

# WindEnergy

Network Rostock



Sustainable Solutions

## Turning Power into Business



Gefördert aus Mitteln der Europäischen Strukturfonds

Mecklenburg  
Vorpommern



*MV tut gut.*

coordinated by:



# Wind Energy Network Rostock

## The wind power cluster in Northeast Germany

Bent Christoffer, Coordinator

Venice, 29<sup>th</sup> september 2010

## Agenda

- Germany's wind power market
- Wind power in Mecklenburg-Vorpommern
- Success Stories in Mecklenburg-Vorpommern
- Wind Energy Network Rostock
- Perspective: Offshore wind farm projects in Germany and Mecklenburg-Vorpommern
- You are interested and want to know more?

## Germany's wind power market

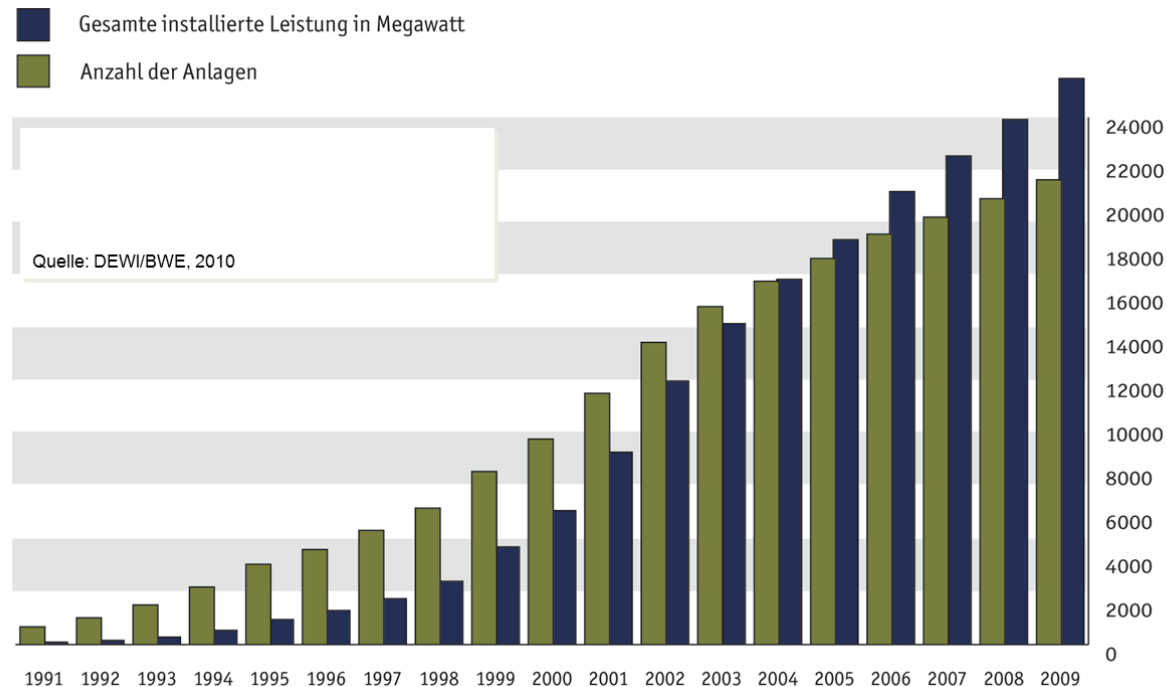
- total installed wind power (capacity): 26.386 MW (june 2010)
- number of installed windmills: 21.315
- share of net energy consumption: 8,83%
- electricity generation: > 47 bn. Kwh
- nearly 2/3 of newly installed turbines had a nominal capacity of 2 MW or more
- employee on the branch (Germany): 100.000
- turnover wind manufacturer (Germany): 6,4 bn Euro (= 17,5 % of global turnover)
- investments in Germany: 2,1 bn Euro

