

Energy for tomorrow

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Representative Berlin



EWE: Multiservice company and one of the largest corporations in Northwestern Germany.



2016

1.3 million electricity customers

1.8 million gas customers

780,000 telecommunications customers

Sales of € 7.6 billion

Net profit of € 332.9 million

Average number of employees 9,048





In the energy sector EWE covers a wide range of business areas.

- Renewable energies
- Conventional energies
- Trading of electricity & natural gas
- Intelligent & efficient infrastructure
- Underground natural gas storage
- Innovative products & services
- Research & development
- ...

Riffgat – the first commercial offshore wind farm in the German North Sea.



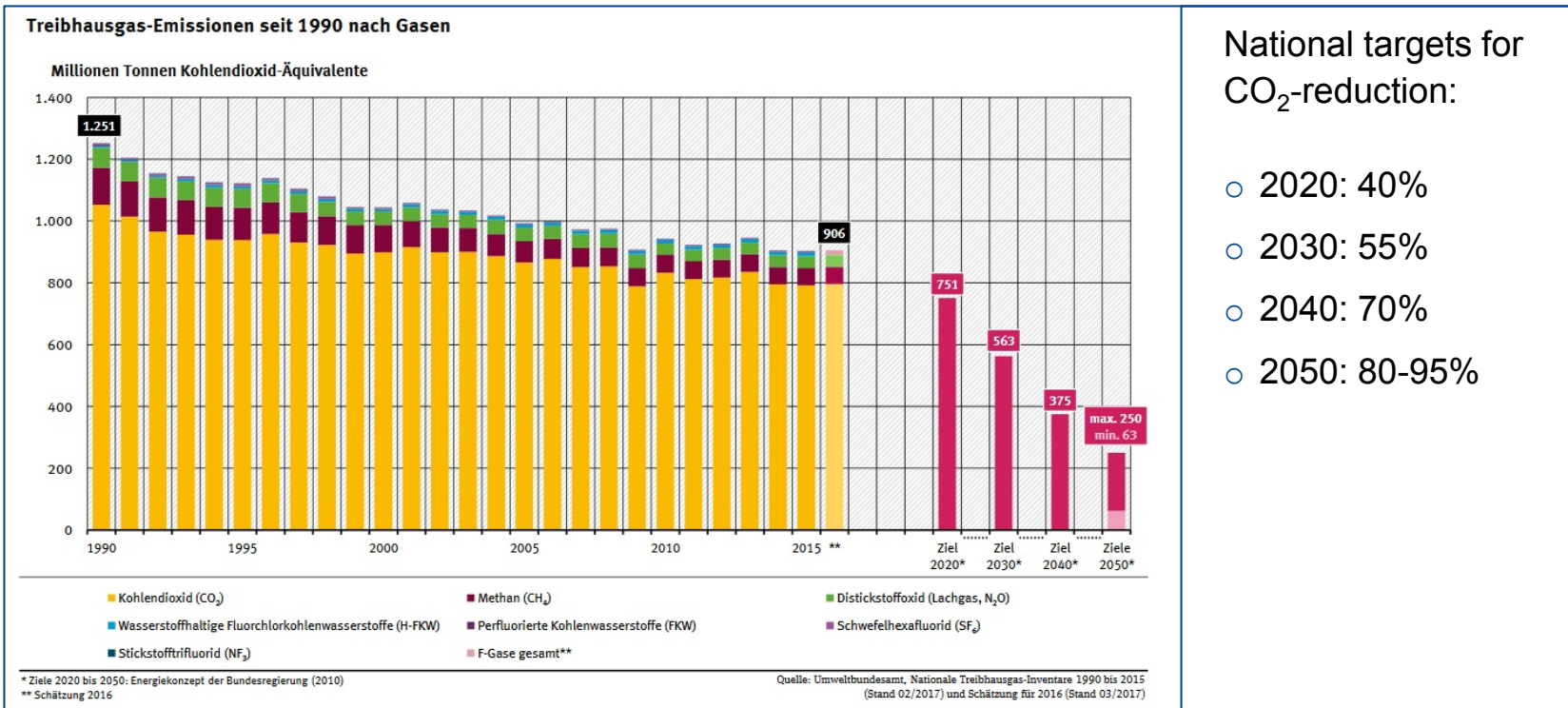
- 30 Siemens wind turbines with a total output of 108 MW
- Environmentally friendly eco-power for 120,000 households
- 15 km from Borkum
- Capital expenditure totalling EUR 450 million
- Connection to the network via 50 km of submarine cable and 30 km of underground cable



EWE operates in Germany, Poland and Turkey.



