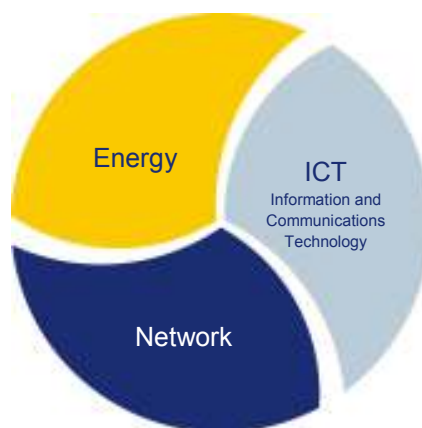


# Efficient Electricity Distribution

12<sup>th</sup> EU Hitachi Science and Technology Forum  
Brussels, May 7<sup>th</sup> 2010



## EWE – The multi-service company



### Innovative ideas and products

As a multi-service company the EWE Group incorporates three business areas:

- Energy
- Network
- Information and communications technology (ICT)

They enable us to provide our customers with an integrated services portfolio of innovative ideas and products.

Combining energy, telecommunications and IT services offers unique synergy potentials and provides a central focus for the Group's strategy – working towards tomorrow today.

## EWE – Ten assumptions for the future



### ENERGY CONSERVATION



### ENERGY EFFICIENCY



### RENEWABLE ENERGIES



### EWE has a vision

To ensure

- efficient
- economic and
- environmentally compatible

energy supply we have drawn up ten assumptions jointly with renowned scientists.

**E3**

### The BULLENSEE ASSUMPTIONS

The core statements and recommendations of the assumptions are aimed at:

- Conserving even more energy
- Boosting energy efficiency significantly
- Developing renewable energy sources

The BULLENSEE ASSUMPTIONS point the way, among other things, for our research and development activities.

Efficient Electricity Distribution, Dr. Eberhard Meller, Senior Counselor

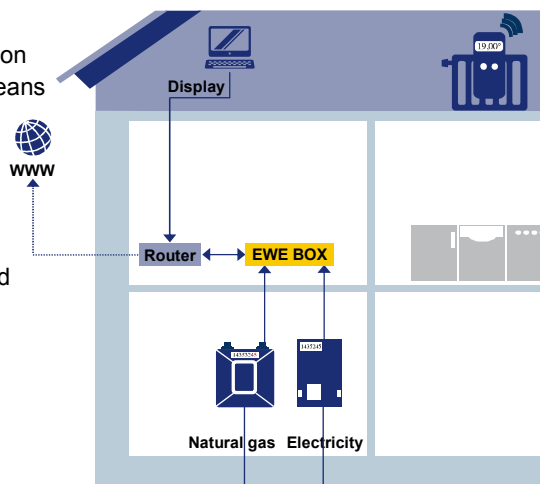
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## Energy Conservation: finding potentials using the EWE Box



With the EWE Box as the data interface in the home, conservation potential can be enhanced by means of:

- Bidirectional communication
- Smart devices and facilities
- Integration into a decentralised energy management system
- Customer-specific tariffs



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## Energy Efficiency: efficient generation with fuel cells in households



The basic energy requirements of a house can be met efficiently by using fuel cells:

- Fuel cell heaters can generate both electricity and heat
- CO<sub>2</sub> conservation of up to 35% can be achieved
- EWE has been testing fuel cell devices made by different manufacturers in practical trials for years
- In the years ahead this technology is to be developed to market readiness



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## Renewable Energies: going offshore with Alpha Ventus



EWE and its partners E.ON and Vattenfall as shareholders of Deutsche Offshore-Testfeld und Infrastruktur-Gesellschaft (DOTI) are setting up and will jointly operate Germany's first offshore wind park in the North Sea.

