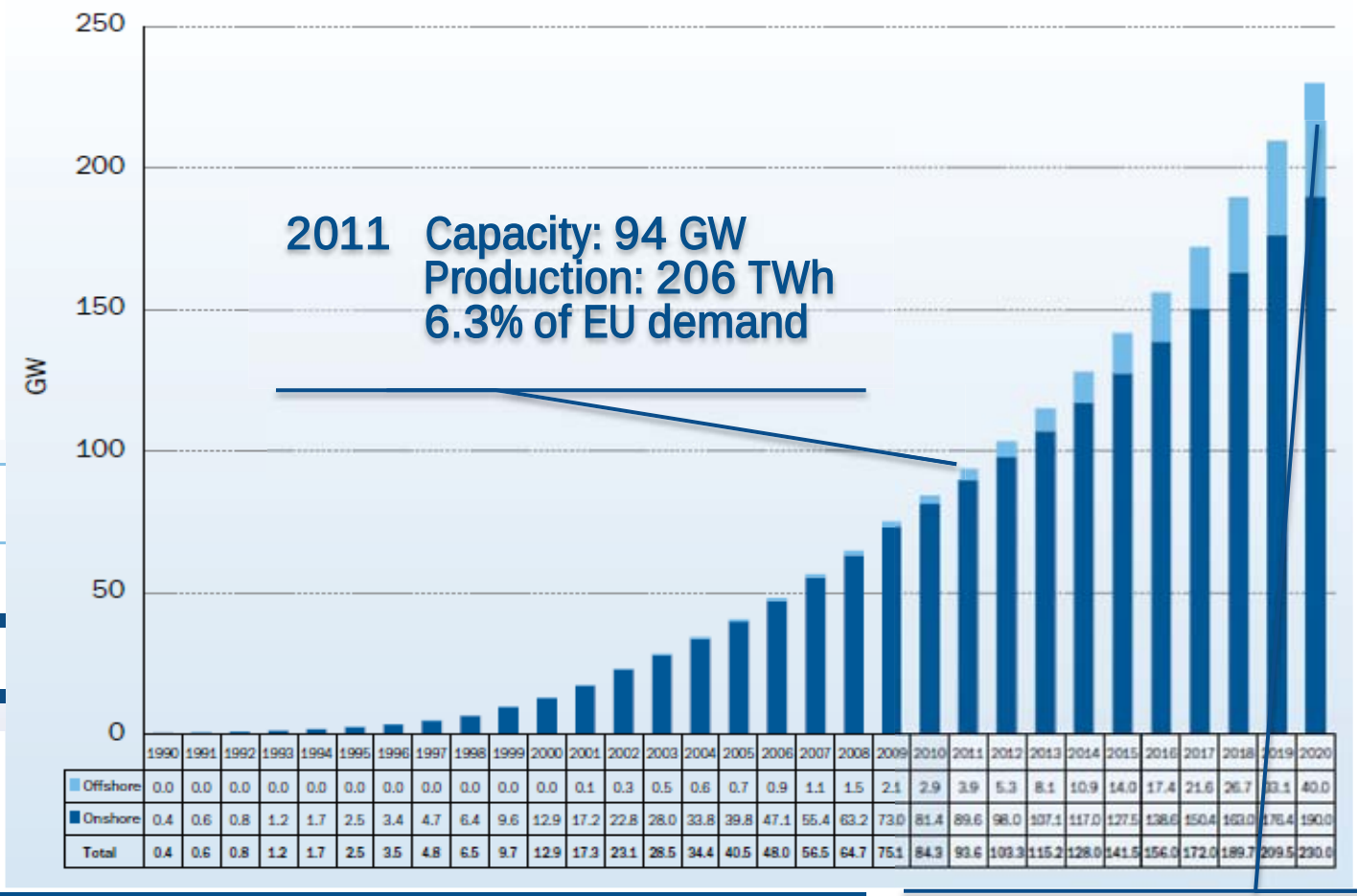
Development of Human Activities in the North Sea

David Johnson,
Bonn Secretariat

EWEA Members – Across entire supply chain

EWEA Wind Energy scenario to 2020



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Offshore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.6	0.7	0.9	1.1	1.5	2.1	2.9	3.9	5.3	8.1	10.9	14.0	17.4	21.6	26.7	33.1	40.0
Onshore	0.4	0.6	0.8	1.2	1.7	2.5	3.4	4.7	6.4	9.6	12.9	17.2	22.8	28.0	33.8	39.8	47.1	55.4	63.2	73.0	81.4	89.6	98.0	107.1	117.0	127.5	138.6	150.4	163.0	176.4	190.0
Total	0.4	0.6	0.8	1.2	1.7	2.5	3.5	4.8	6.5	9.7	12.9	17.3	23.1	28.5	34.4	40.5	48.0	56.5	64.7	75.1	84.3	93.6	103.3	115.2	128.0	141.5	156.0	172.0	189.7	209.5	230.0

Similar targets in other 2020 scenarios...
IEA = 199 GW NREAPs = 213 GW EC = 222 GW

2020 230GW
581 TWh
16% of EU demand

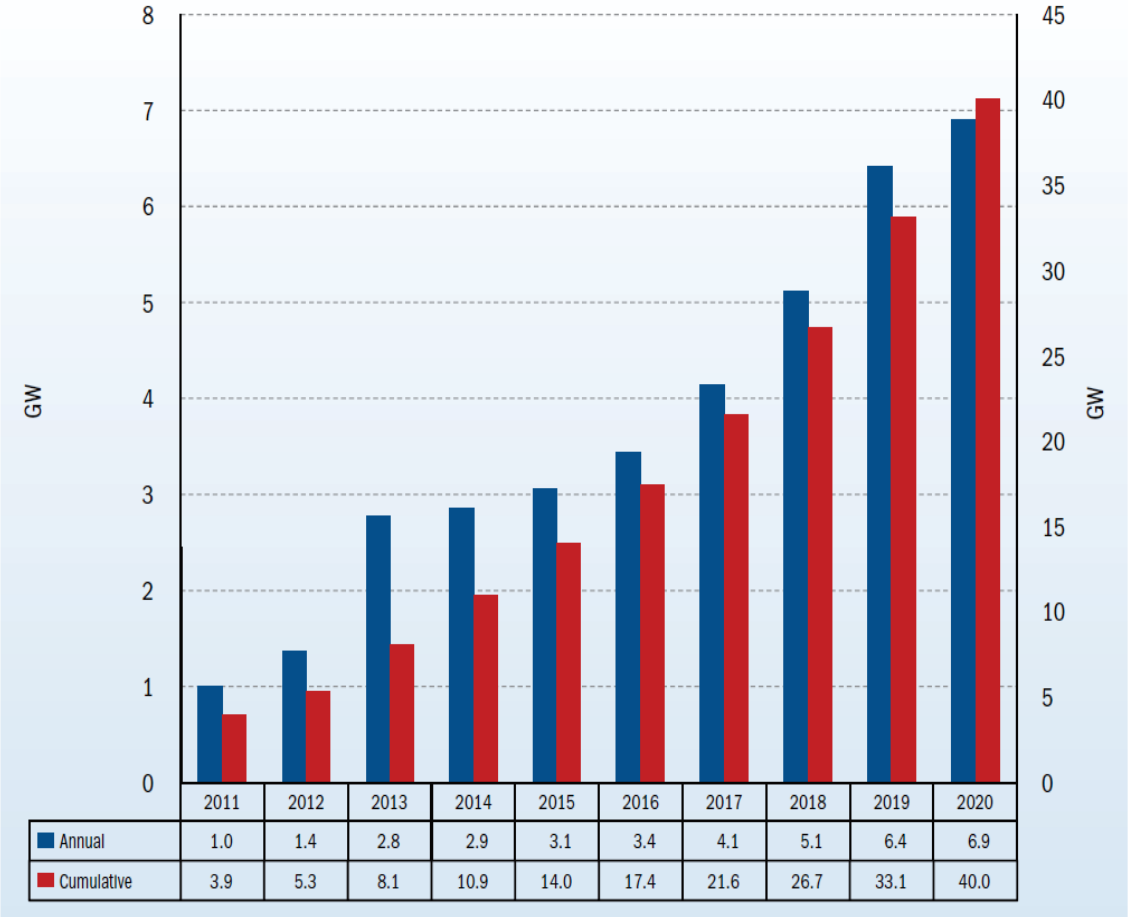
European offshore wind energy market in 2011

- In 2011, 3.8GW offshore wind capacity installed across 53 wind farms in 10 European countries
- Worth €2.4bn annual investments
- 59% capacity installed in the North Sea
- Using around 2,400 km^2 sea space

Offshore wind energy market in the EU in 2020 & 2030

- 40GW by 2020 and 150GW by 2030
- Meeting 4% and 14% of total EU electricity demand in 2020 and 2030
- Using 25,000 km^2 sea space in 2020

Offshore wind energy market in the EU 2011 – 2020 (MW)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Annual	1.0	1.4	2.8	2.9	3.1	3.4	4.1	5.1	6.4	6.9
Cumulative	3.9	5.3	8.1	10.9	14.0	17.4	21.6	26.7	33.1	40.0

- 2012: annual installations of around 1.4 GW
- 2020: annual installations of 6.9 GW
- 2020: cumulative installations of 40 GW

Source: EWEA 2011

Market outlook 1/2

EWEA
THE EUROPEAN WIND ENERGY ASSOCIATION

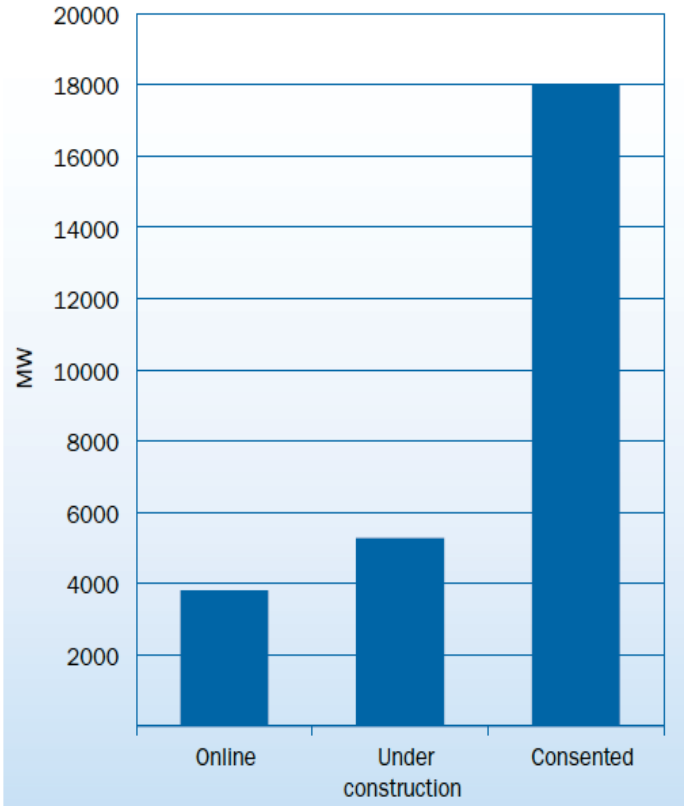
2012 and beyond

- 9 offshore projects under construction
  - Increase installed capacity by 2,375 MW
  - Bringing cumulative capacity in Europe to 6,188 MW

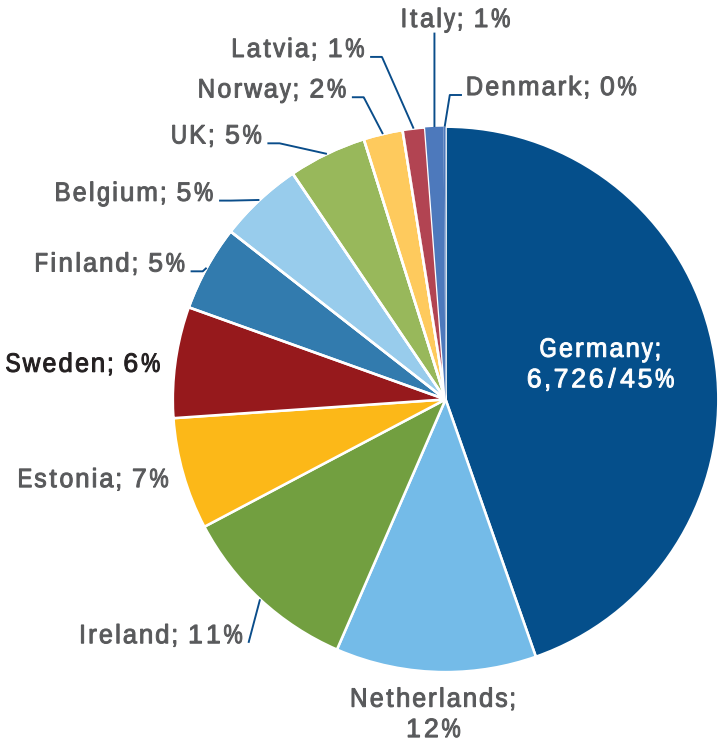
- Preparatory work has started on 9 other projects
  - cumulative installed capacity of 2,910 MW
  - Bringing cumulative capacity in Europe to 9,098 MW

