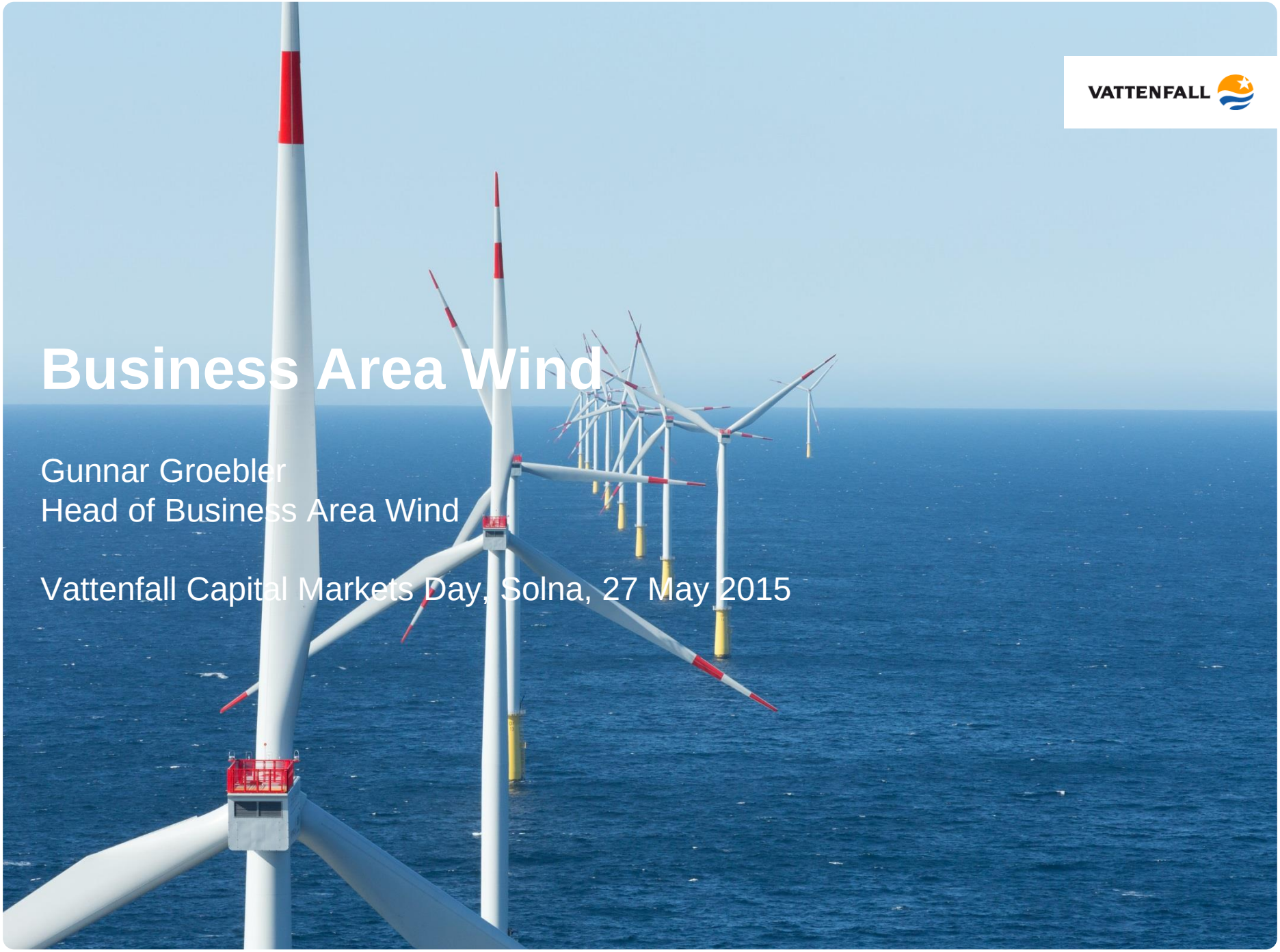


Business Area Wind

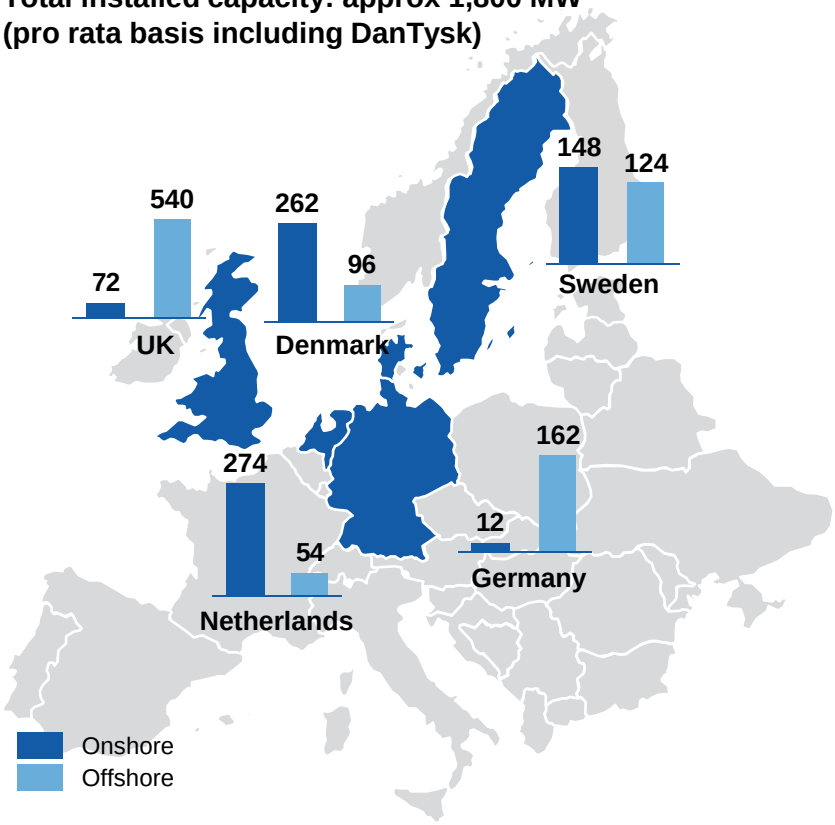
Gunnar Groebler
Head of Business Area Wind

Vattenfall Capital Markets Day, Solna, 27 May 2015

Facts and figures – Business Area Wind

Vattenfall is #2 in offshore wind in Europe and #1 in onshore wind in Sweden and the Netherlands

Total installed capacity: approx 1,800 MW (pro rata basis including DanTysk)



	2014
Installed capacity – onshore (GW), consolidated	0.7
Installed capacity – onshore (GW), pro rata	0.8
Installed capacity – offshore (GW), consolidated [1]	1.1
Installed capacity – offshore (GW), pro rata [1]	1.0
Electricity generation (TWh), consolidated	4.1
Electricity generation (TWh), pro rata	4.3
Investments (MSEK)	6,522