**Wind power industry in Germany → benchmark, competitive, environmental**

DEWI, 30.06.2010, BWE, GTAI

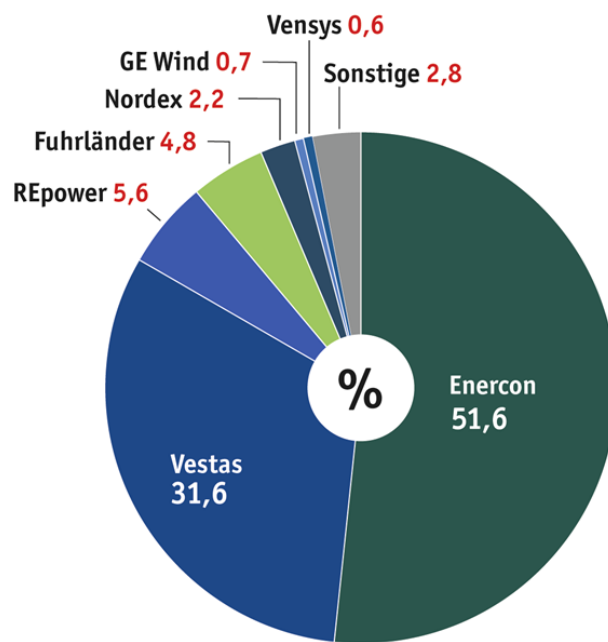
## Germany's wind power market

- Development of the total installed wind power (capacity) and number of installed windmills in the last 20 years

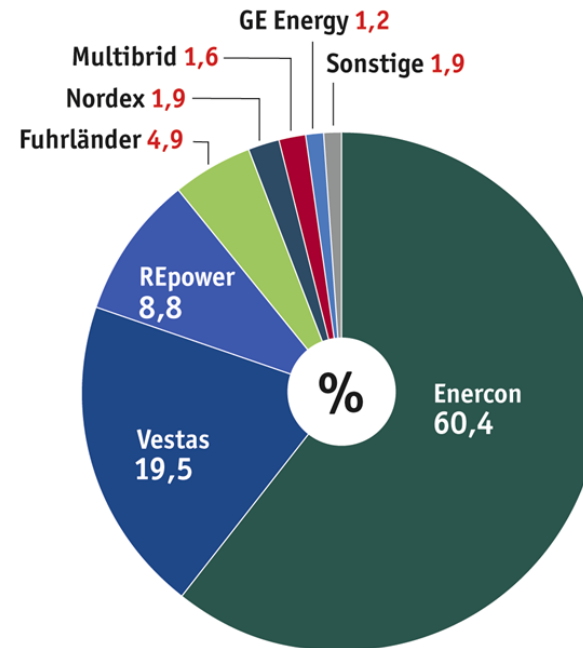


## Germany's wind power market

- Market share of the new installed windmills in Germany (onshore)



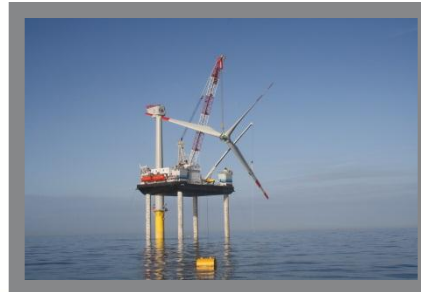
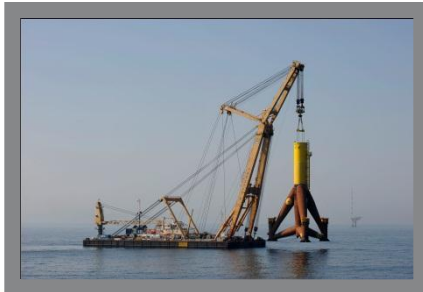
2008



2009

## Wind power in Mecklenburg-Vorpommern

- one of the leading regions in the wind power sector
- as a competence center for onshore and offshore wind power, **the Hanseatic City of Rostock, the economic heart of MV** plays a leading role in the industrial development of the branch
- companies of the entire value chain from conception through production to maintenance are located here
- whether foundations, jackets, towers, turbines and nacelles or rotor blades – **all products are manufactured here "Made in Mecklenburg-Vorpommern"**
- research partners of the wind power sector are the universities and colleges of the state, as well as public and private institutes.