Germany has an ambitious agenda for climate protection.

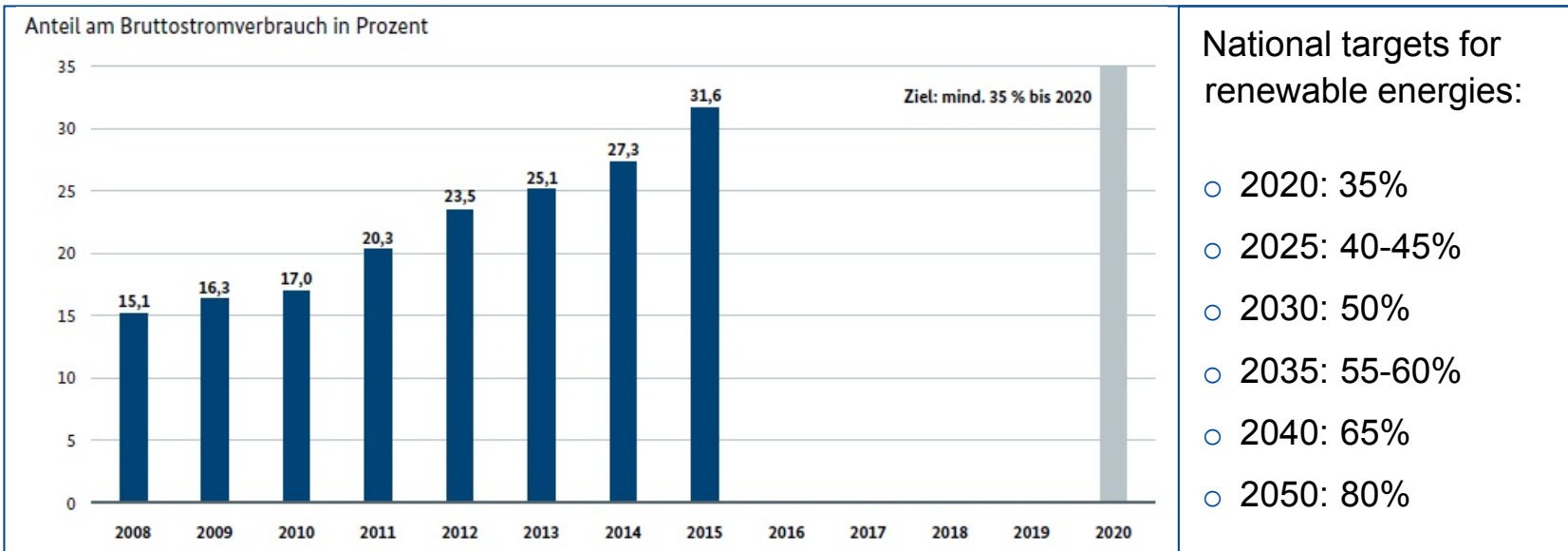


National targets for CO₂-reduction:





- 2020: 40%
- 2030: 55%
- 2040: 70%
- 2050: 80-95%

Quelle: German Federal Environmental Agency (2017)

Renewable energies already play an essential role in Germany's power supply.