Number of employees (FTE)	~530

1) Including DanTysk, 288 MW offshore wind farm, of which Vattenfall owns 51%

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Vattenfall's largest wind farms

Total installed wind power capacity: Approx. 1,800 MW

Country	Wind farms	Type	Number of turbines	Installed capacity (MW)	Owner-ship (%)
UK	Thanet	Offshore	100	300	100
Germany	DanTysk	Offshore	80	288	51
Denmark	Horns Rev	Offshore	79	158	60
UK	Ormonde	Offshore	30	150	100
NL	Princess Alexia	Onshore	36	121	100
Sweden	Lillgrund	Offshore	48	110	100
NL	Egmond aan Zee	Offshore	36	108	50
UK	Kentish Flats	Offshore	30	90	100
Sweden	Stor-Rotliden	Onshore	40	78	100

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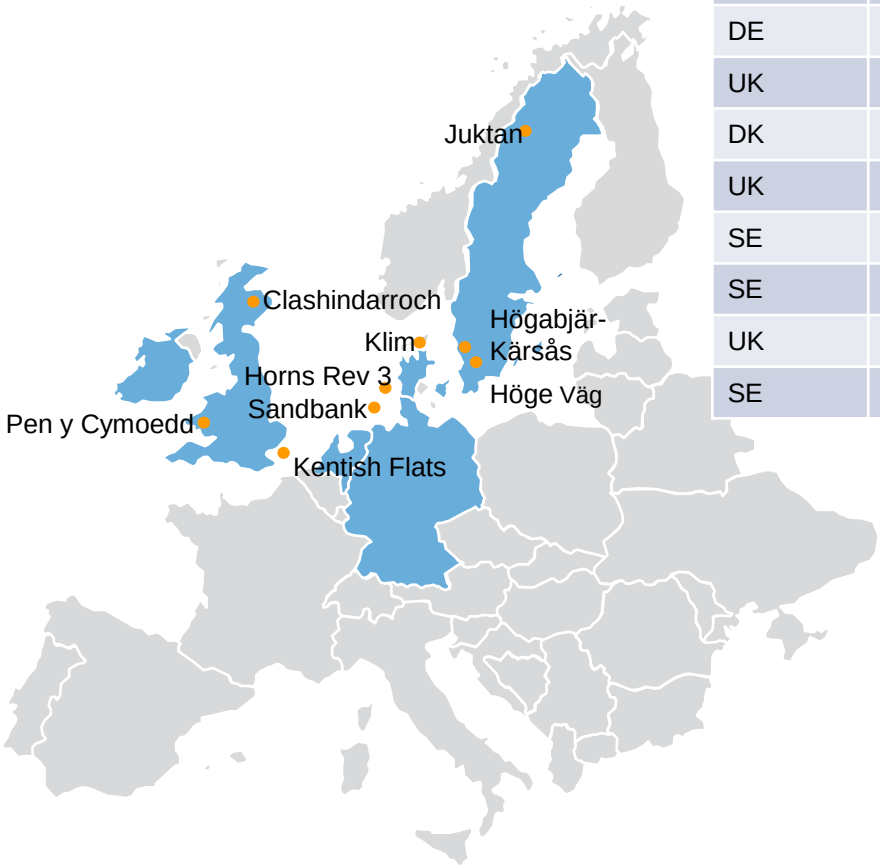
Major wind projects



