

DONG Energy Renewables



The offshore wind farms option

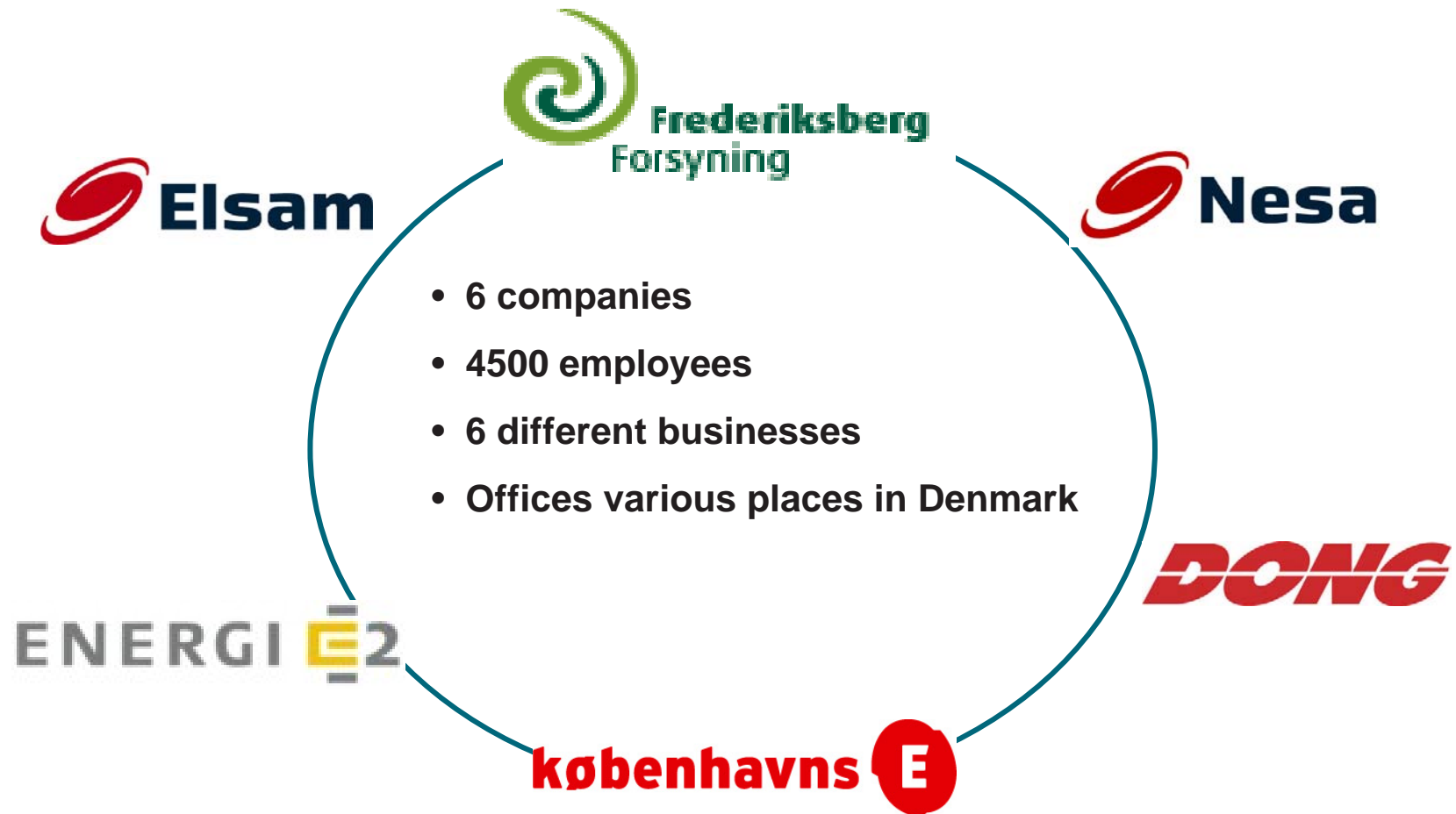
ENERGI E2/DONG Energy

Mr Per Hjelmsted

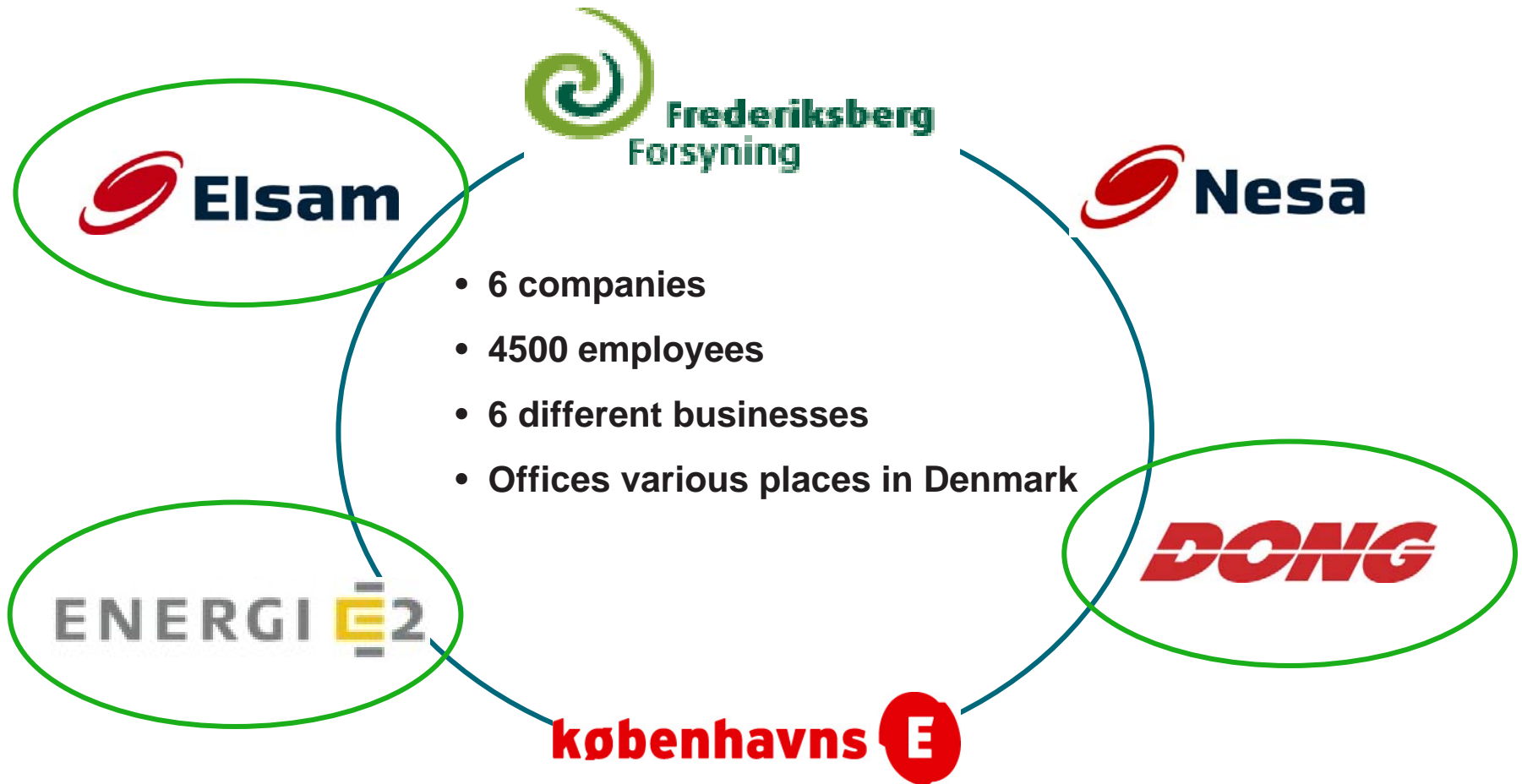
Senior Manager, Project Development

20 September 2006



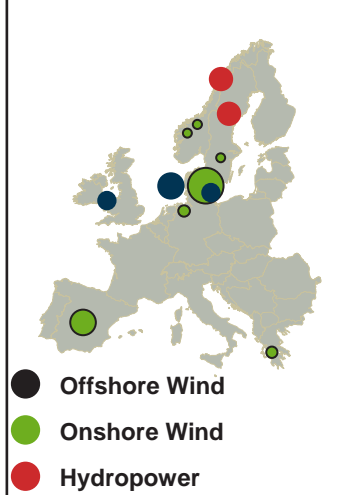
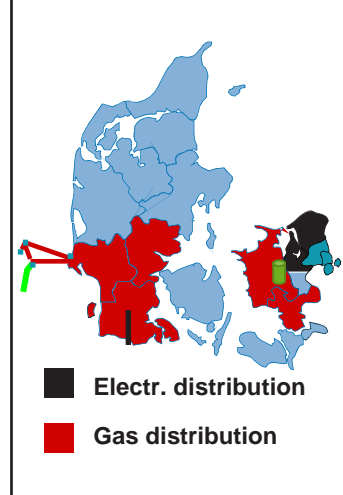
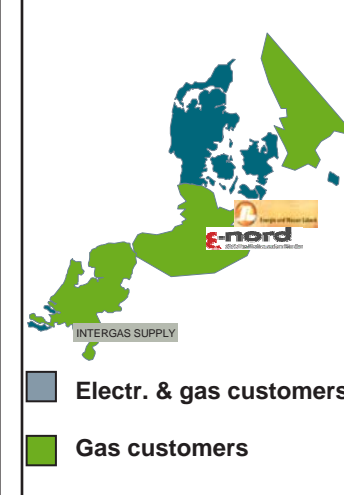
DONG energy - a merger of six companies



- with extensive offshore experience



A company with revenues of DKK 33 billion* (2005)

	E&P	Generation	Renewables	Infrastructure	Markets
Revenues	DKK 3.9bn (11%)	DKK 9.1bn* (28%)		DKK 4.3bn* (13%)	DKK 16.0bn* (48%)
EBITDA	DKK 2.6bn (25%)	DKK 3.4bn (32%)		DKK 1.4bn (13%)	DKK 3.1bn (30%)
Geographic area					