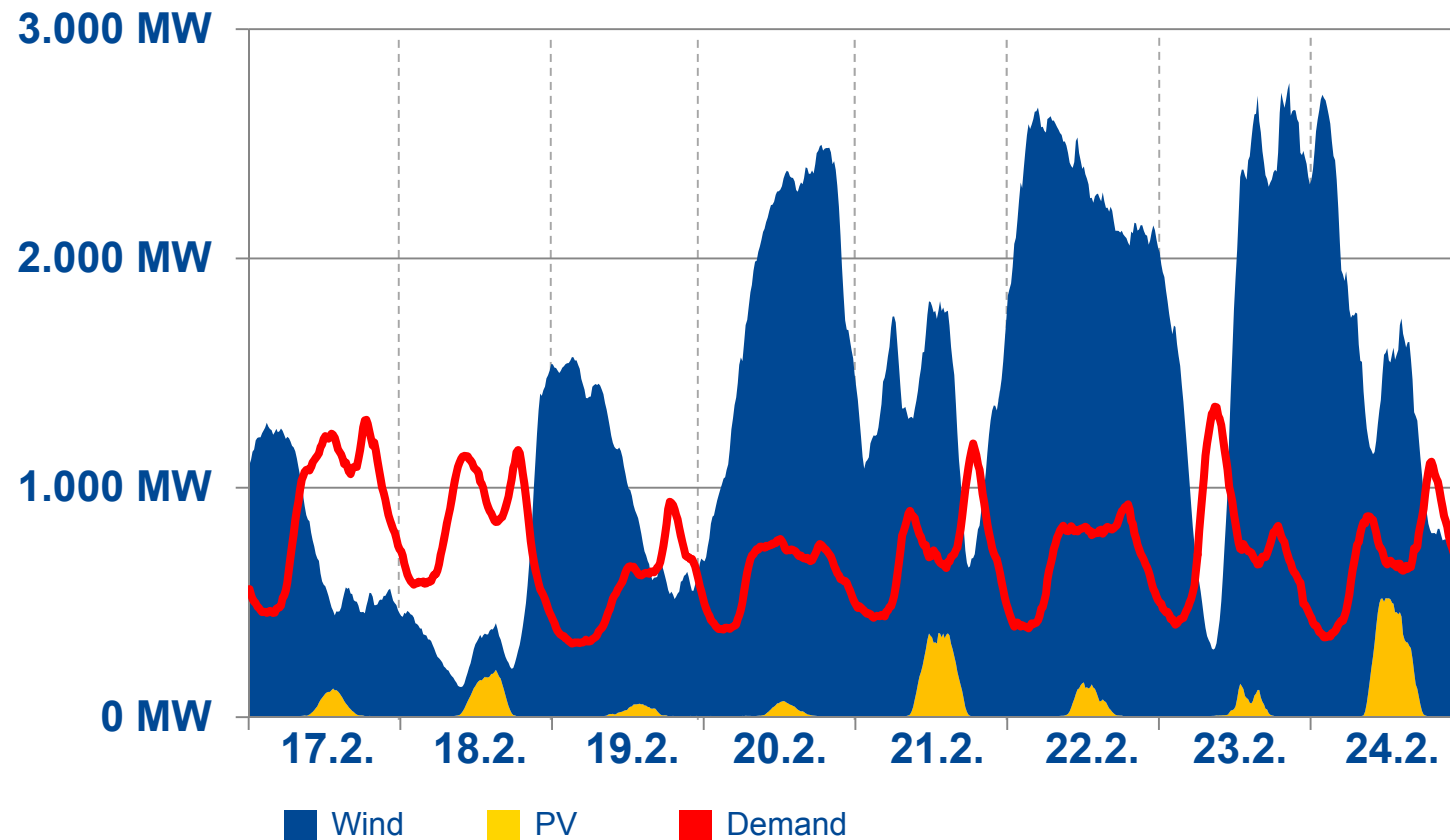
Annual increase of renewable energies according to Renewable Energy Law 2017

	Wind Onshore	2.800/2.900 MW		Photovoltaics	2.500 MW
	Wind Offshore	15.000 MW bis 2030		Biomass	150/200 MW

