

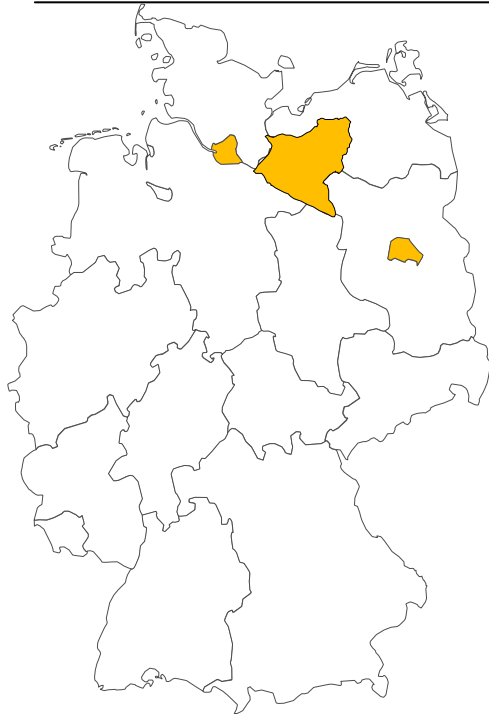
# Regulation and Investment in German Electricity Networks

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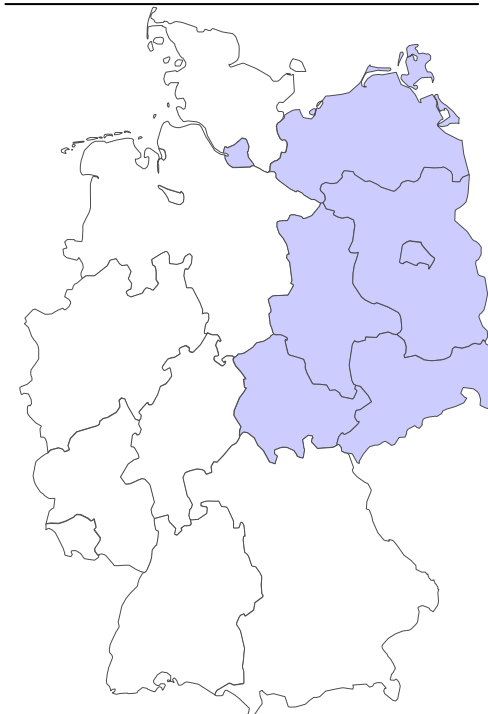
## Vattenfall Europe Electricity Networks

### VE Distribution



- Vattenfall Europe Distribution Berlin
- Vattenfall Europe Distribution Hamburg
- WEMAG

### VE Transmission



- Vattenfall Europe Transmission

Besides from networks, Vattenfall Europe covers the whole value chain of electricity supply.

## First Round of Rate Cases at Federal Network Agency (Regulator)

Date	Company	Cut
06.06.06	Vattenfall Europe Transmission	18%
31.07.06	RWE Transmission	9%
31.07.06	EnBW Transmission	8%
31.07.06	E.ON Distribution in Thuringia	14%
30.08.06	E.ON Transmission	16%
30.08.06	RWE Distribution in North Rhine-Westphalia	10%
01.09.06	EnBW Distribution	14%
15.09.06	Vattenfall Europe Distribution Berlin	15%
15.09.06	Vattenfall Europe Distribution Hamburg	15%

## Networks must be profitable on a stand alone basis

Networks are no longer necessary part of an integrated energy business, but must be profitable on a stand alone basis!

- The investor demands an appropriate rate of return depending on the capital market and his risk assessment of the business.
- The network business goes along with lower risks (lower  $\beta$ -factors).  
But in any case, returns have to be above zero!
- The regulator has a strong impact on the investor's risk assessment.