Country	Wind farms	Type	Installed capacity (MW)	Owner-ship (%)	Commission-ning
DK	Horns Rev 3	Offshore	400	100	2019
DE	Sandbank	Offshore	288	51	2016
UK	Pen y Cymoedd	Onshore	228	100	2016
DK	Klim (repowering)	Onshore	67	100	2016
UK	Kentish Flats Ext.	Offshore	50	100	2015
SE	Högabjär-Kärsås	Onshore	38	51	2015
SE	Höge Väg	Onshore	38	51	2015
UK	Clashindarroch	Onshore	37	100	2015
SE	Juktan	Onshore	29	51	2015

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Overview of regulatory regimes in Vattenfall's main markets

		Sweden	UK	Germany	Netherlands	Denmark
Onshore	Subsidy system	• Certificate price paid on top of electricity spot price	• Auctioned contract for Difference (CfD) introduced in 2014 • Tariff paid on top of electricity spot market prices	• Fixed feed-in tariff system • Auctions to start in 2017	• SDE+: Budget based auction • Tariff paid on top of electricity spot market prices	• Feed-in premium on top of electricity spot price (currently no auctioning)
	Level & duration	• Price determined in certificate market • Currently 15-20 €/MWh, for 15 years	• First auction result: ~108€/MWh for 15 years	• Depending on wind conditions: 89 €/MWh for 5 to 20 years; 49.5 €/MWh for the remaining max 15 years	• Tariffs ranging from 87-121€/MWh, depending on wind speeds	• 33.5 €/MWh paid for ~22,000 full load hours
	Comment	• Potential extension of system post 2020 (alternative auctioning)	• Transition period from Renewables Obligation Certificate (ROC) scheme until 2017	• Decrease of feed-in tariff if 2.6 GW net addition/year exceeded • Auctioning system is being developed	• Fixed yearly budget for Renewable Energy awarded in several yearly phases	
Offshore	Subsidy system	• Certificate system (same as onshore)	• CfD / ROC (similar to onshore, but separate auction)	• Fixed feed-in tariff-system • Auctions to start in 2017	• New auctioning system will be introduced this year • Central auction system	• Auctioning system – projects awarded to developer with lowest feed-in premium
	Level & duration	• (as above)	• First auction result: ~143€/MWh for 15 years	• Choice between 154 €/MWh for 12 years or 194 €/MWh for 8 years	• n/a	• Auction result 2015: 103 €/MWh for the first 20 TWh
	Comment	• New offshore support under discussion • Sw. Energy Agency currently developing proposal	• Operator must carry costs of connection for national grid & divest it after commissioning	• Allocation of grid connection by Federal Network Agency • Tendering system is being developed	• Current expectation is that the system will be similar to the Danish auctions	• Grid costs covered by government

Note: This overview is strongly simplified. Please refer to the respective national regulatory authorities for more detailed and up to date information. All subsidies have been converted to Euros for illustrative purposes only.

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Focus areas

…a leading developer and operator of wind power in Vattenfall's markets

Challenges/Opportunities	Focus areas
• Profitable growth in Vattenfall's wind business	• Develop pipeline and align organisation with increased growth ambition • Develop and implement partnering models
• Regulatory stability in the short & medium term	• Auctioning as the normal (participate in offshore auctions) • Uncertainties through regulatory reforms (e.g. UK post election)
• Reduce dependency on subsidies for new wind projects in the long term	• Levelised Energy Cost (LEC) leadership • Explore new business models around renewable energy and its integration into the market
• Next generation operations & maintenance (O&M)	• Operating model • O&M excellence