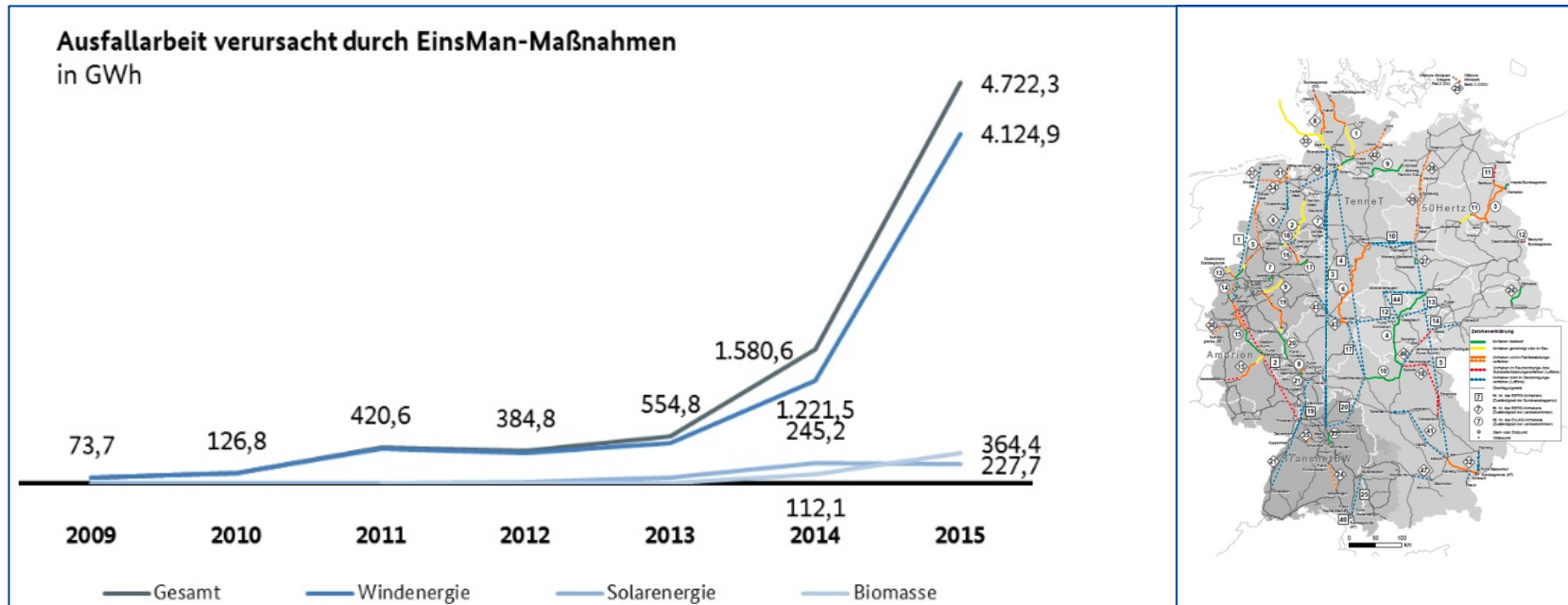
Many times power generation from renewable energies is not congruent with customer demand.



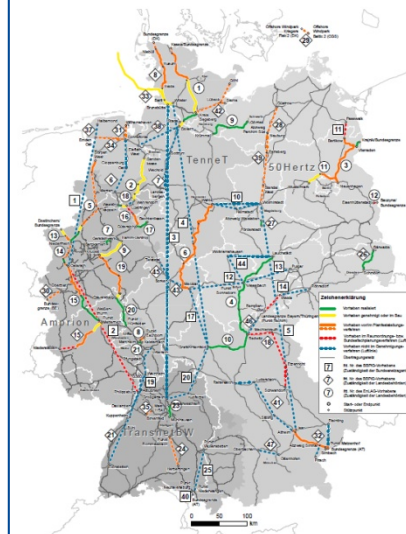
For example: Storm front „Thomas“ February 2017



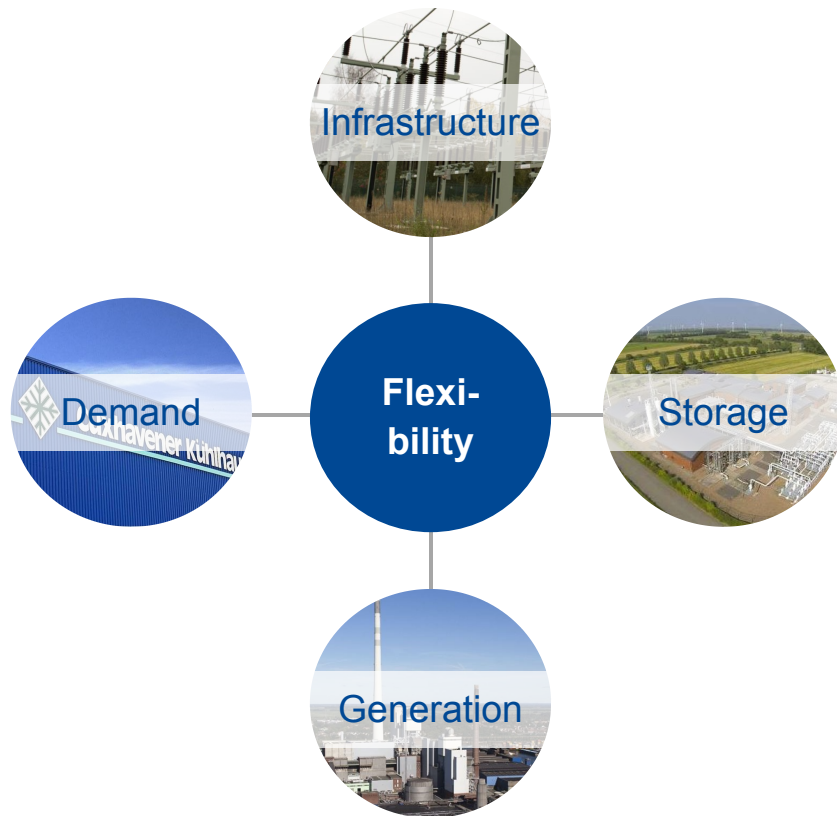
There is an increase in renewable energy shutdowns. Prime reason is the transmission grid.