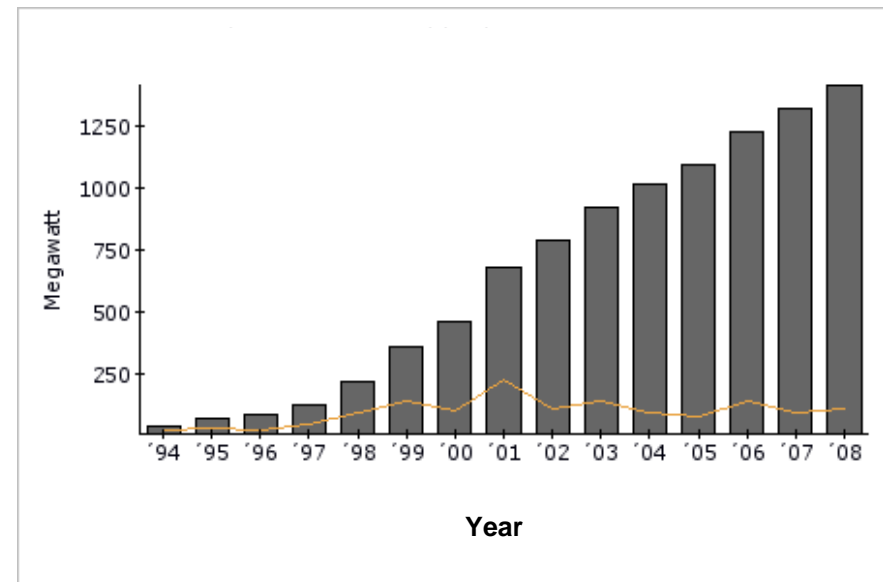
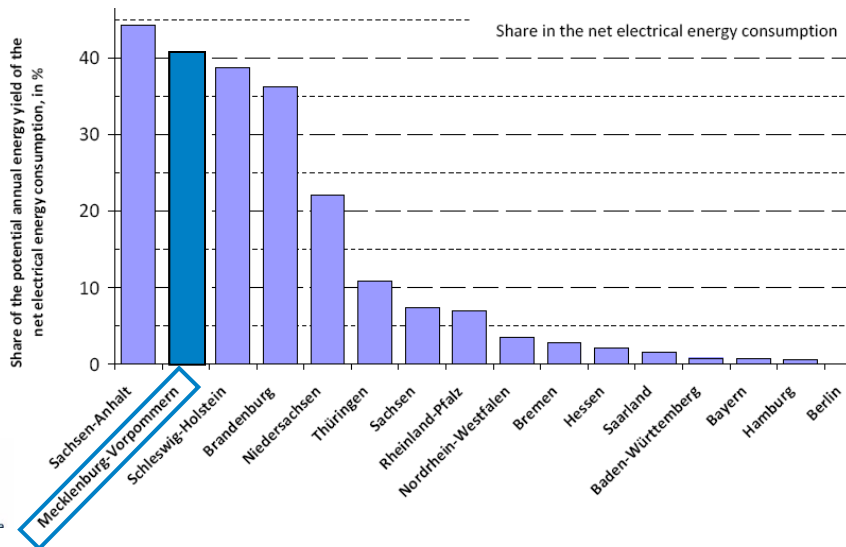
## Hanseatic City of Rostock – The economic heart of Mecklenburg-Vorpommern – BEST STRATEGIC LOCATION

- Hanseatic city of Rostock is the economic center No. 1 in the northeast of Germany
- region with approx. 500,000 inhabitants
- Gate to the Baltic Sea area, one of the economically rising regions of Europe
- Hub for the strategic axes Copenhagen & Berlin and Hamburg & Stettin
- Located near to the planned offshore windfarms
- Water-, road and air traffic are intelligently linked in Rostock
  - Highway A19/A20 and Airport Rostock-Laage
  - Seaport of Rostock
    - deepest German Baltic Sea port 14,5m)
    - without tides, short ship canal, direct highway connection



## Wind power in Mecklenburg-Vorpommern - Status

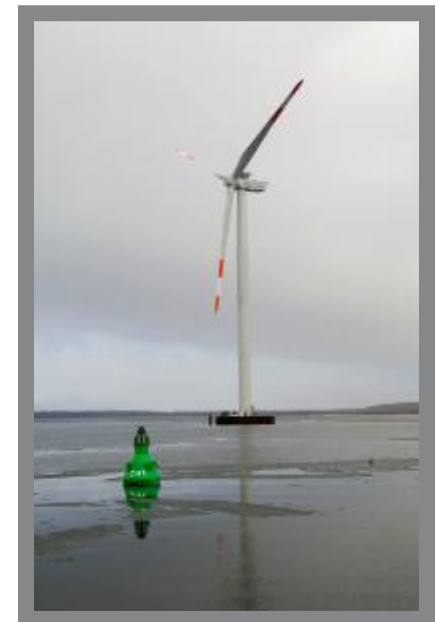
- Accumulated installed capacity of wind power grows every year in MV
- 2010: 1.522 MW are installed in MV (1.348 wind power units onshore)
- MV is in the fore in comparison with the federal states in Germany