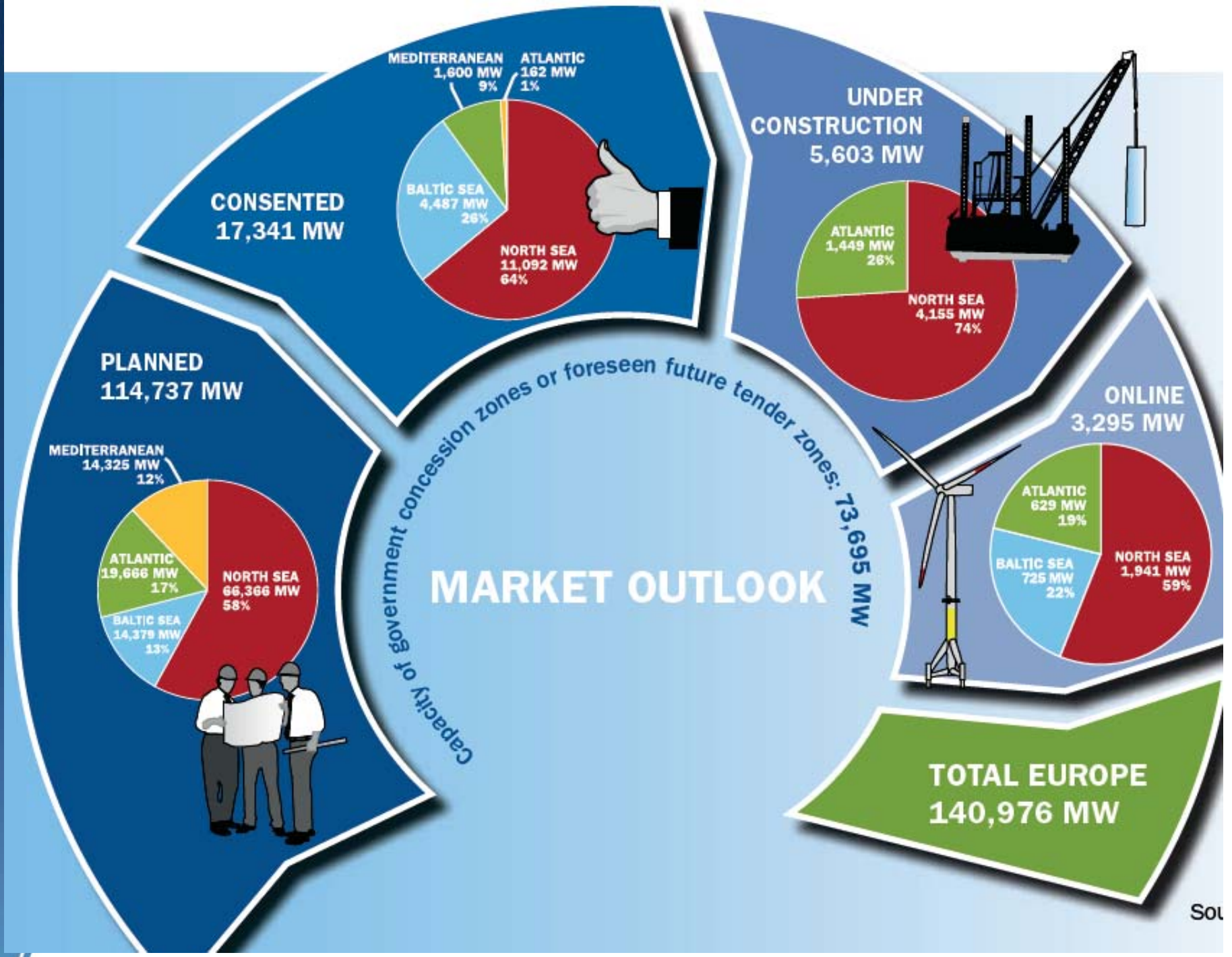
Market outlook 2/2

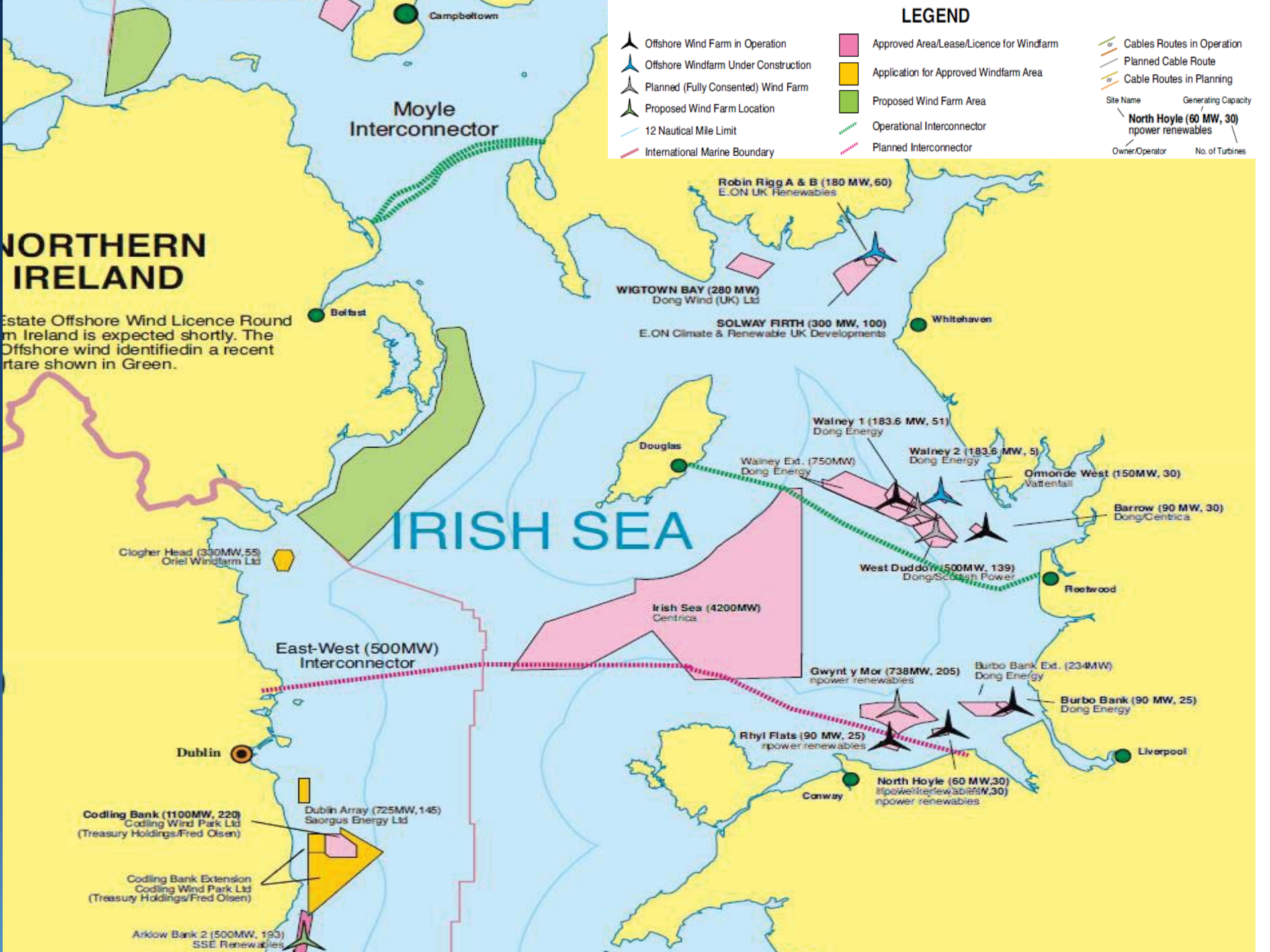
Online, underconstuction and consented projects at end 2011 (MW)



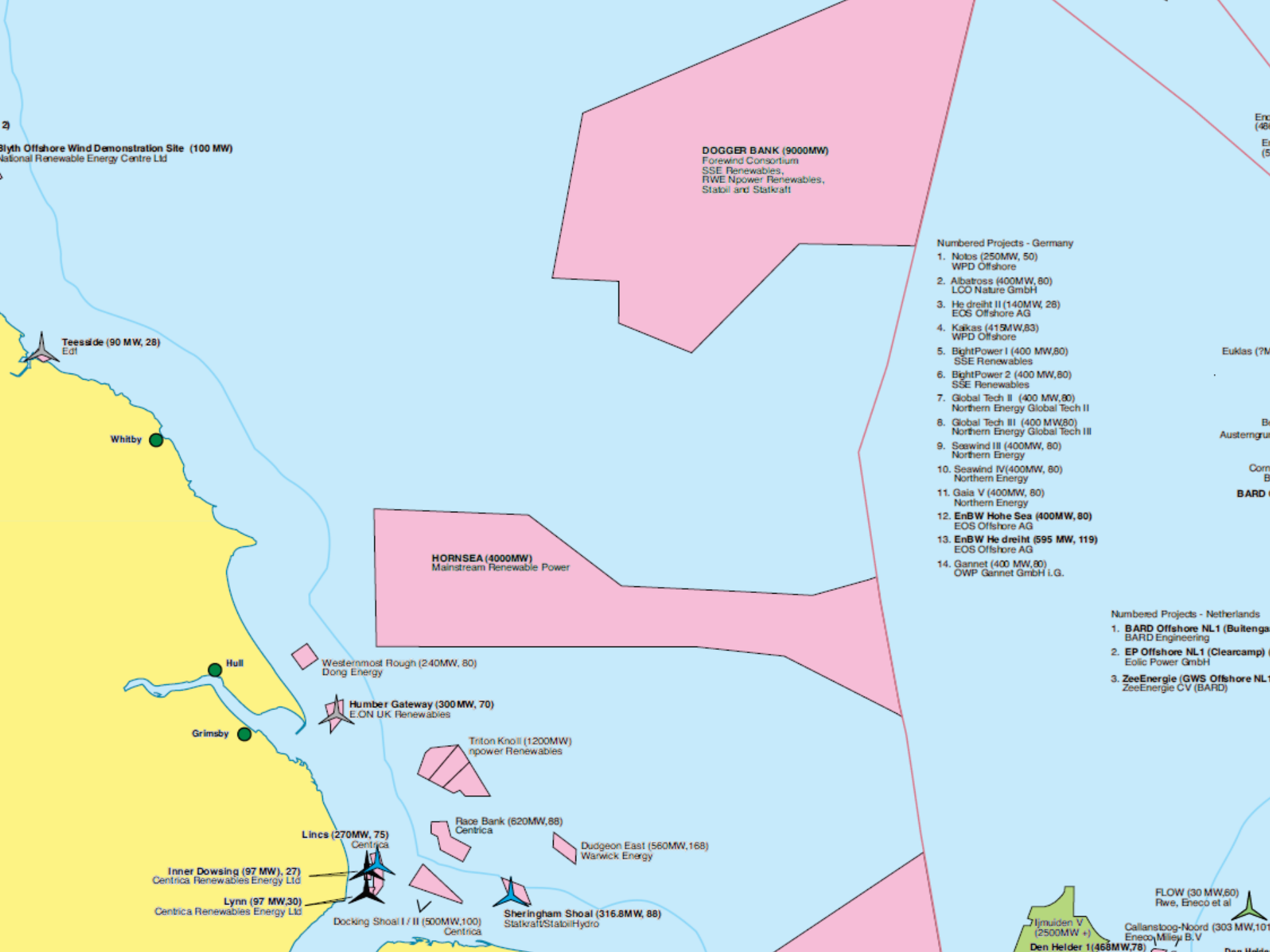
Share of consented offshore capacity




MARKET OUTLOOK
Capacity of government concession zones or foreseen future tender zones: 73,695 MW
CONSENTED
17,341 MW
MEDITERRANEAN
1,600 MW
9%
ATLANTIC
162 MW
1%
BALTIC SEA
4,487 MW
26%
NORTH SEA
11,092 MW
64%
UNDER
CONSTRUCTION
5,603 MW
ATLANTIC
1,449 MW
26%
NORTH SEA
4,155 MW
74%
PLANNED
114,737 MW
MEDITERRANEAN
14,325 MW
12%
ATLANTIC
19,666 MW
17%
NORTH SEA
66,366 MW
58%
BALTIC SEA
14,379 MW
13%
ONLINE
3,295 MW
ATLANTIC
629 MW
19%
BALTIC SEA
725 MW
22%
NORTH SEA
1,941 MW
59%
TOTAL EUROPE
140,976 MW