Quelle: Federal Network Agency, Monitoring Report 2016 (2016)

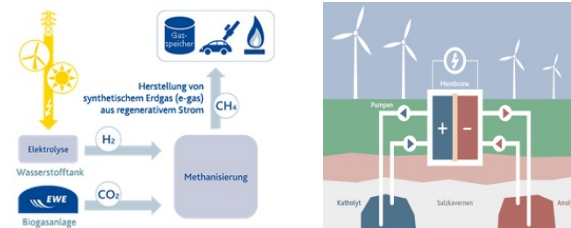


Flexibility is the key for bringing generation and demand in line.



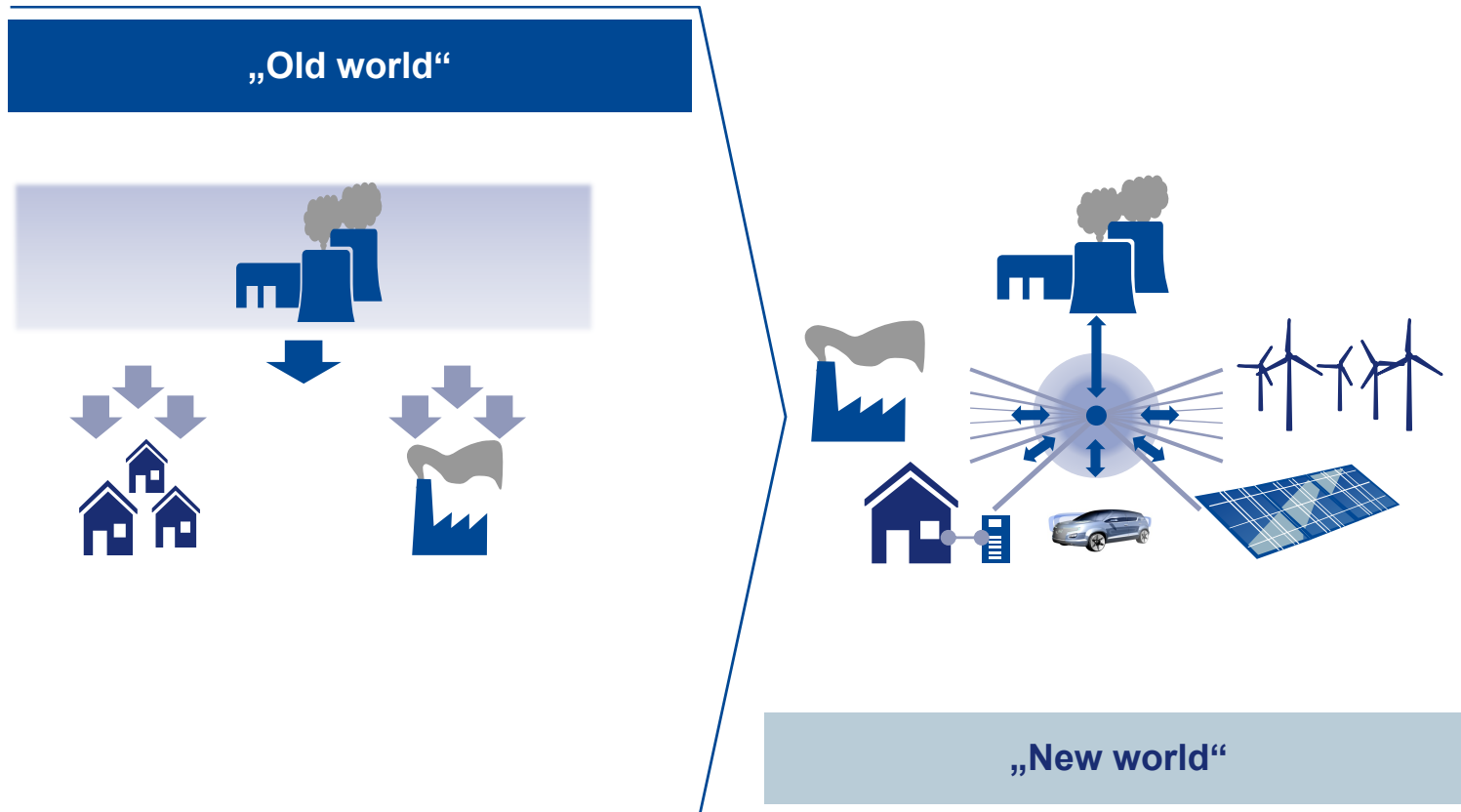
Important options:

