

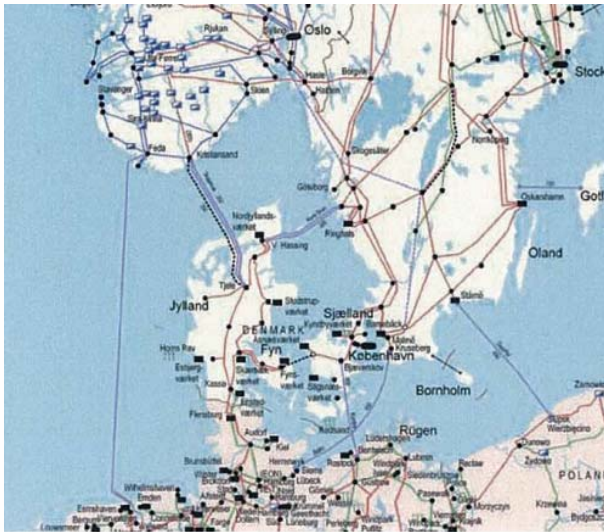


Public Data for wind power generation

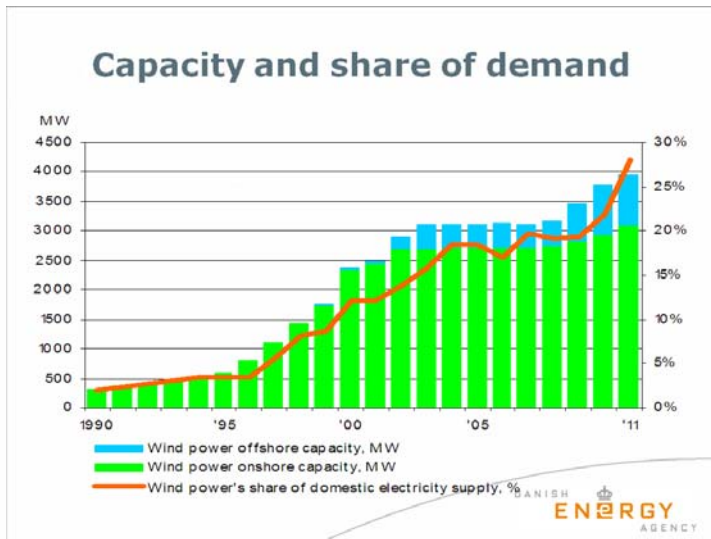
Facilitates focus on quality and smoothens integration

15 November 2012

Wind and integration



- Wind generation equals 28% of domestic demand for electricity in Denmark in 2011
- Is expected to reach 50% on an annual level in 2020
- Several reasons that it is made possible:
 - The well known reasons:*
 - Interconnectors
 - Market incentives to flexibility of other generation
 - The Less known reasons:*
 - High precision forecasting
 - Reliability of turbines



Obligation to deliver data

- Historical publication of generation data on voluntary basis from 1980'ies
- From 2004 required by legislation
- Act on promotion of RES requires that turbine owners deliver all necessary data to TSO
- TSO register maintained by local grid companies
- Production figures are basis for payment of subsidy
- Danish Energy Agency receives monthly updates to be published on the Internet

- Covers all turbines and gives a complete picture of generation pattern now and historically

www.ens.dk

Register of wind turbines

www.ens.dk/en-US/Info/FactsAndFigures/Energy_statistics_and_indicators/OverviewOfTheEnergySector/RegisterOfWindTurbines/Sider/For

Home About us Media Links Sitemap Contact Dansk Searchword

DANISH ENERGY AGENCY

LEGISLATION NEWS PUBLICATIONS FACTS & FIGURES

OIL AND GAS SUPPLY CONSTRUCTION CONSUMPTION AND SAVINGS CLIMATE AND CO2 POLICY

Legislation News Publications Facts & figures

You are here: » Frontpage » Info » Facts & figures » Energy statistics » Overview of the energy sector » Register of wind turbines

PRINT

Register of wind turbines

The register of wind turbines is a national database which contains all Danish power producing wind turbines. The register has information on location, size and output for each wind turbine.

Data from the register in Excel format

The register data are available in two different Excel format versions.

One version contains site and power output data of all wind turbines. The data are organized in two groups: one of operating and one of decommissioned wind turbines.

[Data on operating and decommissioned wind turbines \(as at end of September 2012\)](#)
Uploaded 26/10/12

Another version contains solely data on operating wind turbines. This version contains in extent links to the Danish Energy Agency's map server.

[Data on operating wind turbines incl. map links \(as at end of February 2009\)](#)

Interactive map of wind turbines

You can also choose to view Denmark's wind turbines on The Danish Energy Agency's interactive map server. Click on the

CONTACT

Iben B. Spliid
Energy Supply
Phone: +45 3392 4946
» is@ens.dk


WIND POWER OUTPUT MONTHLY DATA

- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002

- Search for 'Danish Register of Wind turbines'
- Large excel sheet online
- Updated monthly

A wealth of information online

Detailed turbine characteristics:

5													The XY coordinates are il	
6	2012.10.26												Coordinates primarily fro	
7	Turbine data for non-decommissioned turbines (data for decommissioned turbines appears on the next bookmark):												otherwise from Master d.	
8														
9	Turbine characteristics						Location:							
10	Turbine identifier (ID)	Date of original connection to grid	Capacity (kW)	Rotor diameter (m)	Hub height (m)	Manufacture	Type designation	Local authority no	Local authority name	Type of location	Cadastral district	Cadastral no.	X (east) coordinate	
19	57071470000000959	27-06-1994	450	37	35	BONUS	150 - MK III	316	Holbæk	LAND	Svinninge By, Svinninge	15c	653370,47	
20	57071470000000966	27-06-1994	450	37	35	BONUS	150 - MK III	316	Holbæk	LAND	Svinninge By, Svinninge	15c	653353,53	
21	570714700000003165	22-04-1999	550	41	35	Nordtank	NTK 55	316	Holbæk	LAND	Gudmandstrup By, Svinnir 1d		653524,63	
22	570714700000003172	22-04-1999	550	41	35	Nordtank	NTK 55	316	Holbæk	LAND	Gudmandstrup By, Svinnir 1e		653526,96	

Historic production figures (monthly figures for actual year):

		Production data										Note that production figures for some turbines are measured per quarter, and monthly statements should be used making due allowance for this.
		Historic production figures (kWh):										
		1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Distribution company installation number	Type of grid connection											
1800105									15.530	75.940	94.440	73
1801130										44.450	65.550	56
01-71276												
01-71276												
40101943												
9700170												5
60037226												
21819							9.729	17.694	17.964	14.120	17.491	14
143677											30.996	152
148408								4.701	8.181	6.431	7.966	
25143											1.702	25
159478												62
162469												

September 2012 version contains data for

- 4972 producing turbines
- 2604 decommissioned turbines

What is it good for?

- Full transparency of reliability of each turbine
 - Potential investors are able to compare across types of turbines
 - Essential in research and development
 - Puts pressure on manufactures and delivery of quality
- Full information of generation pattern
 - Enables development of sophisticated predictability tools
 - TSO able to rather precise forecasts
 - Reduces payment to balancing and reserves
 - Used by authorities when efficiency of subsidy schemes are assessed or changes in regulation are prepared.

Conclusion

- The existence of detailed and public available generation data has eased the challenge to cope with a large amount of variable generation
- A valuable tool for investors, manufacturers, TSO and authorities