## Success Stories in Mecklenburg-Vorpommern

### Nordex Energy GmbH

- R&D and manufacturing of complete wind turbines (multi-megawatt class) and own blade production in the city of Rostock
- installation of Germany's first offshore wind turbine in the harbor area of Rostock in 2006  
(picture)
- since 2008: building of new production halls with a total floor area of more than 52,500 square meters → investment of EUR 86 million
- in a first step, Nordex will be extending its annual rotor blade production around 1,000 megawatts.
- 1.000 jobs created through Nordex, further growing



## Success Stories in Mecklenburg-Vorpommern



### EEW Special Pipe Constructions GmbH

- traditional strength of EEW is the production of large diameter, thin and heavy wall thickness pipes in carbon and stainless steels.
- pipe fabrication was established in 2008 and is situated in the seaport of Rostock with direct access to the loading quay
- product range for the offshore wind power, oil and gas process plant and steel construction industry
- pipes with diameters up to 7 m, lengths up to 120 m and weighs up to 1,000 t can be manufactured
- 300 jobs were created through EEW and EUR 60 million have been invested, further expansion



## Success Stories in Mecklenburg-Vorpommern

### Liebherr-MCCtec Rostock mbH

- has built an additional production location with an overall area of 220,000 square metres in the Rostock harbour area
- manufacture large machines with tare weights of up to 500 t.
- the production of maritime cranes in Rostock has been started in the course of 2005
- 800 jobs were created; investment of EUR 190 Mio.
- **new: manufacturing of offshore cranes with a lifting capacity up to 2,000 t**

**LIEBHERR**



## Wind Energy Network Rostock – History

- 1999: the company Wind-projekt (located near to Rostock) started with the planning of the first offshore windfarm projects “Baltic 1” and “Kriegers Flak” frontshore to Western-Pomerania
- Local companies asked for a network to establish and develop the wind power branch in the region of Rostock
- since 2002 regular meetings of the „Offshore-Planungskreis Rostock“ started

- 22th July 2005: Association was founded „OFFSHORE ENERGIES Competence Network Rostock e.V.“

→ key aspect of activity: offshore wind power



- 3rd february 2009: association was renamed into „Wind Energy Network Rostock e.V.“  
→ key aspects of activity: onshore and offshore wind power → the solution network



## Wind Energy Network Rostock – association's tasks

- Network supports the further development of the wind power branch in Mecklenburg-Vorpommern
  - through active lobbying work
  - company networking
  - the pooling of information and know-how
  - the representation of the network at trade-fairs
  - settlement of new companies from the wind energy industry and the creation of new jobs
- help you to establish in Mecklenburg-Vorpommern and find partnerships in the branch with strong local expertise
- strategic branch to industry development
- Network is coordinated by Rostock Business – the economic development agency of the Hanseatic city of Rostock

**Our self conception – Turning Power into Business!**



## Wind Energy Network Rostock – member

- **presently over 70 companies across the complete value chain** are member in the network
- with competence in field of offshore and onshore wind power – from planning and consulting, over building to construction and operation
  - Planning & Conception (engineering, testing, project planning) – GICON, Wind-projekt
  - Turbine Manufacturer – Nordex, e.n.o. energy
  - Suppliers – KGW, Eikboom
  - Realisation (logistic, services, grid connection) – Fairplay, Baltic Taucher
  - Research – Fraunhofer, Shipping Institute
  - Consulting, Financing, Qualification – DKB, AFZ, bfw



Sustainable Solutions  
Engineering Excellence

Turning Power into Business

Concentrating Know-how  
First Class Recruitment

# Our networking partners (Status sept 2010)



## Wind Energy Network Rostock – Key aspects of activity

- **Wind Energy business – strategy, networking and cooperation, new markets**

The association coordinates the collaboration, network building and expansion of the membership base as well as the cooperation of companies, facilities and institutions. It represents member interests towards trade associations and other organisations. Sector observations and the initiation of strategies for the opening up of new markets for companies allow adaptation to current requirements.

- **Wind Energy science – research & development, looking for trends, new products**

Together with science, the association initiates research and development themes. Here it is the further development of components for wind energy converters that come to the fore. Turbines with capacity up to 10 MW, new types of foundation structures - such as floating offshore foundations - new lightweight materials and network integration are themes of the future that require scientific know-how. The society researches and disseminates sector information, research and development results and contact with those with expertise.