- Extension, development of electricity grids
- Storage systems, power-to-gas etc.



- Fossil power plants, combined heat and power and biomass facilities
- Demand Side Management in industry, trade and (long-term) households

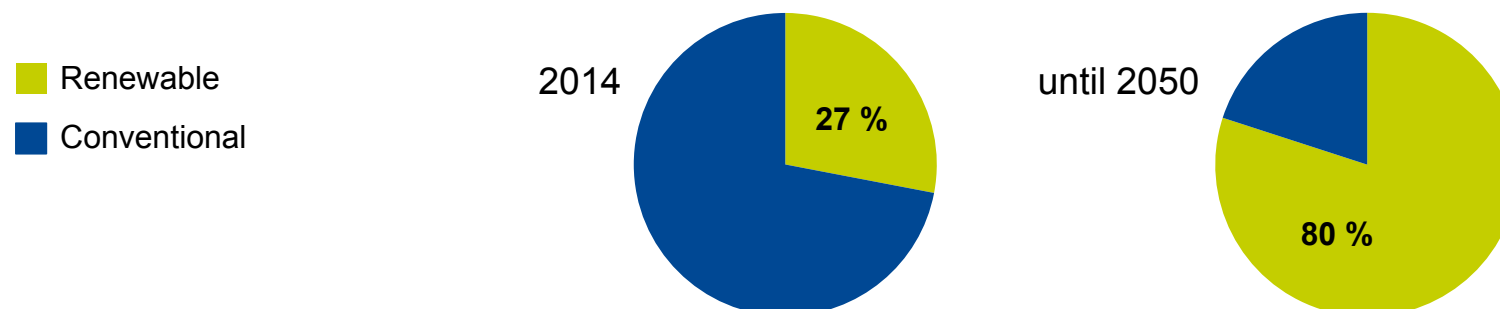
The new energy system is based on the integration and digital management of numerous local entities.



There is a strong growth of renewable energies especially in Northwestern Germany.