LEGEND
Offshore Wind Farm in Operation
Offshore Windfarm Under Construction
Planned (Fully Consented) Wind Farm
Proposed Wind Farm Location
12 Nautical Mile Limit
International Marine Boundary
Approved Area/Lease/Licence for Windfarm
Application for Approved Windfarm Area
Proposed Wind Farm Area
Operational Interconnector
Planned Interconnector
Cables Routes in Operation
Planned Cable Route
Cable Routes in Planning
Site Name
Generating Capacity
North Hoyle (60 MW, 30)
npower renewables
Owner/Operator
No. of Turbines
Campbeltown
Moyle Interconnector
NORTHERN IRELAND
Estate Offshore Wind Licence Round
m Ireland is expected shortly. The
Offshore wind identifiedin a recent
rtare shown in Green.
Belfast
Robin Rigg A & B (180 MW, 60)
E.ON UK Renewables
WIGTOWN BAY (280 MW)
Dong Wind (UK) Ltd
SOLWAY FIRTH (300 MW, 100)
E.ON Climate & Renewable UK Developments
Whitehaven
Douglas
Walney 1 (183.6 MW, 51)
Dong Energy
Walney 2 (183.6 MW, 5)
Dong Energy
Walney Ext. (750MW)
Dong Energy
Ormonde West (150MW, 30)
Vattenfall
Barrow (90 MW, 30)
Dong/Centrica
IRISH SEA
Clogher Head (330MW,55)
Oriel Windfarm Ltd
West Duddon (500MW, 139)
Dong/Scottish Power
Fleetwood
Irish Sea (4200MW)
Centrica
East-West (500MW)
Interconnector
Gwynt y Mor (738MW, 205)
npower renewables
Burbo Bank Ext. (234MW)
Dong Energy
Burbo Bank (90 MW, 25)
Dong Energy
Dublin
Rhyl Flats (90 MW, 25)
npower renewables
Liverpool
Conway
North Hoyle (60 MW,30)
npower renewables
Codling Bank (1100MW, 220)
Codling Wind Park Ltd
(Treasury Holdings/Fred Olsen)
Dublin Array (725MW,145)
Saorgus Energy Ltd
Codling Bank Extension
Codling Wind Park Ltd
(Treasury Holdings/Fred Olsen)
Arklow Bank 2 (500MW, 193)
SSE Renewables

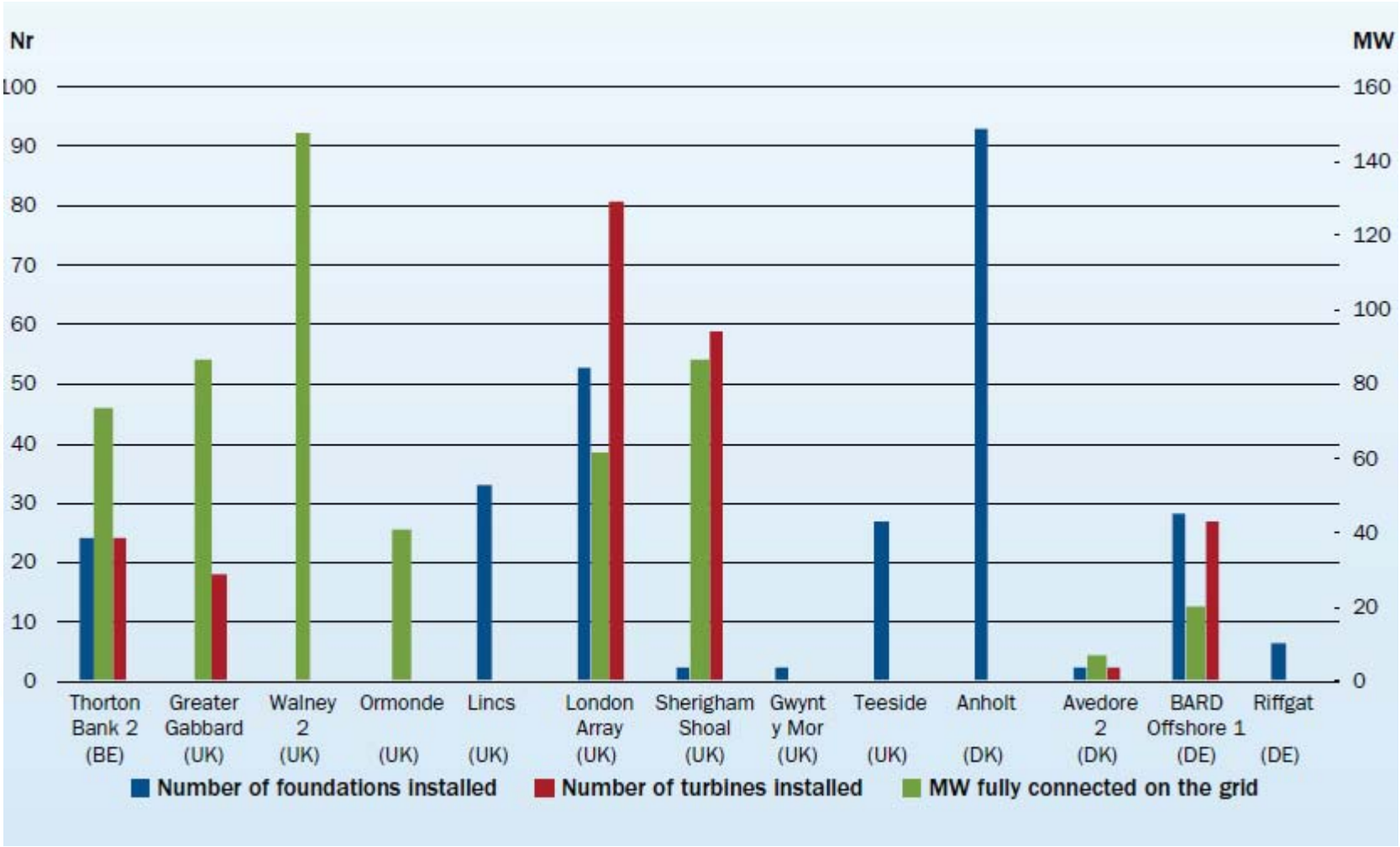

Race Bank (620MW,88)
Centrica
Lincs (270MW, 75)
Centrica
Dudgeon East (560MW,168)
Warwick Energy
Docking Shoal I / II (500MW,100)
Centrica
Sheringham Shoal (316.8MW, 88)
Statkraft/StatoilHydro
NORFOLK BANK (7200MW)
Anglia Offshore Wind Ltd
Scottish Power Renewables
Vattenfall Vindkraft
Scroby Sands (60 MW, 30)
E.ON UK Renewables
Lowestoft
Greater Gabbard (504 MW, 140)
SSE Renewables/REWNpower
London Array 1 (630MW, 175)
E.on/Dong/Madsar
Gunfleet Sands (108 MW, 30)
Dong Energy
Gunfleet Sands II (54 MW, 18)
Dong Energy
Gunfleet Sands Ext. Demonstration Site
Dong Energy
London Array 2 (370 MW, 103)
E.on/Dong/Madsar
Kentish Flats (90 MW,30)
Vattenfall
Kentish Flats 2 (51MW)
Vattenfall
Thanet (300MW,100)
Warwick Energy (Vattenfall)
Thanet 2 (147MW)
Vattenfall
London
Gabbard Wind Farm (504 MW)
SSE Renewables/RWE Npower
Belwind 1 (165 MW,55)
Colruyt, Meewind, PMV, SHV, Rabo
Belwind 2+3 (187 MW,49)
Colruyt, Meewind, PMV, SHV, Rabo
Seastar (246 MW,41)
Otary Plc/Seastar
Edelpasco (216 MW,72)
Aspiravi, Colruyt
Thorntonbank II+III (295.2 MW,48)
C-Power (RWE Innogy)
BritNed (1GW)
Interconnector
Borssele I (500MW+)
Borssele II (500MW+)
Rentel (288MW,48)
Otary Plc/Rentel
Northter (450MW,60)
Electrawinds/Eneco
Zeeuws Offshore Wind Project (500MW)
Delta Energy et al.
Thorntonbank I (30 MW,6)
C-Power
Vlissingen
Breskens
Zeebrugge
Oostende
Den Haag
FLOW (30 MW,60)
Rwe, Eneco et al
Den Burg
Callanstoog-Noord (303 MW,101)
Eneco, Milieu B.V
Den Helder
Den Oever
Ijmuiden V
(2500MW +)
Den Helder I (468MW,78)
SSE Renewables/Dong
Tromp Binnen
(295MW,59)
RWE
Hemweld (493 MW,137)
Evelop
Lely (2MW,4)
Nuon Renewables
Ijmuiden IV
(2500MW +)
Q4-WP (120MW,40)
Eneco
Bruine Bank Oost (282MW,94)
Eneco
Egmond aan Zee (108 MW, 36)
Nordzee Wind
Ijmuiden III
(2500MW +)
Ijmuiden VI
(2500MW +)
Prinses Amalia (120 MW,60)
Econcern/Eneco
Breeveertien II (350 MW,97)
Dong/SSE Renewables
P12-WP (141MW,47)
Eneco
Ijmuiden
Rijnveld Noord (81MW,27)
E-Connection
Rijnveld Oost (135MW, 45)
E-Connection
Q10-WP (165MW, 55)
Eneco
West Rijn (284 MW,79)
SSE Renewables
Amsterdam
Rijnveld West (123MW,41)
E-Connection
Beaufort (279MW,93)
Nuon
Maasvlakte II
Scheveningen Buiten (212 MW,59)
Evelop
Maasvlakte I
BELGIUM


2)
Blyth Offshore Wind Demonstration Site (100 MW)
National Renewable Energy Centre Ltd
DOGGER BANK (9000MW)
Forewind Consortium
SSE Renewables,
RWE Npower Renewables,
Statoil and Statkraft
Numbered Projects - Germany
1. Notos (250MW, 50)
WPD Offshore
2. Albatross (400MW, 80)
LCO Nature GmbH
3. He dreiht II (140MW, 28)
EOS Offshore AG
4. Kaikas (415MW,83)
WPD Offshore
5. BightPower I (400 MW,80)
SSE Renewables
6. BightPower 2 (400 MW,80)
SSE Renewables
7. Global Tech II (400 MW,80)
Northern Energy Global Tech II
8. Global Tech III (400 MW,80)
Northern Energy Global Tech III
9. Seawind III (400MW, 80)
Northern Energy
10. Seawind IV(400MW, 80)
Northern Energy
11. Gaia V (400MW, 80)
Northern Energy
12. EnBW Hohe Sea (400MW, 80)
EOS Offshore AG
13. EnBW He dreiht (595 MW, 119)
EOS Offshore AG
14. Gannet (400 MW,80)
OWP Gannet GmbH i.G.
Teesside (90 MW, 28)
Edf
Whitby
HORNSEA (4000MW)
Mainstream Renewable Power
Numbered Projects - Netherlands
1. BARD Offshore NL1 (Buitenga
BARD Engineering
2. EP Offshore NL1 (Clearcamp)
Eolic Power GmbH
3. ZeeEnergie (GWS Offshore NL1
ZeeEnergie CV (BARD)
Hull
Westernmost Rough (240MW, 80)
Dong Energy
Humber Gateway (300 MW, 70)
E.ON UK Renewables
Grimsby
Triton Knoll (1200MW)
npower Renewables
Race Bank (620MW,88)
Centrica
Lincs (270MW, 75)
Centrica
Dudgeon East (560MW,168)
Warwick Energy
Inner Dowsing (97 MW), 27)
Centrica Renewables Energy Ltd
Lynn (97 MW,30)
Centrica Renewables Energy Ltd
Docking Shoal I / II (500MW,100)
Centrica
Sheringham Shoal (316.8MW, 88)
Statkraft/StatoilHydro
Ijmuiden V
(2500MW +)
Den Helder 1(468MW,78)
FLOW (30 MW,60)
Rwe, Eneco et al
Callantsoog-Noord (303 MW,101
Eneco, Milieu B.V