## Wind Energy Network Rostock – Key aspects of activity

- **Wind Energy campus – qualification and recruitment**

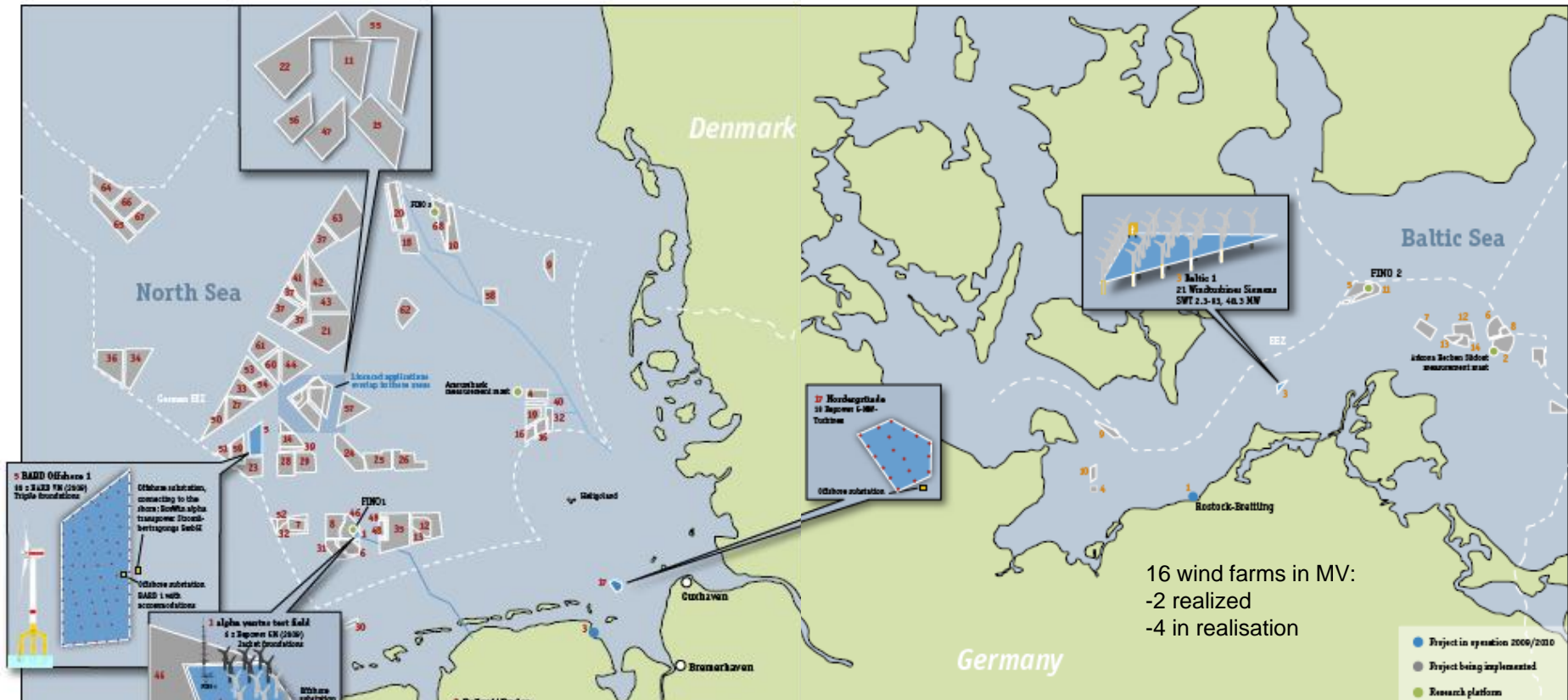
The association supports its members with staff recruitment. Its aim in particular is to initiate education and qualification measures. New job descriptions for the fields of service and maintenance in the offshore wind energy market offer the potential for highly specialised jobs. Also the planned education of wind energy engineers at universities and technical colleges creates conditions for gaining qualified employees on location

- **Wind Energy services – presentation on fairs, events and public relations**

The association serves as a sector company platform for the display and presentation of regional sector expertise. Through press and public relations work and community appearances at national and international sector trade fairs and events, awareness is promoted of the innovative, structure-defining economic sector of wind energy. Members have the opportunity to use this marketing platform for individual presentation, customer service and acquisition.