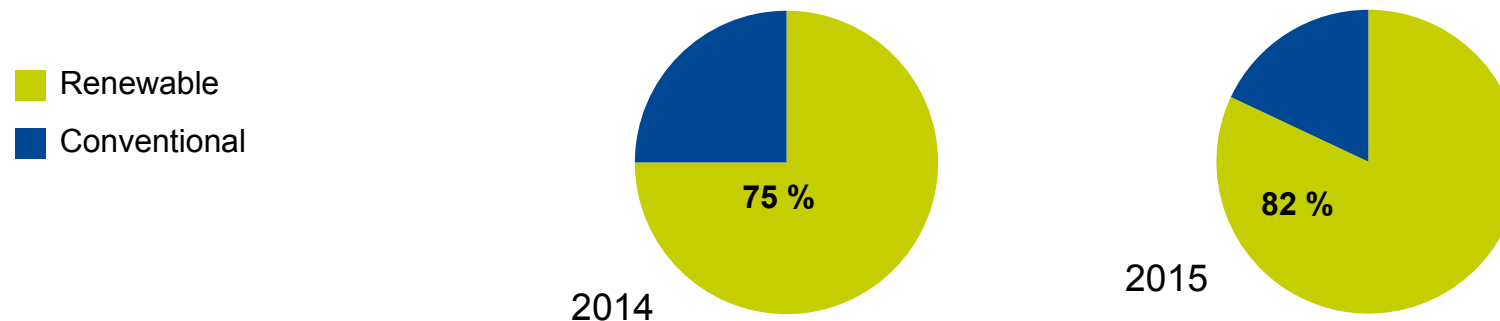
Targets Federal Government

Shares of renewable energies and conventional energies



EWE NETZ: Input volume

Shares of renewable energies and conventional energies in the EWE NETZ electricity grid



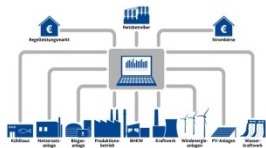
EWE develops and markets solutions for optimal integration of renewable energies.



- Home storage system, built up of PV- and battery unit
- Up to 70% of annual power consumption; several sizes



- Interaction of infrastructure, market and data
- Regional system services provided by local facilities



- Product „Intelligent Demand Side Management“
- Bundles and markets generation, consumer etc.



- Combining local batteries in an electricity cloud
- Optimal marketing of joint storage capacities



- Intelligent technologies for optimal grid operation
- Management of data as future business area



- Salt cavern as electricity storage systems (700 MWh)
- Mix of brine and polymer as medium for electric charge

enera – The next big step towards a sustainable energy supply!

Area of 2.665 km²

390.000 inhabitants

200.000 households

1,75 GW installed renewable energy capacity

Integration of infrastructure, market and data

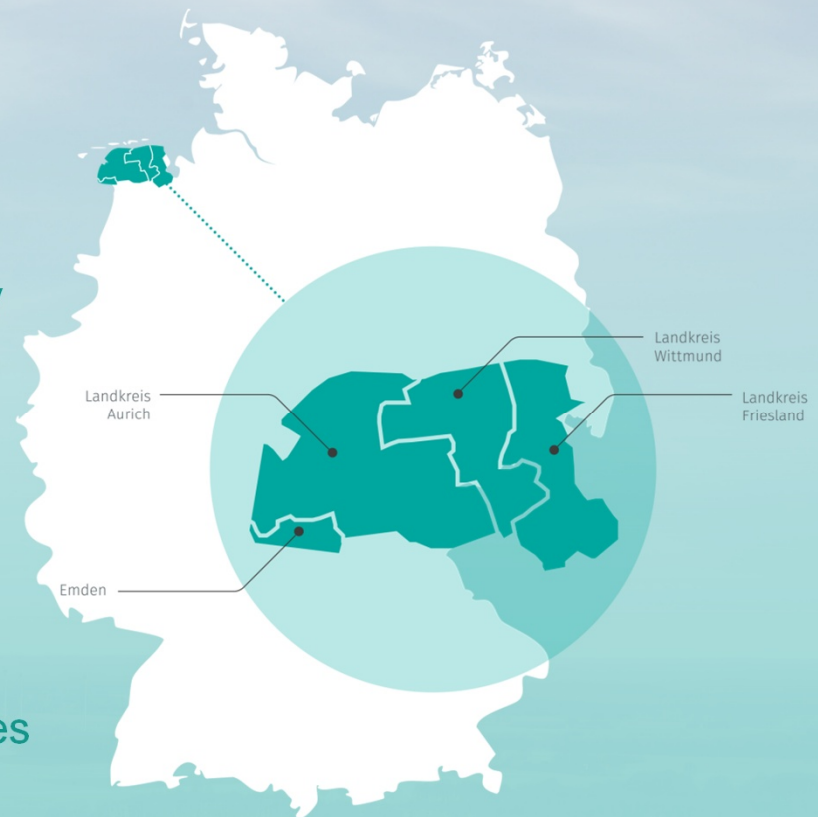
From central to decentral energy structures

Strengthen flexibility of market participants

Regional system services by local energy sites

The model region is a large renewable power plant!

www.projectenera.com



Thank you for your attention.