Horns Rev A-E (5 x 200MW)
Horns Rev II (209 MW, 91)
Dong Energy
Horns Rev I (160 MW,80)
Vattenfall/Dong
Esbjerg
Sandbank 24 (400 MW,80)
Sanbank 24 GmbH & Co KG
Nordpassage (400 MW,80)
Vattenfall
Dan Tysk (288 MW,80)
Vattenfall/Stadtwerke München
Sandbank 24 Ext (80MW).
Ea. Projekt GmbH /
Sanbank 24 GmbH & Co KG
Butendiek (288 MW, 80)
WPD
Nördlicher Grund (320 MW,64)
Geo mbH / Renergys GmbH
Enova NSWP4
(486MW, 81)
Enova NSWP7
(570MW,95)
Enova NSWP5 (510MW, 85)
Enova NSWP6 (504MW,84)
Nemo (680MW, 136)
Nautilus (675MW, 135)
Horizont I (325MW,55)
Mainstream Renewable Power
Jules Verne (800MW, 160)
Gaia II (400MW, 80)
Northern Energy
Gaia III (400MW, 80)
Northern Energy
Gaia IV (400MW, 80)
Northern Energy
Gaia I (400MW, 80)
Northern Energy
Horizont II (380MW, 76)
Mainstream Renewable Power
Weisse Bank (595 MW,250)
Energiekontor EK GmbH
Horizont III (355MW, 71)
Mainstream Renewable Power
Aiolos (985MW,197)
WPD Offshore
Diamant (800MW, 160)
BARD
(?MW, 160)
BARD
Vento Tec I (150MW,50)
Arcadis Consult Gmbh
Vento Tec II (150MW,50)
Arcadis Consult Gmbh
Sea Storm (400MW, 80)
Nordsee Windpower
Sea Storm II (190MW,38)
Northern Energy
Citrin (400MW, 80)
BARD Services GmbH
Bernstein (400MW,80) BARD Building Mgt, Gmbh
grund (400 MW,80) Global Wind Support GmbH
BARD Offshore 1, P1 (18.8 MW, 4)
BARD Engineering
Cornelia (438 MW, 125)
Blue H Technologies
RD Offshore 1, P2 (325MW,76) BARD Engineering
Deutsche Bucht (400 MW,80) BARD
Veja Mate (400 MW, 80) BARD Engineering
Aquamarin (400 MW, 80) BARD Emden Enery
Sea Wind II (300MW,60)
Sea Wind 1 (400MW,80)
Nordsee Windpower
Global Tech1 (400MW,80) Nordsee Windpower
Skua (400MW,80) OPG Projekt Gmbh
Heron (400MW,80) OWP Heron Gmbh
Seagull (400MW,80) Seagull Gmbh
Petrel (400MW,80) Petrel Gmbh
Amrumbank West (300 MW,80)
E.ON
Helgoland (80 MW,19)
Kaskasi (320 MW, 40)
Essent GmbH
Nordsee Ost (295 MW, 48)
RWE
Meerwind Sud & Ost (288 MW,80)
Windland Energieerzeugungs GmbH
Areas CI,CII, & CIII (400 MW,80 each)
SSE Renewables
MEG Offshore (400MW, 80)
Prokon Nord Energiesysteme Gmbh
Borkum West II (400 MW,80)
Trianel
Borkum West -Alpha Ventus (60 MW,12)
E.ON, EWE & Vattenfall
OWP West (400MW,80)
LCO Nature GmbH
Gode Wind (231 MW,77)
Plambeck Neue Energien AG/Evelop
Gode Wind II (252MW, 84)
Plambeck Neue Energien AG
Eemshaven II
Borkum Riffgrund West II (215 MW,43)
Energiekontor AG
Innogy Nordsee 1 (960 MW,160)
RWE Innogy
Borkum Riffgrund West (400 MW,80)
Energiekontor AG
Borkum Riffgrund II (231 MW,77)
DONG
Eemshaven I
Delta Nordsee 1 (1255 MW, 251)
E.ON
Delta Nordsee 2 (198 MW, 33)
E.ON
Borkum Riffgrund I (320.4 MW,89)
DONG
Nordergründe (108 MW,18)
Energiekontor AG
Cuxhaven
Borkum Riffgat Pilot (108 MW,30)
Enova. EWE
Wilhelmshaven (4.5 MW)
Winkra-Energie GmbH
Abandoned /Suspended

Progress in 2012

Installation and Grid connection between 01/01/2012-30/06/2012 (EWEA Mid-year Statistics, 2012):



EWEA studies for reference:

EWEA Pure Power III: Wind energy targets for 2020 and 2030 (2011)
http://www.ewea.org/fileadmin/ewea_documents/documents/publications/reports/Pure_Power_III.pdf

EWEA Wind In our Sails (2011):

http://www.ewea.org/fileadmin/ewea_documents/documents/publications/reports/23420_Offshore_report_web.pdf

SEANERGY2020 final report:

http://www.ewea.org/fileadmin/ewea_documents/documents/publications/reports/Seanergy_2020.pdf

EWEA Offshore wind key trends and statistics 1st half 2012 (2012):

http://www.ewea.org/fileadmin/ewea_documents/documents/publications/statistics/EWEA_OffshoreStats_July2012.pdf

EWEA Offshore wind key trends and statistics for 2011 (2012):

http://www.ewea.org/fileadmin/ewea_documents/documents/publications/statistics/EWEA_stats_offshore_2011_02.pdf

So what is a marine spatial plan?

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

"The process of analyzing and allocating parts of three-dimensional marine spaces (ecosystems) to specific uses, to achieve ecological, economic and social objectives that are usually specified through a political process."

Ehler & Douvere, 2007.

And how do you make one?

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

Establish the current situation

Identify optimal locations for each activity

Identify conflicts between activities

Prioritise spatially conflicting activities

Produce a map to show the areas prioritised for various activities

Issues in creating a plan

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

Data collection:

- Scale
- Accuracy

Data collation:

- Technical capability
- Metadata accuracy

Trans-boundary co-operation:

- National interests and jurisdictions
- Cumulative and long distance effects

Stage 1 – Mission Statement

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

Promote national MSP to meet common regional objectives

Example objectives include:

- **Balancing** ecological, sociological and economic aspects.
- **Allocating** space to minimise conflict
- **Using** MSP as a tool for sustainable development
- **Co-operating** to avoid trans-boundary pollution or conflict.

Stage 2 – Collating the Data

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

Identify areas of conflict between activities and the environment. These are applicable to all regions

Appreciate and promote the need for full and accurate information

Co-ordinate core information to ensure comparability.

Catalogue or collate the data in a central database

Stage 3 – Make regional plans

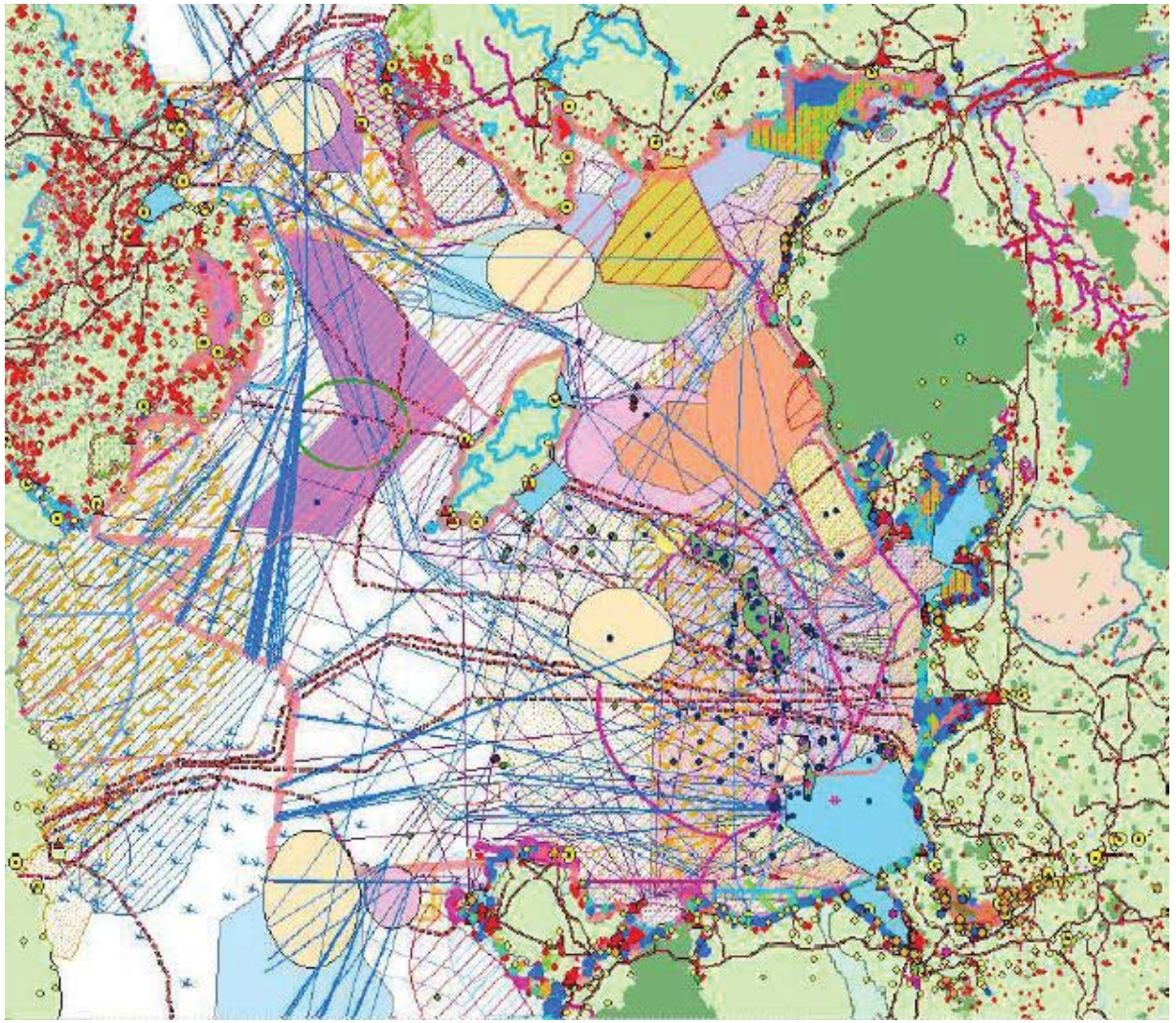
BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

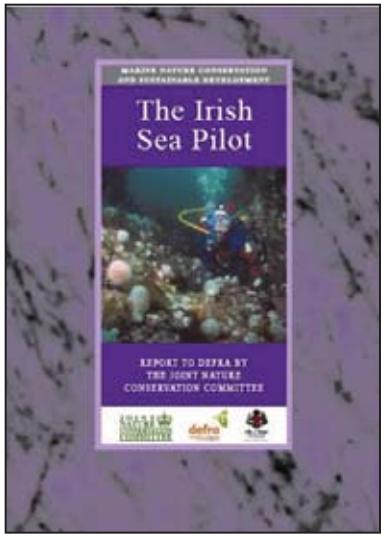
With data available, conduct GIS analysis to identify conflict areas.

Understand the national targets and absorb them into regional targets.

Create a visual impression of the area in 25 years time.