Segment overview	<ul style="list-style-type: none"> Oil and gas exploration and production Focus on building up gas reserves to underpin gas sales activities 	<ul style="list-style-type: none"> Electricity and heat production in eastern and western Denmark 	<ul style="list-style-type: none"> Renewables produce energy, primarily from wind turbines and hydropower 	<ul style="list-style-type: none"> Gas distribution in two geographic areas and one gas storage facility Electricity distribution in the metropolitan area Oil pipeline 	<ul style="list-style-type: none"> Markets will buy and sell gas to large companies and will be engaged in wholesale trading and retail Markets will also buy electricity for intragroup resale and international markets

Renewables



Renewables' core activities

Project Development



- Market analyses and identification of potential sites
- Acquisition of project rights
- Partnering
- Engineering and project planning
- Procurement strategy and tendering
- Planning of operating phase
- Financing

Construction



- Construction of production facilities
- Project management

Production



- Power production
- Operation and maintenance of assets

Assets base



● Wind farms

▲ Hydro power plants

■ Assets in operation and under development; wind and/or hydro power

▨ Assets under development or construction only

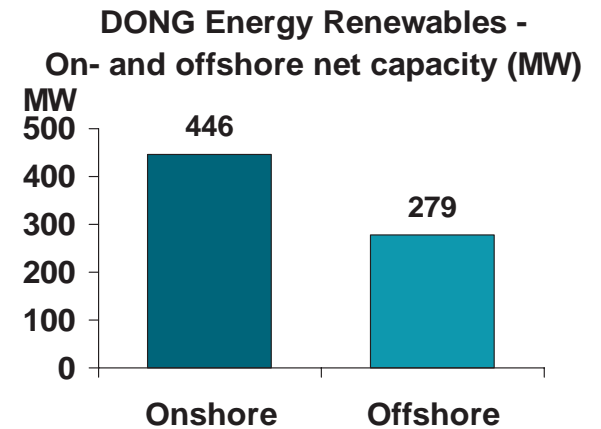
Market	Operational capacity wind (MW)	Operational capacity hydro power (MW)	Total (MW)
Denmark	428	0	427
Norway	4	131	135
Sweden	0	205	205
Iberia	220	20	240
Greece	19	0	19
UK	45	0	45
France	9	0	9
Total	725	356	1081

