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10 JAHRE



Opportunities and Risks of Joining Forces

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Agenda

(1) Opportunities and Risks of Joining Forces

(2) Trianel – a municipal utility cooperation

(3) Development of Power generation assets



Reasons to cooperate

The previous years were rather challenging for municipal utility companies in Germany:

- pressure on costs resulting from regulation by the new Federal Grid Agency → narrowing of margins → need to extend business portfolio/value chain
- investments in new business fields → new and/or additional chances and risks → diversified generation portfolio (but: high market entry barriers due to high capital investments and need for specific know-how)
- climate change policy → new demands from government (and public discussions) → need for renewable energy
- changing technical and economic conditions → importance of economies of scale and synergies → strategic alliances increasingly important



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Opportunities

By joining Forces municipal utility companies can:

- fully exploit the potential along the value chain
- attain and share knowledge
- pool capital
- share risks
- make use of economies of scale
- represent common economic and political interests
- exchange experiences
- build and benefit from a network
- attract, support and bind top talent





Risks

Joining Forces also includes risks:

- **Dependence of Decisions**
- **Disagreement within the cooperation**
- **Loosing Know How to the cooperation**
- **Potential of competition between the cooperation and the project partners, if the cooperation expands the business modell**
- **Economic risks (unsufficient assessment of new risks)**

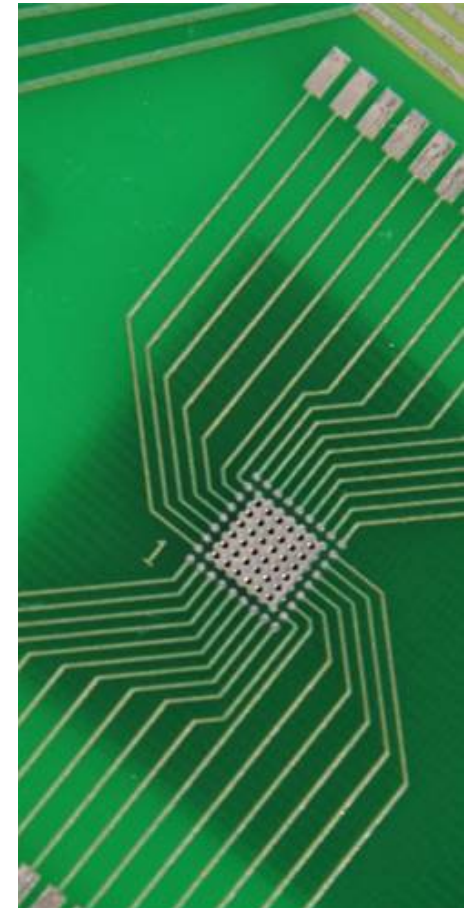
Combined efforts and common targets are essentially for a successful cooperation





Business Modell

- **To join Forces is often used by municipal utilities when new business segments appear**
 - Trading/Procurement, Generation/ proven technologies („old“ topics)
 - E-Mobility, Smart Meters, Generation/ new technologies (“new” topics)
- **...but rarely used on core business (Sales and distribution, Grid)**
- **Different cooperation concepts**
 - (Green-) Gekko
 - Thüga
 - Trianel
 - and more...





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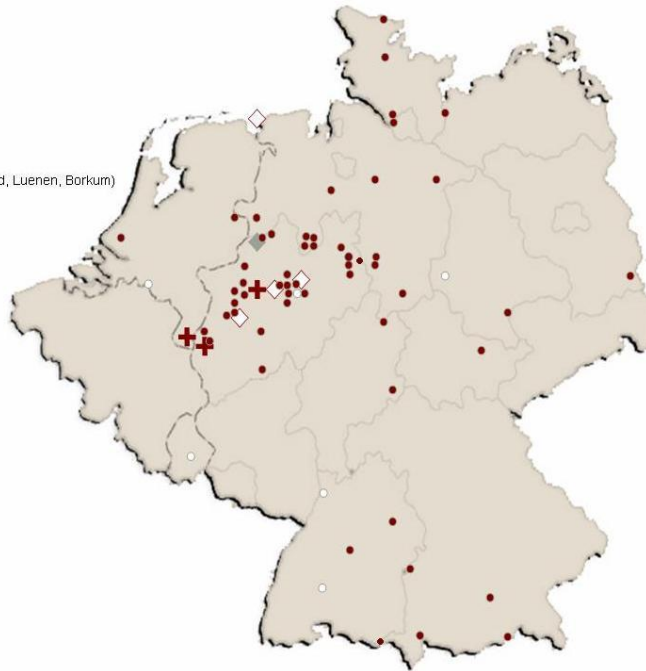
(3) Development of Power generation assets