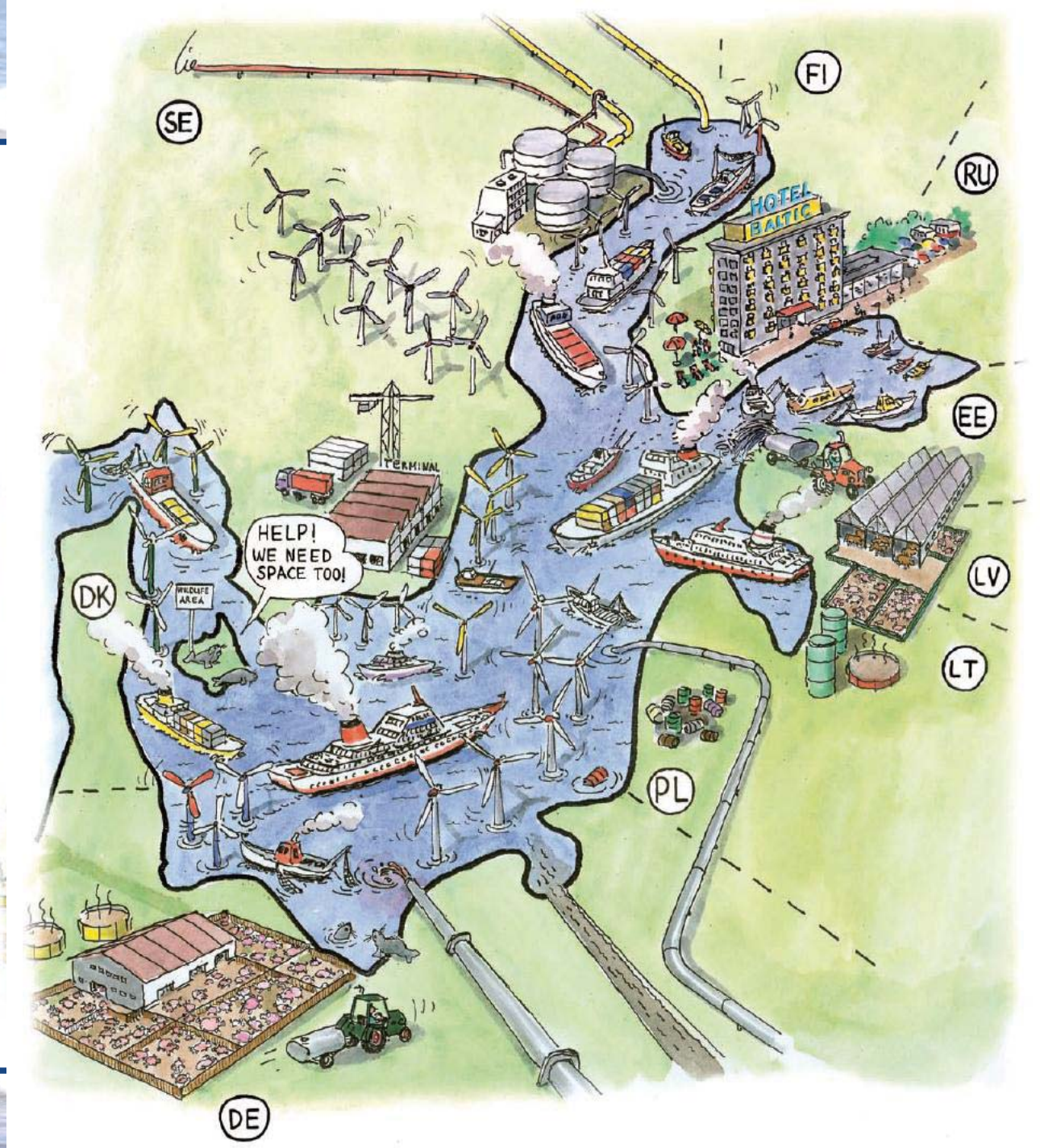
Marine Spatial Planning and Management



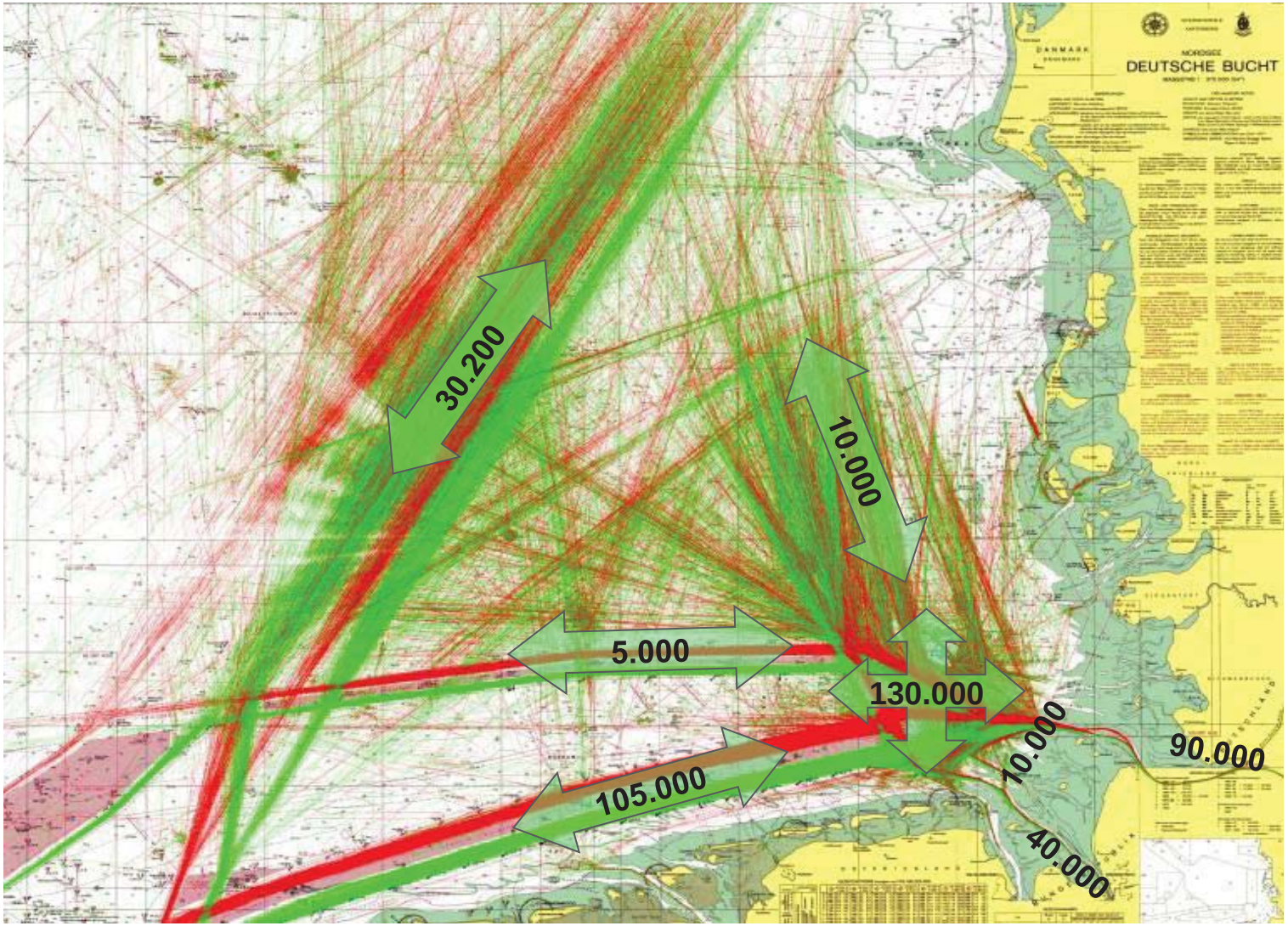


BUNDESAMT FÜR
SEESCHIFFFAHRT
UND
HYDROGRAPHIE

Because of increasing use demands and potential conflicts between different uses and/or with marine nature conservation (ecosystem sea) there is a need for integrated, comprehensive sustainable management of human activities