## German Offshore Wind farm Projects

- app. 80 offshore wind farm projects are planned in the North and Baltic Sea
- 25 projects are permitted



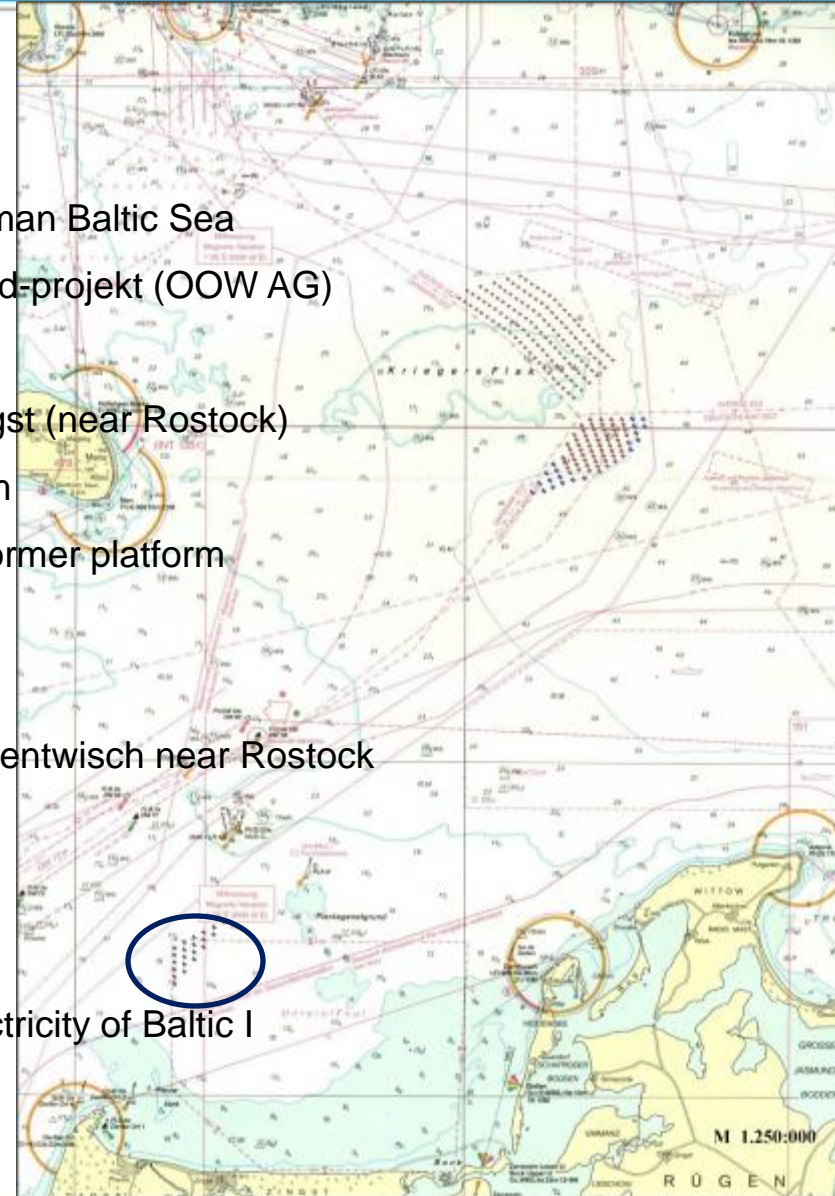
## Wind power in Mecklenburg-Vorpommern

- Projected offshore wind farms in the Baltic Sea – Vision come true



## Offshore Windfarm EnBW Baltic 1

- the first commercial offshore wind farm in the German Baltic Sea
- Project was developed and projected by wpd / wind-projekt (OOW AG)
- realized and operated by EnBW
- 16 km north of the peninsula Fischland-Darss-Zingst (near Rostock)
- total area of 7 km<sup>2</sup> with a water depth of 16 to 19 m
- 21 windmills of Siemens (2.3 MW) and one transformer platform
- height of the facilities up to 114 m
- output of the the offshore wind farm: 48.3 MW
- power feed to the 380-kV transforming station in Bentwisch near Rostock
- grid connection with 150-kV AC cable, 76 km
- installation started July 10<sup>th</sup>, 2009 (50 Hertz)
- scheduled start of operations by the end of 2010
- around 50,000 households will be supplied by electricity of Baltic I