### The alpha ventus offshore wind park

- 46 km off the North Sea island of Borkum, outside the national park zone
- Water depth of between 28 and 32 metres
- 12 five-megawatt wind turbines manufactured by Multibrid and REpower
- 60 km of underwater cable
- A three-phase 110-kilovolt grid connection



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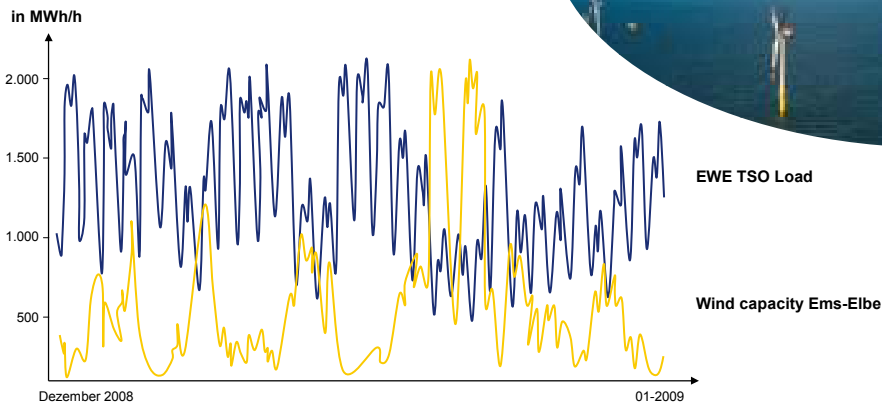
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## Fluctuating renewables are a challenge to the grid



system load EWE Netz: EWE TSO 110 KV and wind capacity  
Ems-Elbe 20KV 20. Januar 2009



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## The eTelligence-Idea tackles this problem



The R&D project *eTelligence* is one of six winners of the BMWi technology competition *E-Energy*.

**eTelligence develops and field-tests:**

- a regional market place for electricity,
- feedback systems, tariffs and incentive programs,
- power generation and demand side control systems,
- modern ICT and international standards.



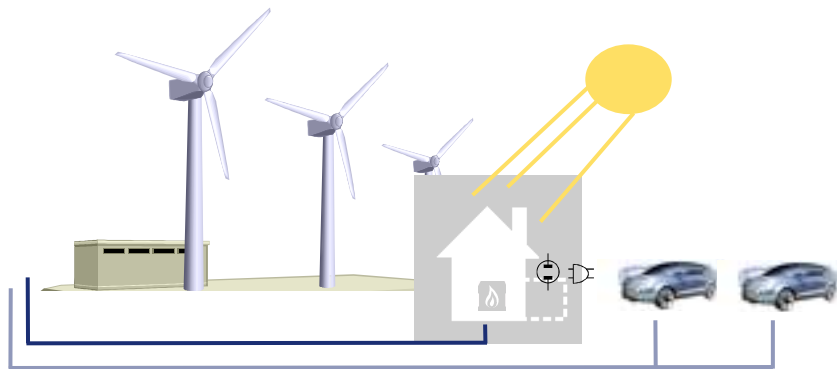
**Field-test: bridge the gap between research results and “real-life” needs.**

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**The electrically driven car is a new consumer with potential for more**



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**We developed the E3 together with Karmann**

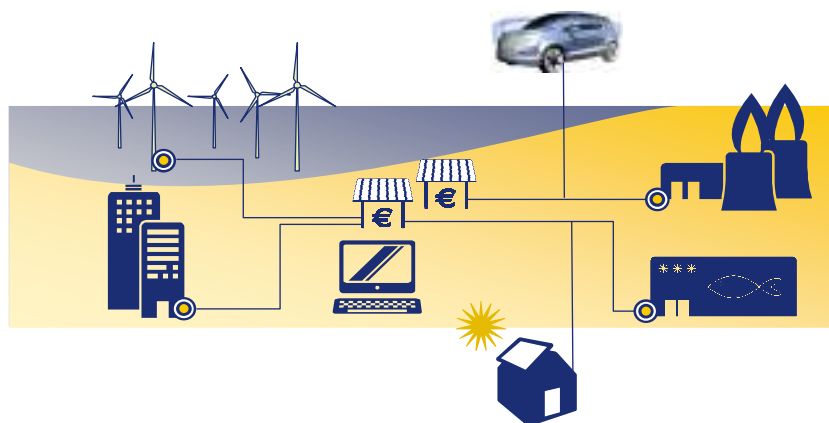


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## Our vision: Electrically driven cars participating in future energy markets



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## Thank you for your attention.

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