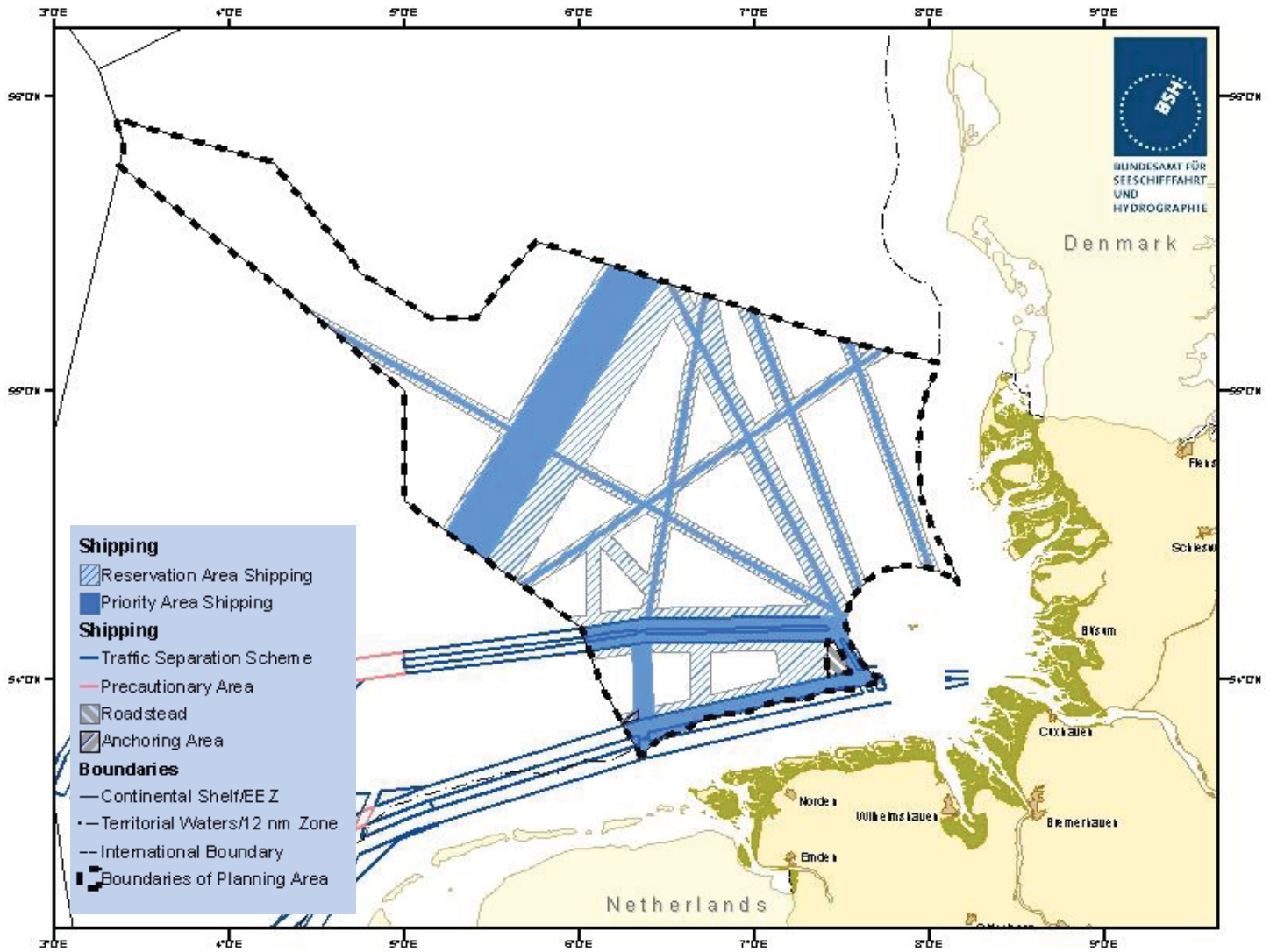
analysis of ship traffic



Analysis based on AIS-information by Water- and Shipping Administration

red: westbound traffic

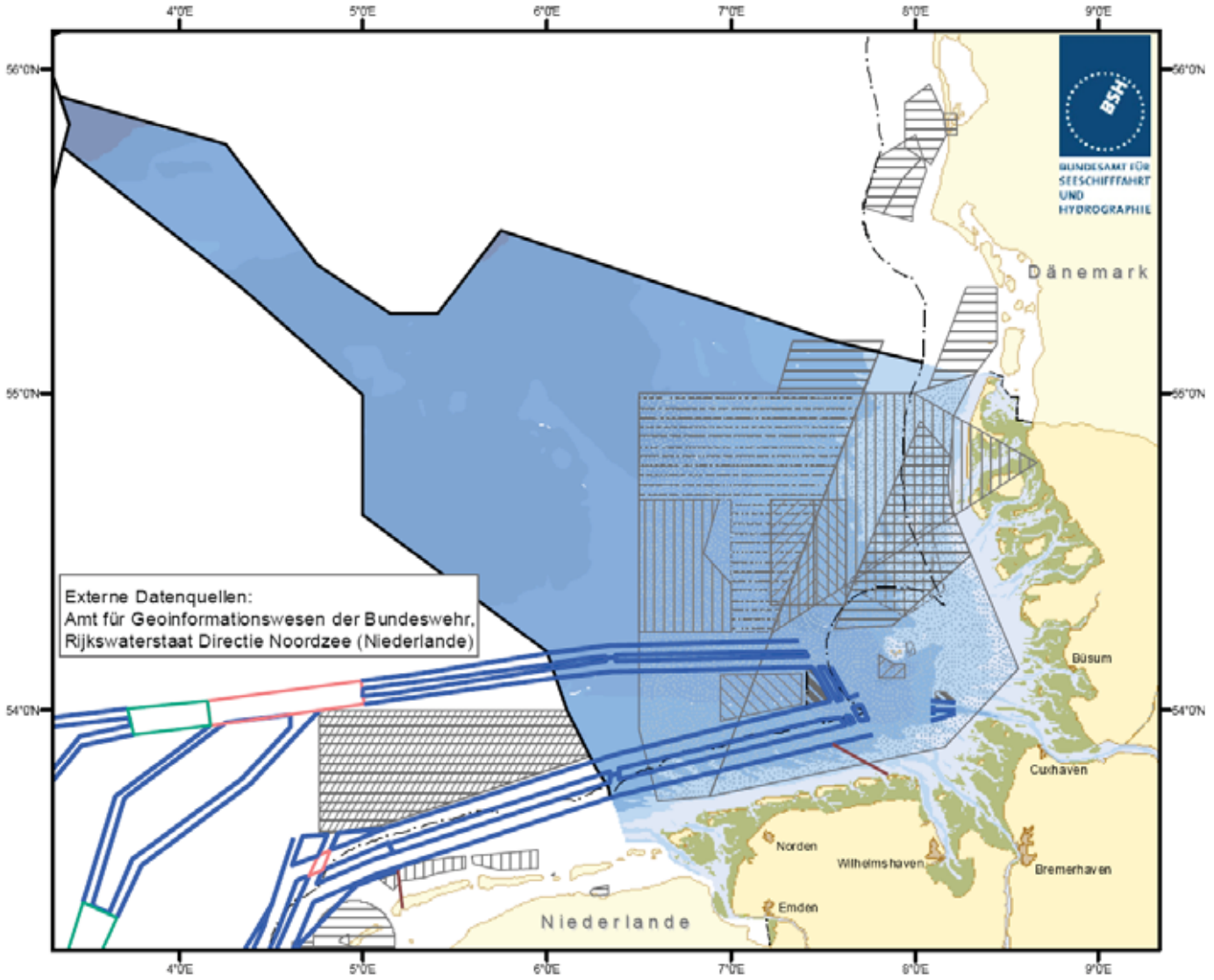
green: eastbound traffic



- Shipping lanes as basic structure of the draft (Art. 60 VII UNCLOS)
- priority areas: must be kept free from obstacles
- reservation areas: shipping has special weight in balancing process
- no traffic regulation!!!!! (protection of existing traffic)

Shipping and military training areas

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE



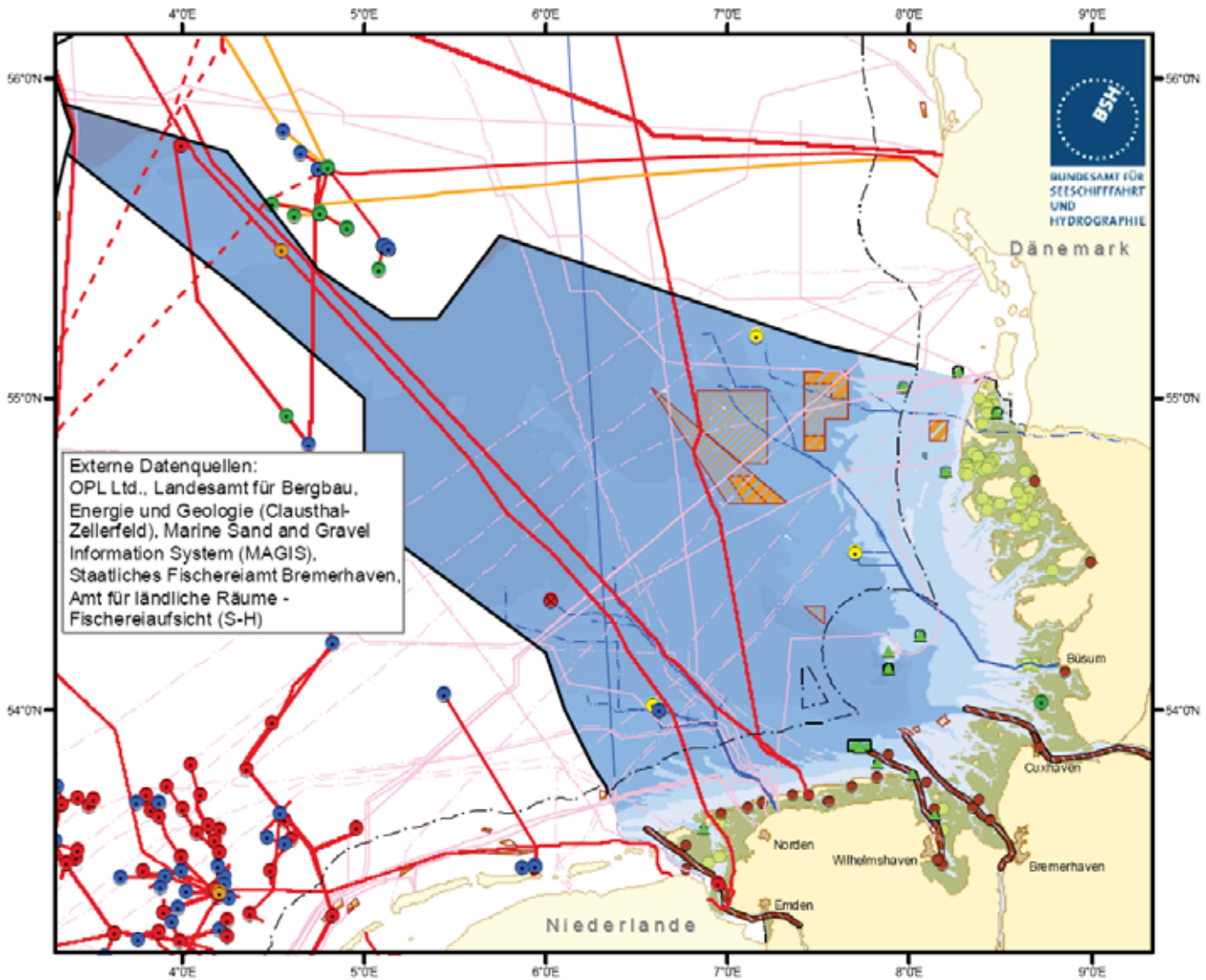
Schifffahrt
- Schifffahrtsweg (empfohlen)
- Schifffahrtsweg (nicht klassifiziert)
- Verkehrstrennungsgebiet
- Küstenverkehrszone
- Tiefwasserweg
- Vorsichtsgebiet
- Sperrgebiet
- Reede

Militärische Übungsgebiete
- Sperrgebiet
- Torpedo-Übungsgebiet
- U-Boot-Tauchgebiet
- Schiess-Übungsgebiet
- Minenjagd-Übungsgebiet
- Flugübungsgebiet
- Nicht klassifiziert

Grenzen
- Festlandsockel/AWZ
- 12-Seemeilenzone/Küstenmeer
- Internationale Grenze

Platforms, pipelines, cables, sand extraction, mariculture

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE



Grenzen
- Festlandsockel/AWZ
- 12-Seemeilenzone/Küstenmeer
- Internationale Grenze

Plattformen
- Messplattform, geplant
- Messplattform, genehmigt
- Messplattform, in Betrieb
- Erdgas-Verdichterplattform, in Betrieb
- Erdöl-Förderplattform, in Betrieb
- Erdgas-Förderplattform, in Betrieb
- Messplattform, im Bau
- Nicht klassifiziert, in Betrieb
- Erdöl-Förderplattform, außer Betrieb

Konverterplattformen
- BorWin Alpha
- Alpha Ventus

Rohrleitungen
- Erdgas (in Betrieb)
- Erdgas (geplant)
- Kohlenwasserstoffe (in Betrieb)

Datenkabel
- in Betrieb
- geplant
- außer Betrieb
- Betrieb unklar

Energiekabel
- in Betrieb
- genehmigt
- geplant

Sedimentgewinnung
- Planfeststellung
- Abbau
- Bewilligung

Einbringungsgebiete
- Baggergut
- ehemalige Munitionsversenkung
- Baggergut
- Baggergut (aufgegeben)
- ehemalige Munitionsversenkung

Marikultur
- Kulturfläche

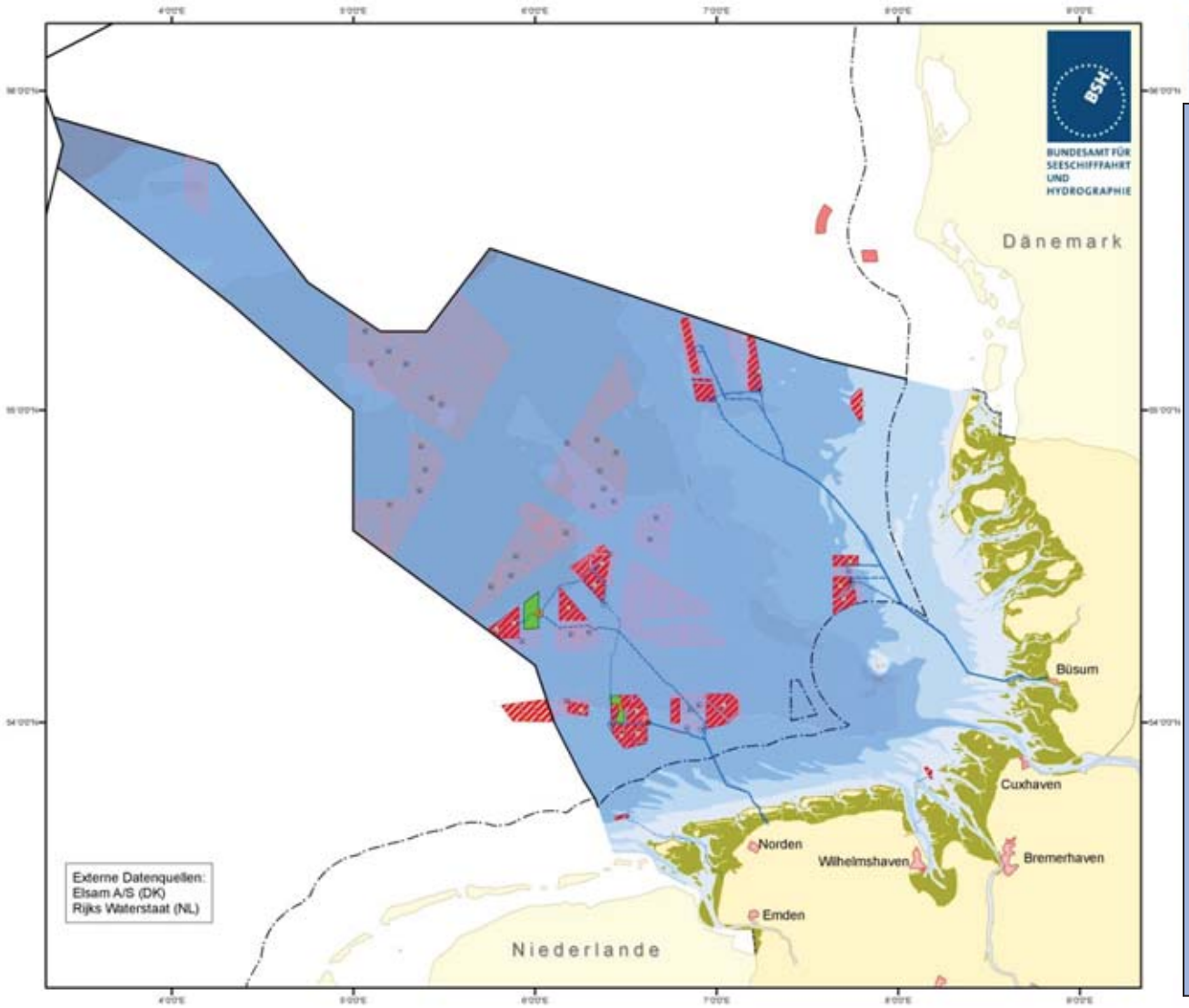
Spatial claims by Offshore Windparks

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

- Target in D: 25.000 MW Offshore Windenergy by 2030 in the EEZ and the territorial sea
- Based on turbines with 3 bis 5 MW: 5.000 up to 8.000 turbines necessary
- Renewable Energy Act: 35 % of the electricity supply must be from renewable energy by 2020
- Coverage of ca. 15 % of the German EEZ