Renewables is a major player among international utilities focusing on wind energy and is world leading within offshore wind energy

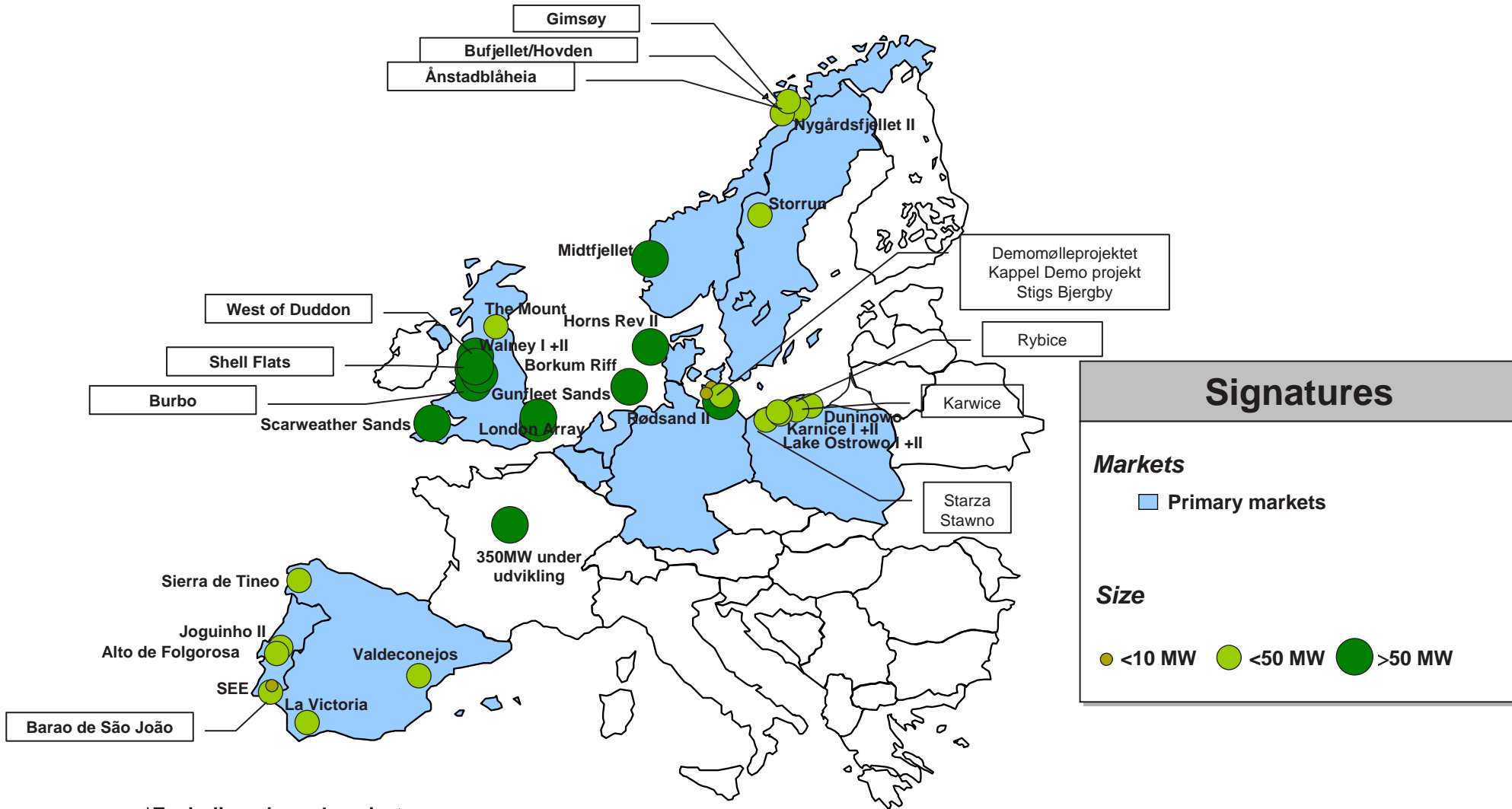


The global offshore wind farms in operation

Project/Country	WTG	MW	Construction
Vindeby (DK)	11x450kW, Bonus	4.95	1991
Lely (NL)	4x500kW, NedWind	2.0	1994
Tunø Knob (DK)	10x500kW, Vestas	5	1995
Dronnten Isselmeer (NL)	28x600kW, Nordtank	16.8	1996
Bockstigen (SE)	5x550kW, Wind World	2.75	1997
Utgrunden (SE)*	7x1,5MW ENRON	10.5	2000
Blyth (UK)	2x2MW Vestas	4.0	2000
Middelgrunden (DK)	20x2MW Bonus	40.0	2000
Yttre Stengrund (SE)*	5x2MW NEG Micon	10.0	2001
Horns Rev I (DK)	80x2MW, Vestas	160.0	2002
Palludan Flak (DK)	10x2.3MW, Bonus	23.0	2002
Nysted Offshore Windfarm (DK)	72x2.3MW, Bonus	165.6	2003
Arklow Banks phase I (UK)	7x3.6MW, GE Wind	25.2	2003
North Hoyle (UK)	30x2MW, Vestas	60.0	2003
Scroby Sands (UK)	30x2MW, Vestas	60.0	2004
Kentish Flats (UK)*	30x3MW, Vestas	90.0	2005