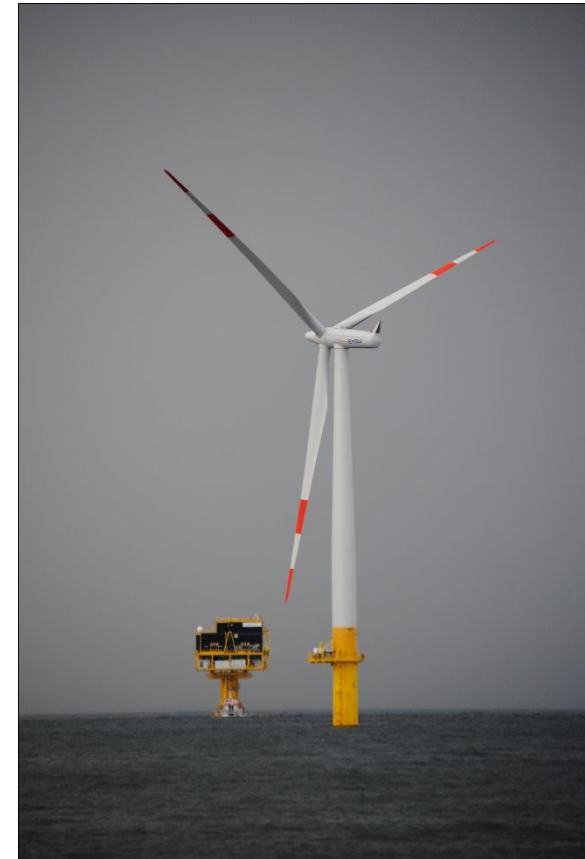
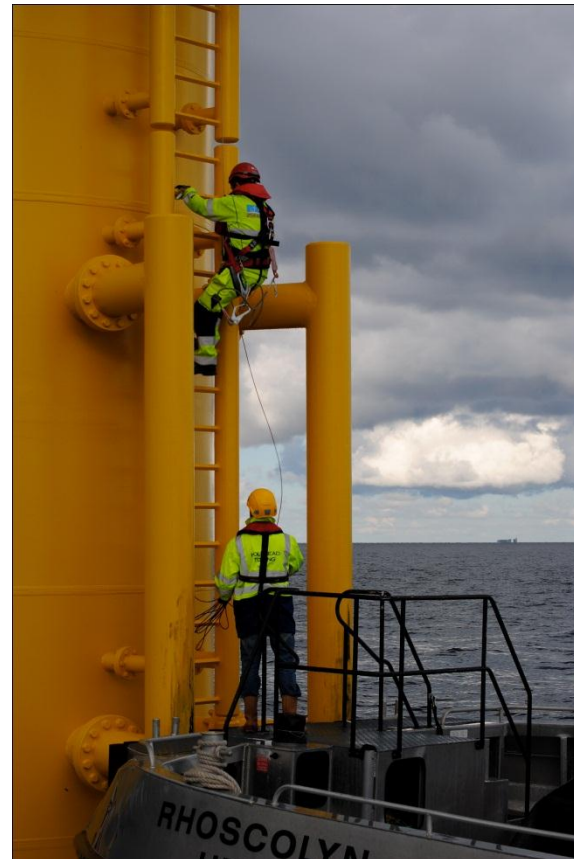


## Offshore Windfarm EnBW Baltic 1 – impressions

- the first commercial offshore wind farm in the German Baltic Sea
- Building of the 21 windmills was finished at the beginning of September



## Offshore Windfarm EnBW Baltic 1 – impressions



## Offshore Windfarm EnBW Baltic 1 – impressions



Invest in the future – Invest in wind power in Mecklenburg-Vorpommern

**Mecklenburg-Vorpommern can be one partner for wind energy in the North-South Region**

MV has:

- longterm experience on- and offshore
- a powerful network of wind energy companies
- attractive sites and real estate close to the sea → advantage berthline
- opportunities in the development of offshore and onshore projects
  - 16 wind farm projects are planned frontshare MV
  - new technology create new jobs for the future
- dedicated people with a maritime background
- the right attitude - Government of MV supports as partner the development of the wind power industry

**We are a wind cluster, because we have a powerful network with opportunities.**

Turning Power into Business

You are interested and want to know more? – We are looking forward to contacting you ...

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Thank you for your attention.