Windenergy projects: more than 100

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE



29 **licences** (2081 WEA, equals roughly 9.000 MW)

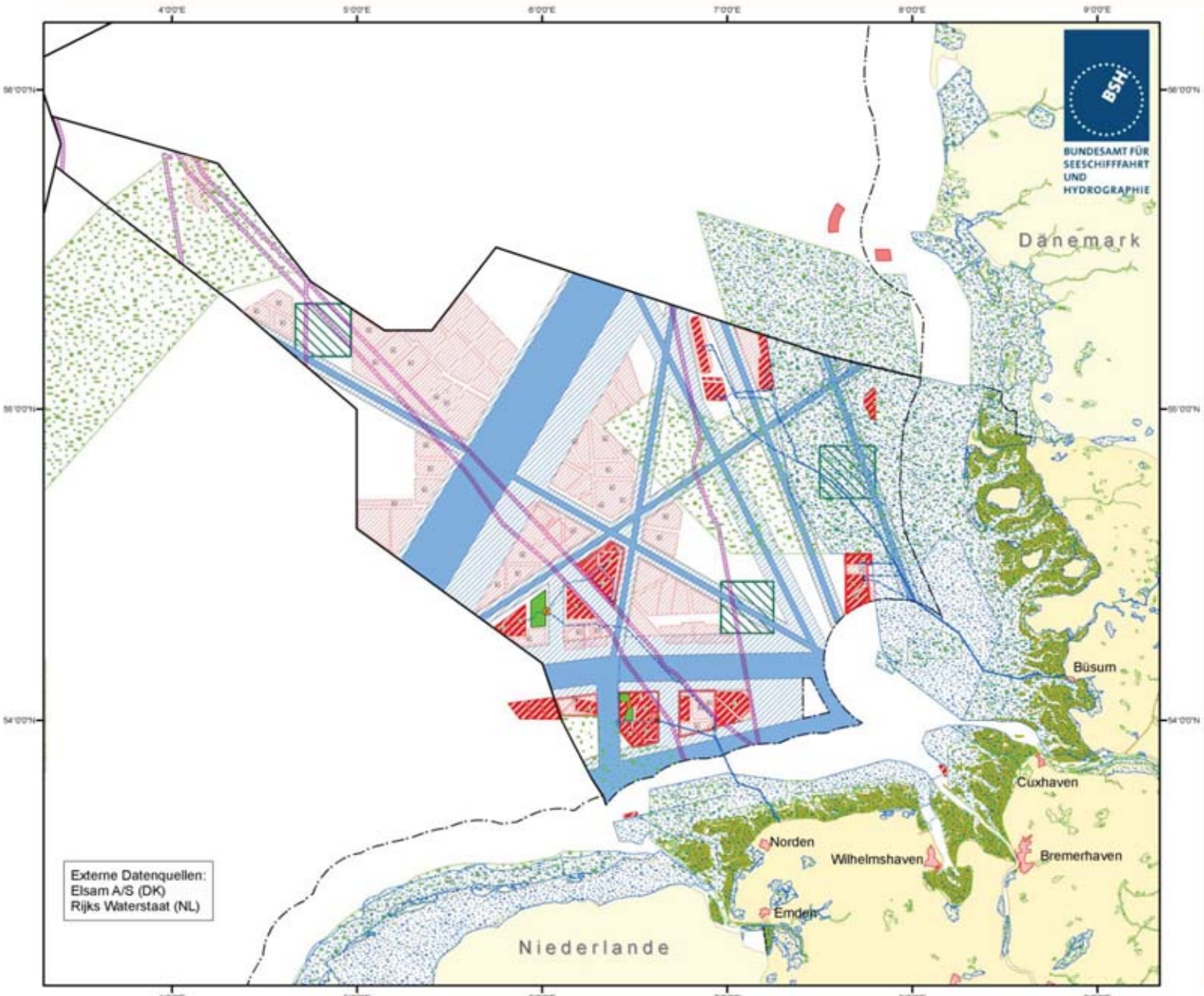
- 26 in North sea (1841 WEA)
- 3 in the Baltic sea (240 WEA)
- alpha ventus (12 WEA)

producing electricity;

76 applications for 5752 WEA

- BARD and Borkum West 2 under construction

Nordsee: Offshore Windparks



Grenzen
- Küstenmeer
- Festlandsockel / AWZ
- Internationale Grenze

Offshore Windparks
- geplant
- im Bau
- genehmigt
- in Betrieb
- nicht genehmigt

Energie-Plattformen
- Umspannplattform, in Betrieb
- Umspannplattform, im Bau
- Umspannplattform, genehmigt
- Umspannplattform, geplant
- Konverterplattform, im Bau
- Konverterplattform, geplant

Netzanbindungen
- in Betrieb
- im Bau
- genehmigt
- geplant

Naturschutzgebiete
- Natura2000 SCI
- Natura2000 SPA

Raumordnung
- Vorranggebiet Schifffahrt
- Vorbehaltsgebiet Schifffahrt
- Vorranggebiet Rohrleitungen
- Vorbehaltsgebiet Rohrleitungen
- Vorranggebiet Windenergie
- Vorbehaltsgebiet Forschung
- Zielkorridor Seekabel

Geodätisches Datum: WGS 84
Kartenprojektion: Mercator (54°N)
BSH / M5 - 13.03.2012

Spatial Plan for the EEZ in the North sea

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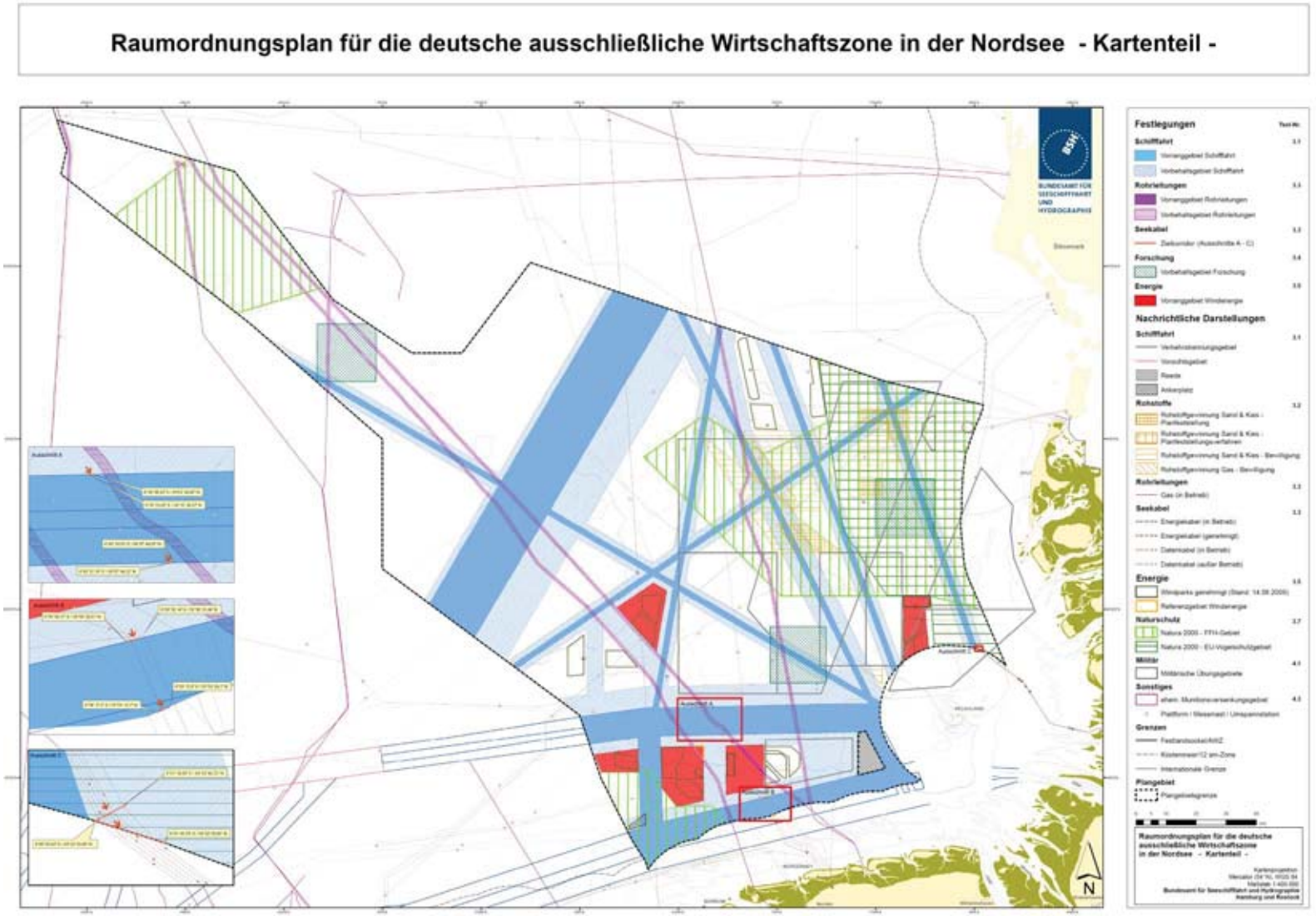

designations:

Priority areas for wind energy (red)

Priority areas for shipping (blue)

Importance of environment: no turbines in Natura 2000 areas!

gates for electricity cables to the coast

set into force on 26th September 2009

Strategic Environmental Assessment for MSP

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For the first time a large scale SEA has been carried out in a sea area distant from the coast

Main content of the report:
- description and evaluation of state of the marine environment
- description and assessment of any substantial impacts on the marine environment that are likely to be caused by the implementation of the plan

Result of SEA: no substantial impacts on the marine environment by the designations of the plan