Barrow Offshore Wind Farm (UK)	30x3MW, Vestas	90.0	2006



Projects in the pipeline, September 2006



*Excluding phase 1 projects

Selected major projects in Renewables' pipeline

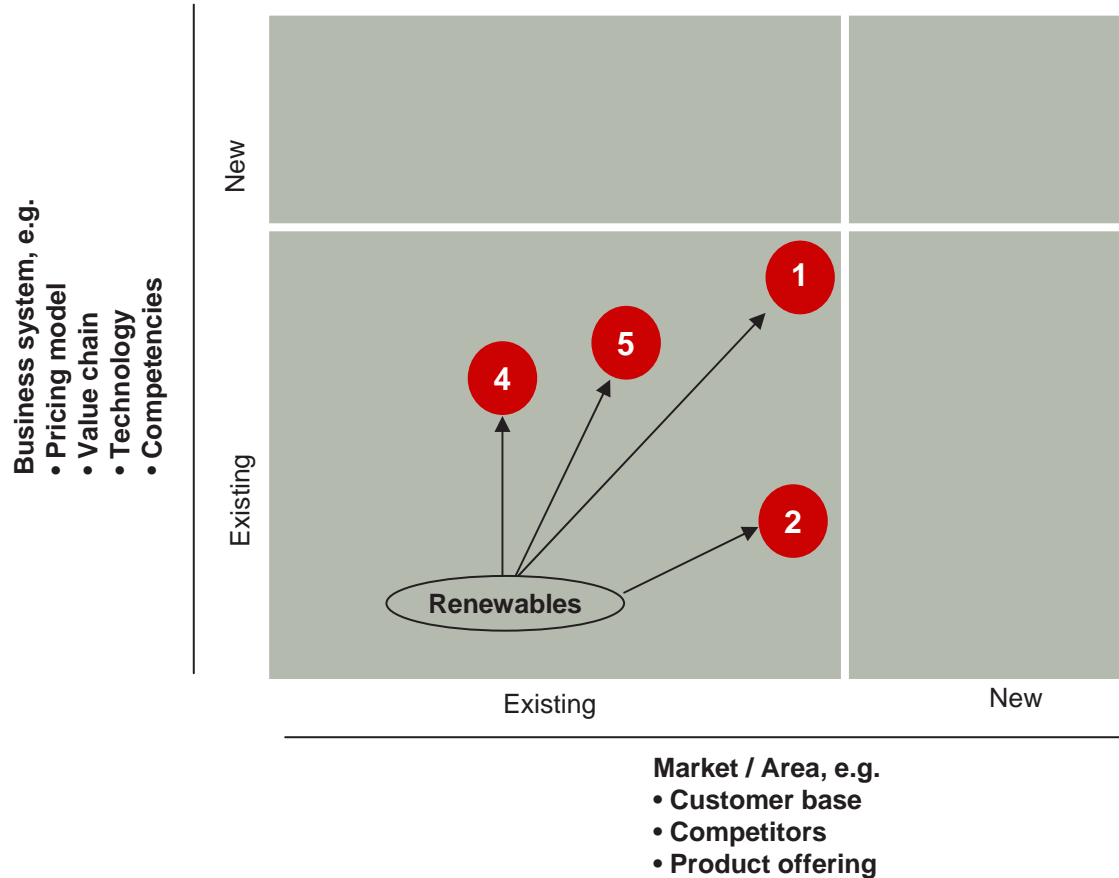
Project name	Country	Total MW	Renewables' share (%)	Renewables' share (MW)	Partners	Expected commercial operation
Barrow	UK	90	50%	45	Centrica	2006
Burbo Banks	UK	90	100%	90		2007
Walney I+II	UK	165+435	100%	165+435		2010
West of Duddon	UK	500	33%	165	Scottish Power and Eurus	2010/2012
Shell Flat	UK	270	33%	90	Scottish Power and Shell	2011
Scarweather Sands	UK	108	50%	108	E.ON UK	2009
London Array	UK	630+370	30.4%/27.6%	192+102	E.ON UK, Shell, Farm Energy	(Phase 1) 2010
Midtfjellet	Norway	140	80%	112	Fitjar Kraftlag	2009
Horns Rev II	Denmark	215	100%	215		2009
Rødsand II	Denmark	210	80%	168	E.ON Sweden	2010
Borkum Riffgrund	Germany	346 + 400	93%/97%	322 + 388	Plambeck Neue Energien	(Phase 1) 2010
Total		3,969 MW		2,597 MW		

