

Key Note: WSW Wuppertaler Stadtwerke an example of German Stadtwerke

Nagano, 7th September 2017 Head of Strategy and Development WSW Energie & Wasser AG

WSW – what do we stand for?





safe and clean mobility for Wuppertal

90 million passengers per year

electricity, natural gas, energy services for Wuppertal

WSW.

Heimatgefühl

Wir sind Wuppertal

local identity "we are Wuppertal"

production of drinkingwater and wastewater disposal responsibility for people and the environment

partnership

make it possible

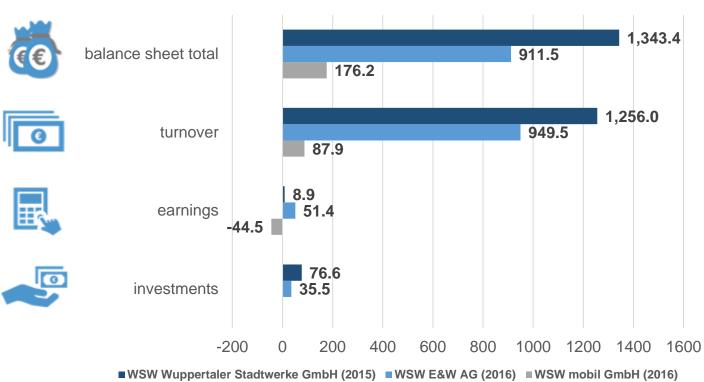
waste disposal

safety

Performance of the WSW Group











Employees: 3.270 (2016)



Number of passengers (Mio.): 90,1 (2016)

Mega trends are describing the development of the whole society



Mega trends

Decentralisation

- field activities
- subsidiary decisions and added value



Top-Down

central administrative tasks on subsidiary level

Change in society



Bottom-Up

individual is responsible for a change

Individualisation

- self-efficacy, individual freedoms
- Do-It-Yourself

Decarbonisation

- trend towards a CO2 free society
- affects all sectors
- materialised first in the energy sector

Digitalisation

- connectivity → networking of all kind of areas of life
- · data security and protection
- automation
- · processing of information



Neo-ecology

- resource-efficient and sustainable economic activity
- fair trade, regional products and recycling

<u>Digitalisation is a Meta-Mega trend</u>

Many mega trends, which overlap in some parts, are affecting energy companies.

Digitalisation describes the possibility of making and using of a large amount of information.

Mega trends find expression in political activities



2050 targets



Reduction of CO2 by 80-95%



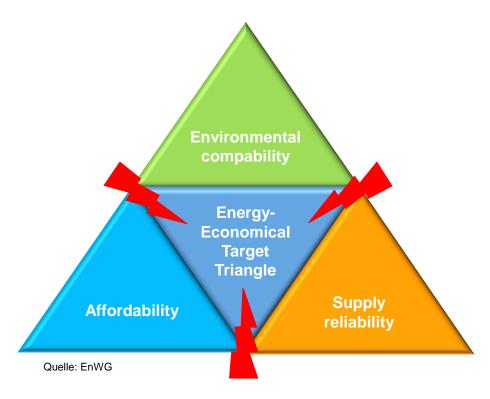
Increase the share of renewable energies to 80%



Improve energy efficiency by 50%



Reduction of gross electricity consumption by 50%



Legal basis: Renewable Energy Act (EEG)

EEG 2014

Feed-in tariffs

- Policy mechanism to accelerate investment in renewable energy technologies
- Long-term contracts for renewable energy producers

EEG 2017 Auction model

- Auction system for most renewable technologies
- Aim: to keep a steady hand on the rise of renewable power

Transition of the energy system in Germany



central liberalised market

- large power plants
- few providers
- etc.
- standards
- homogeneous products
- transparency



Commodity



No margin



Benefit due to

Economies of Scale

driving forces

mega trends

Digitalisation, Decentralisation, Decarbonisation, Neo-ecology, Individualisation

liberalisation of the energy market

- · competition among energy suppliers
- · competition of energy products

german energy transition

- decentralised energy supply
- nuclear phaseout
- expansion of renewable energies and removal of large power plants

decentralised market

- renewable energies (RE) → Wind and PV
- many providers
- · etc.
- individual, local solutions
- product diversification
- · bad comparability



confidence in the Brand



positive effects by added values



Synergies

Economies of Scope

Due to these mechanisms WSW goes along with three different development trajectories:

Risk diversification

exploitation of synergies in co-operation

focus on retail market



Thank you for your attention

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