Analysis for Strategic Environmental Assessment

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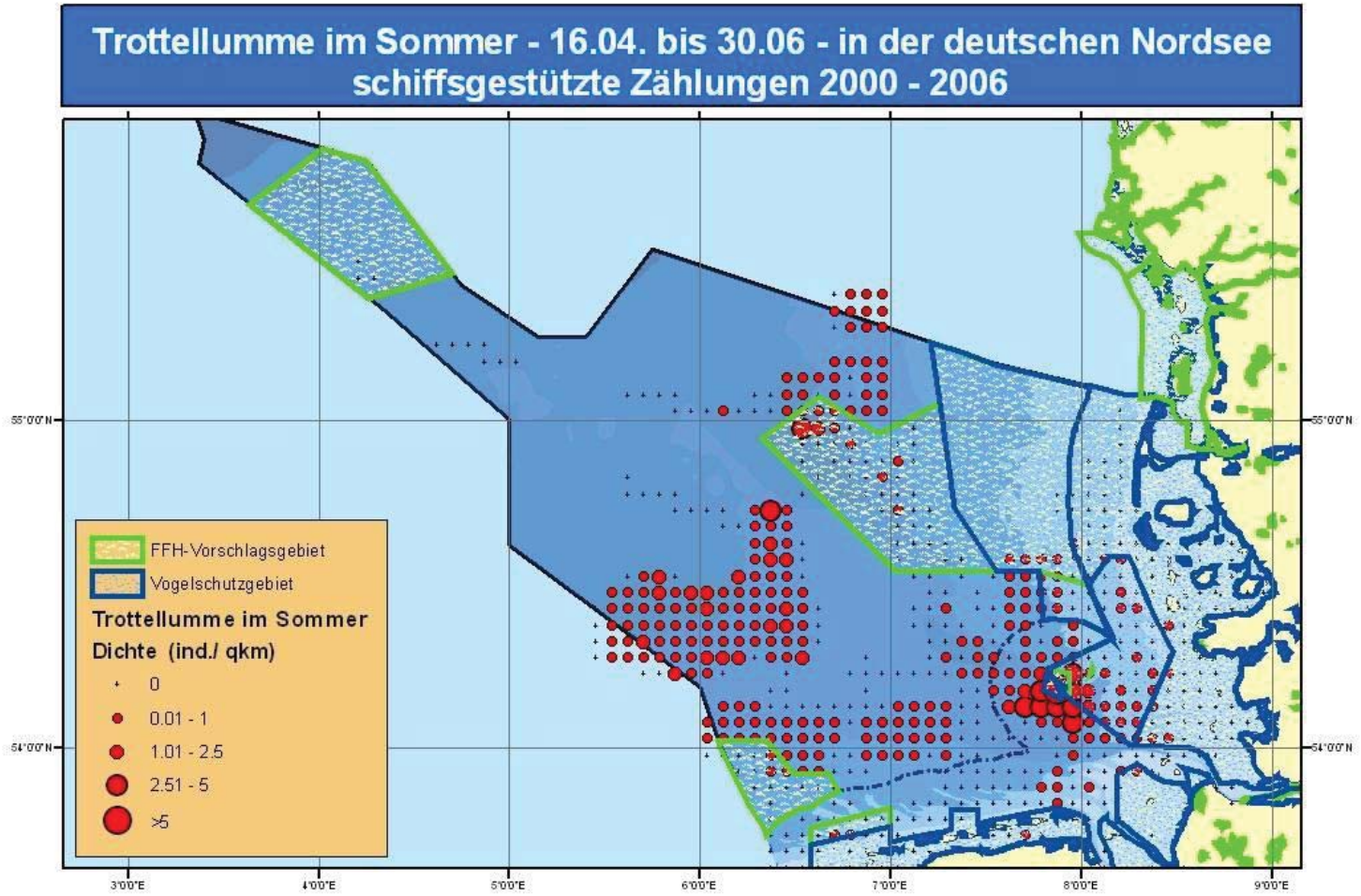
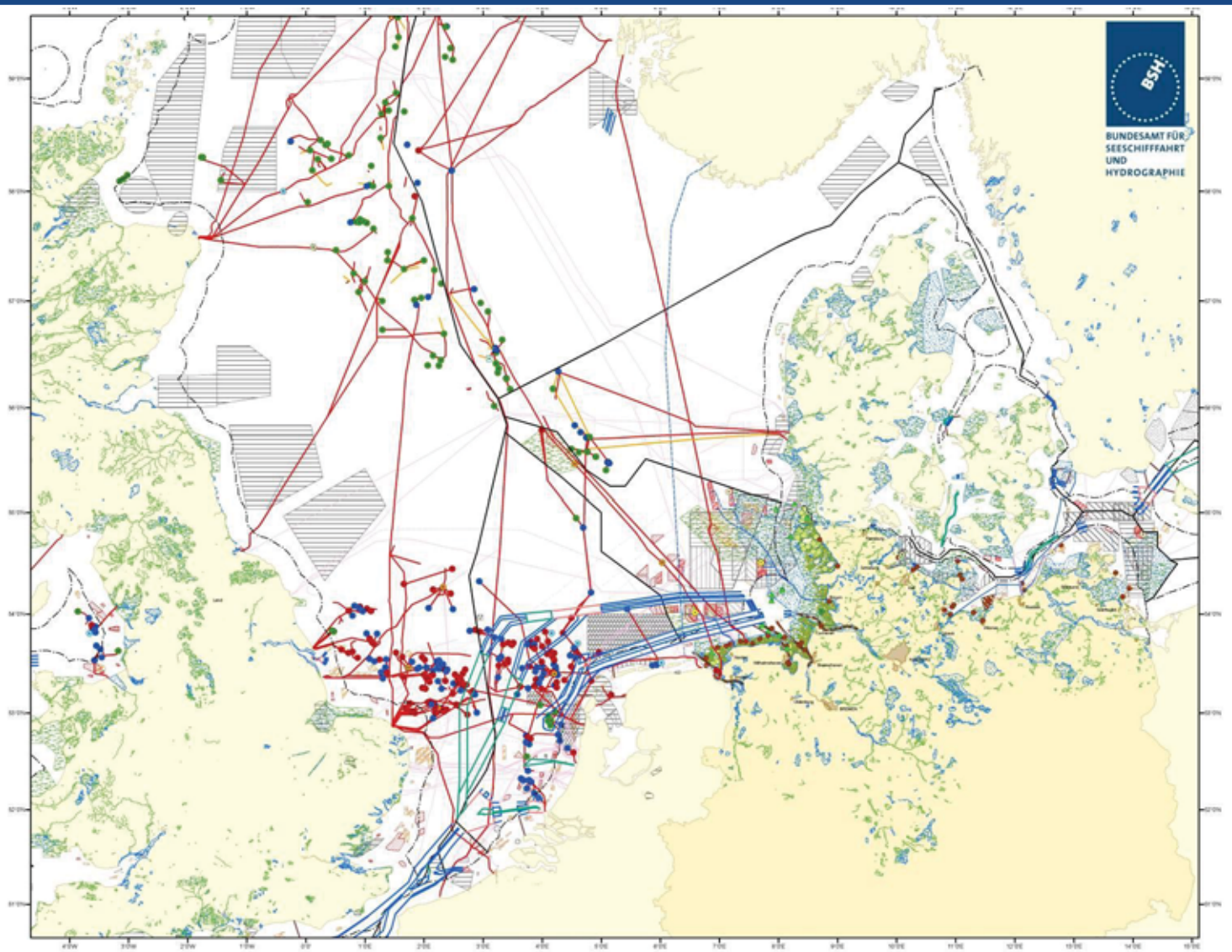


Auswertung: Forschungs- und Technologiezentrum Westküste der Christian-Albrechts-Universität zu Kiel und BSH

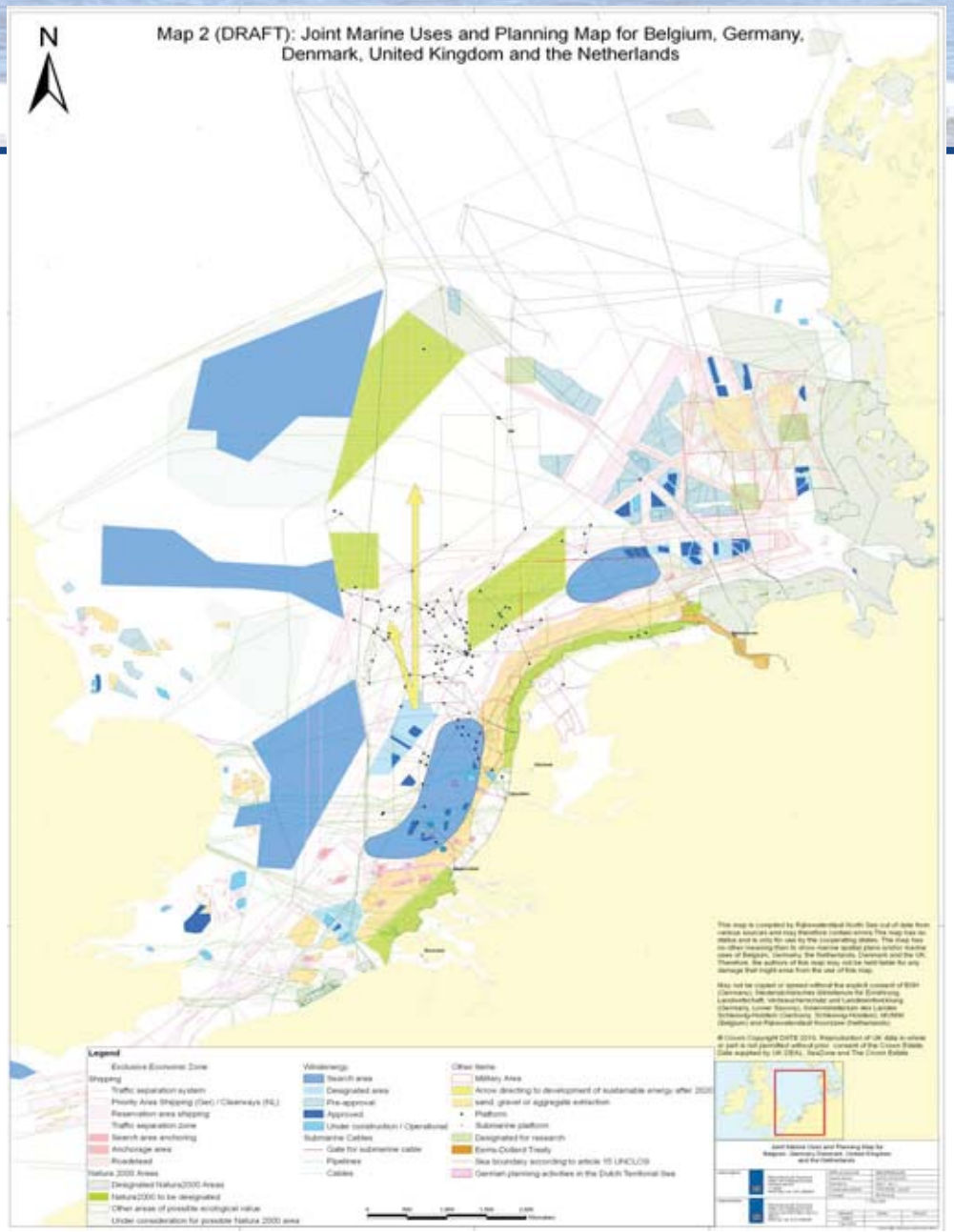
Common guillemot (uria aalge):

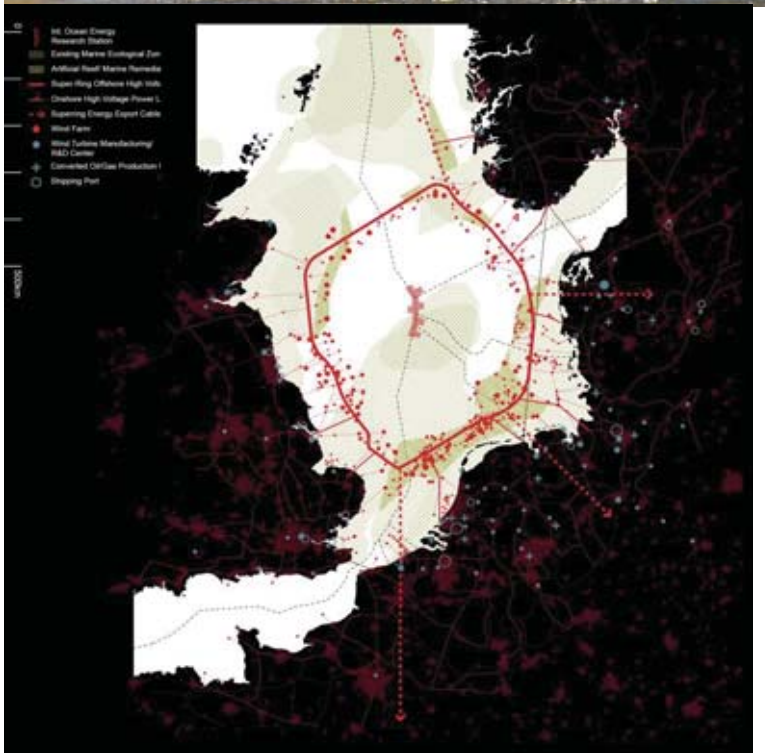
example for a large scale analysis by connecting information from private and public sources

International Cooperation



Transboundary cooperation and planning very important because of transnational uses and marine conservation issues





BSH
BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

Ministerie van Verkeer en Waterstaat, NL

Conclusions

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

Promoting national marine spatial planning to meet common regional objectives

Highlighting the need for bi-lateral communication

Providing guidelines for the common collection and exchange of data

Streamlining reporting requirements

Steering the reporting requirements to meet the future EU Marine Strategy Framework Directive