In addition to these major projects, DONG Energy Renewables has an onshore pipeline of more than 1000 MW in Poland, France, Norway, Sweden and Spain/Portugal

- **Strategy and business concept**

Strategic way forward for DONG Energy Renewables

Focus on offshore development as well as pursuing attractive onshore and hydro power investments



Strategic avenues

- 1 Offshore wind**
 - Maintain a leading position in construction and operation of large offshore wind farms
- 2 Onshore wind**
 - Create an attractive onshore portfolio to ensure balanced growth
- 4 Hydro**
 - Increase portfolio as a qualified investor and attractive partner in hydro power, mainly within Norway. Move into majority ownership
- 5 Geothermal and other technologies**
 - Partner and gate-keeper of upcoming renewable technologies

Critical success factors for further expansion of the wind energy market

Political

- **No electricity market regulatory risk** - deregulation and market stability
- **Ambitious targets and adherence to renewable energy** - stable political support and policy frameworks
- **Favourable and predictable planning environment** - low consenting failure rate and no “red tape”
- **Pricing of environmental care (non-CO₂ effects)**
- **Public appreciation** – local pride rather than “Not in My Back Yard” sentiment in local community

Economic

- **Attractive power off-take** - either Government guaranteed feed-in tariffs or a well functioning Green Certificate market
- **Access to finance** - access to equity and good lending terms
- **Grant/soft loan availability etc** - to kick start the wind industry in pioneering countries or technologies
- **No national supply chain restrictions** imposed – open and transparent procurement of supplies for the projects

Technical

- **Easy grid connection** - possible to obtain grid connection in a cost effective manner; necessary investments in overall grid infrastructure committed early
- **Established infrastructure, supply chain and support staff** - to facilitate continued growth
- **Increasing size and efficiency of WTG's**

Project origination strategy

Project origination strategy

- DONG Energy Renewables intends to expand our business both through organic growth and acquisitions of project developers/project pipelines or individual projects
- DONG Energy Renewables preferred entry into a project is during the early phases of development to can make best use of our technical competences and create maximum value
- Acquisitions may be considered where synergies can be exploited



