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

National targets for renewable energies:
- 2020: 35%
- 2025: 40-45%
- 2030: 50%
- 2035: 55-60%
- 2040: 65%
- 2050: 80%
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.

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

- **Renewable**
- **Conventional**

**EWE NETZ: Input volume**

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

- **Renewable**
- **Conventional**

2014:
- Renewable: 27%
- Conventional: 75%

EWE AG, Market & Politics
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
enalera – 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.