*Current Cost-Regulation is reducing the value of today's networks and the ability to invest!*

## Networks are an infrastructure business ...

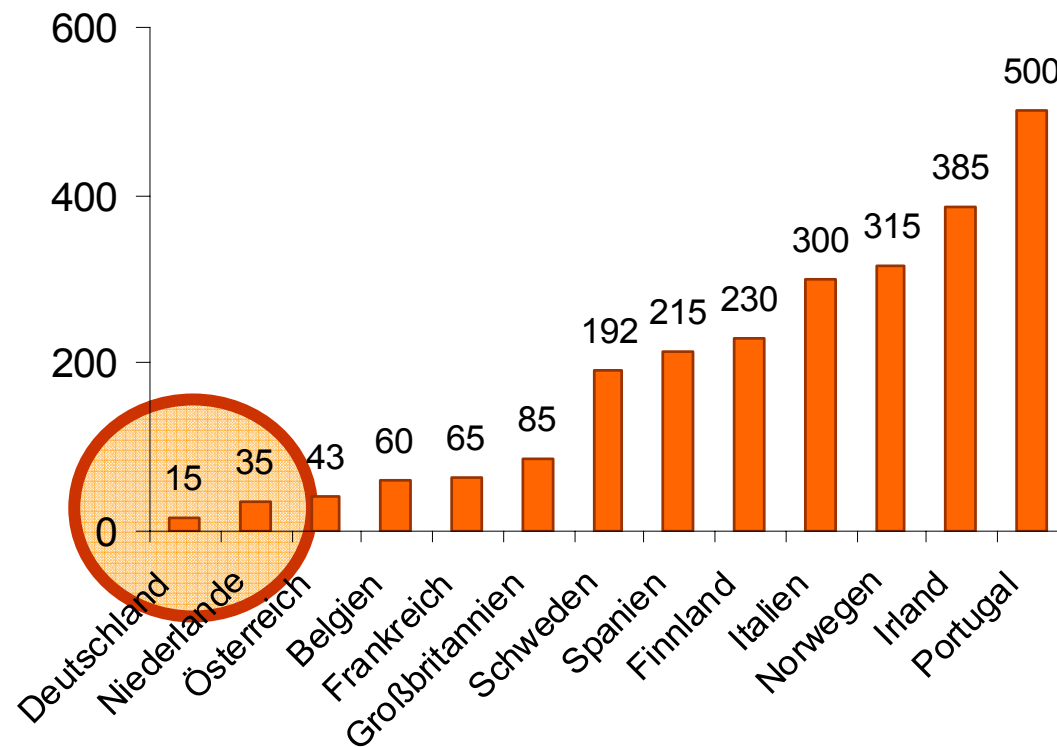
### Networks are an infrastructure business with high and continuous investments

- Around 50% of total costs are capital costs and depreciations.
- Average depreciation periods are about 40 years, which means that the asset base can be developed only long term.
- High risk of stranded investments by short term regulatory decisions.
- Re-investment level is crucial for quality of supply. Effects will become evident with a lag of time due to long life time of assets.

*Network regulation has to be implemented with care. Otherwise customers will pay for short term price decrease with long term price increase (because of higher capital costs for higher risks) and lower quality.*

Within Europe Germany's quality of supply is highest

Average outage time for all network customers [min/a]<sup>1</sup>



<sup>1</sup> European Commission, Brussels (2004)

## Perspective: Regulation by Incentives

### In Germany Regulation by Incentives will be introduced based on Benchmarking and Revenue Cap

- Incentives shall be given to increase efficiency, i.e. cut costs.
- Regulation by Incentives allows extra profit for efficiency increase above average level. It does not mean to increase efficiency increase to avoid losses! Such a regulation model would not attract capital for a sustainable business.
- Today's rate of return is about 4% after tax that is further reduced by cost cuttings (Regulation defines a pre-tax return on equity and a maximum equity/debt ratio).
- Today's rate of return is lower than reasonable. In particular with Incentive Regulation, it has to be adjusted.

*Positive incentives for investments are needed, given either by high investment security or higher risk-adjusted returns.*