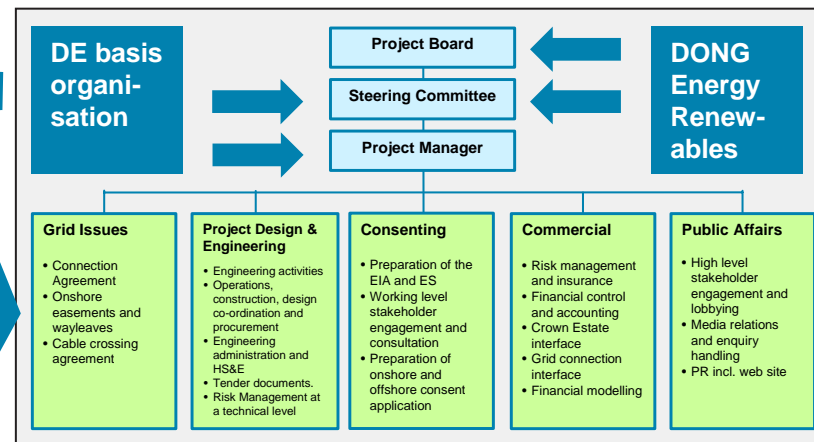
© S. A. "Ugrunden"

Our project development effort is backed by competent in-house wind expertise

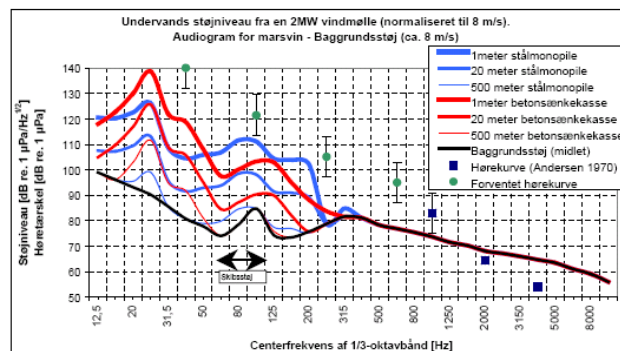
Project development strategy

- A specific wind project is usually developed by a Joint Venture set up by DONG Energy Renewables and the project partner(s)
- The Joint Venture establishes a dedicated project organisation to undertake the project development activities
- DONG Energy Renewables engages its own managerial, technical, environmental and commercial staff in the various functions in the project organisation
- DONG Energy Renewables undertakes shareholder responsibilities through positions at Project Board and Steering Committee levels

Typical project development organisation



DMU, Common seal



Et kombineret diagram der viser møllestøj, baggrundsstøj og marsvins målte og forventede hørekurve.



DMU: Red-throated diver

Project implementation with extensive use of in-house wind expertise



Project implementation strategy

- The implementation of a fully developed and consented project takes place on the basis of tendered and negotiated construction contracts
- DONG Energy pursues a multi-contracting strategy, where the wind farm is tendered in a number of packages (typically wind turbines including SCADA (SRO), foundations, array cabling and the electrical infra-structure)
- The strategy aims at developing maximum confidence that the most appropriate wind turbine (and supporting supplies) has been selected, while providing flexibility for the project company to retain, for as long as possible, the optimum risk-reward balance with contractors
- DONG Energy runs a demonstration turbine project, in which the company will test a number of turbines onshore, before they are erected at sea. A test turbine makes it possible to test design changes on a continuous basis and optimise the offshore wind turbines. In this way, DONG Energy's experience and know-how can be integrated into the development process, and it is possible to reduce technical and financial risks

DONG Energy Renewables wishes to engage directly in O&M of our wind assets in order to ensure high availability at reasonable cost



O&M strategy

- DONG Energy Renewables wishes to use its position as investor in the current portfolio to expand its competence in operation and maintenance of our wind assets
- DONG Energy Renewables has worked with O&M of both onshore and offshore wind farms and has built up considerable competence and experience. DONG Energy Renewables intends to use its competence in future projects by being directly involved in management and performance of the O&M task
- DONG Energy Renewables must be able to undertake the role as operator in order to ensure the existence of an alternative to few or only one OEM (monopoly), and thereby ensure competitive prices on O&M of our investments
- The challenge to maintain high availability at reasonable cost must not be underestimated
- In order to minimise our risk from operating under other legislative frameworks and on “unknown territory” DONG Energy Renewables wishes to join forces with adequate, local industrial partners experienced in handling local operation procedures and with a good standing with authorities (marine, aviation, etc)





Thank you for your attention!