Networking

Trianel contains of more than 40 municipal utilites

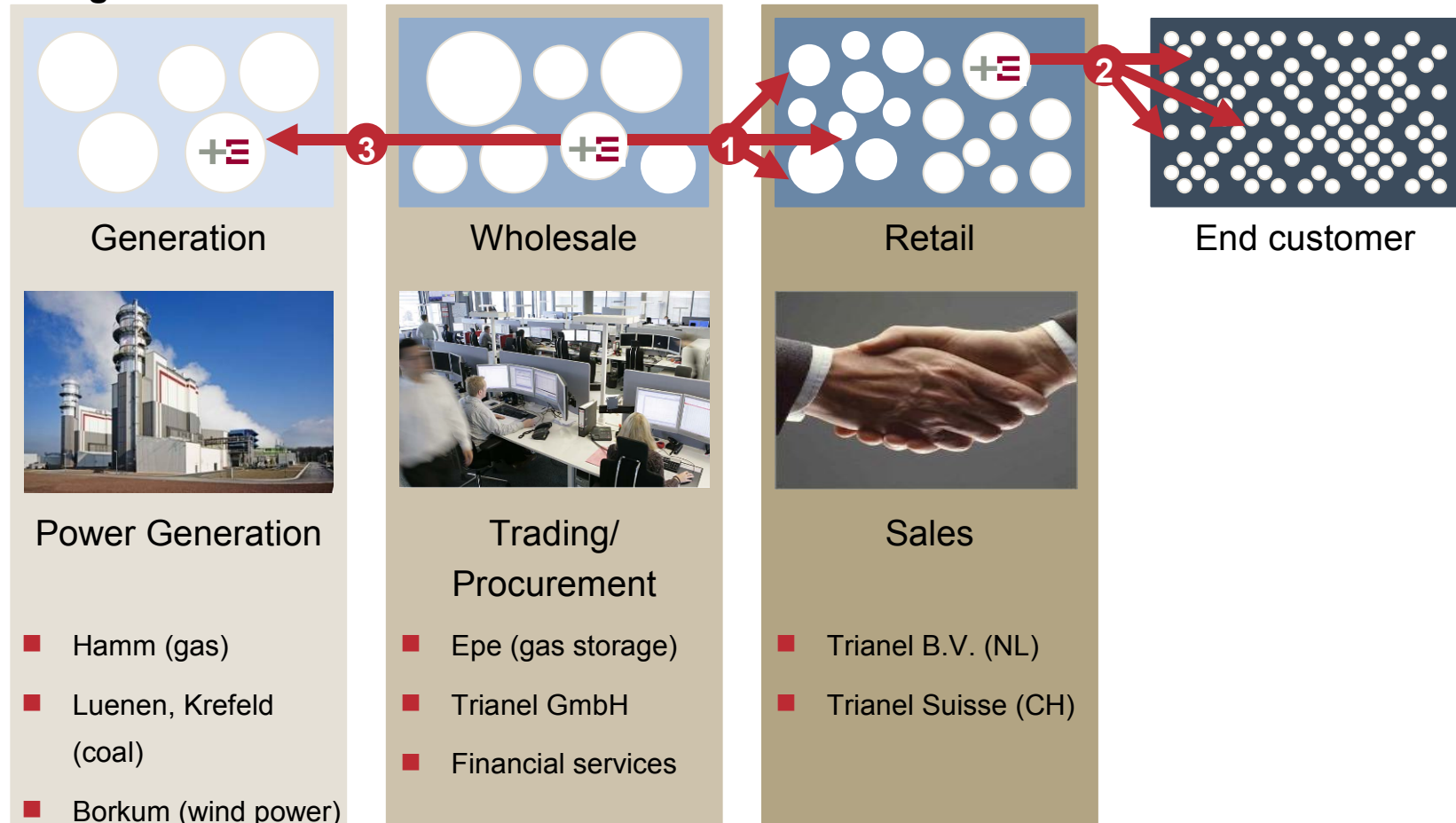
- Trianel Group
 - Partner of the Trianel Group
 - Power plant projects (Hamm, Krefeld, Lünen, Borkum)
 - Epe gas storage
- Additional shareholders in Europe:
- Salzburg AG
 - Regio Energie Solothurn
 - AET Azienda Elettrica Ticinese





Trianel Business Fields

Along the value chain

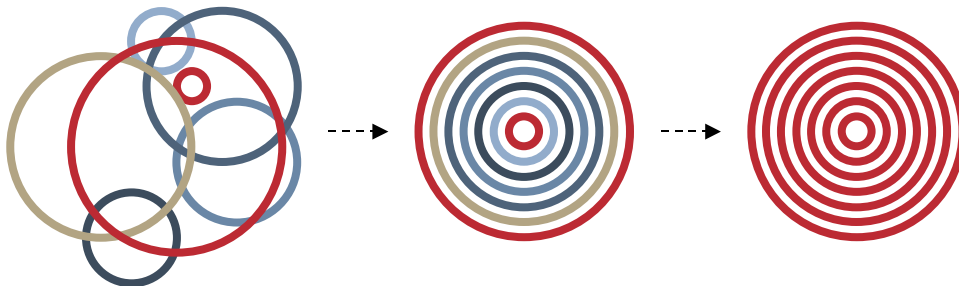


Power generation Assets

Investments in assets are economically attractive growth options for municipal utility companies:

- to cover their own needs
- to extend the business portfolio/value chain in the field of generation (and storage)

Yet, most projects cannot be implemented by one company alone. Instead, municipal utility companies need to work together. By bundling their know-how and resources, the partners achieve a critical size, which enables them to shoulder investments and put project ideas into practice.



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Hamm gas and steam turbine power plant

- **first large-scale power plant outside power generation oligopoly**
 - before: large investments only done by E.ON, RWE, Vattenfall, EnBW
- **project financing**
 - before: balance sheet financing
- **stand-alone project**
 - before: realization of projects as a part of generation portfolio
- **first power plant in municipal ownership**
 - before: capacity only through cogeneration or as 'little brother' in joint venture power generation plants
- **elaborate procedure to obtain approval of 28 municipal utility companies**
 - before: approval from the board of directors of major concerns



Hamm gas and steam turbine power plant

- net output of power plant: 850 MW
- electrical efficiency: more than 57.7 %
- start of construction: 2005
- in operation: 2007
- investment volume: around € 450 million
- amalgamation of 27 regional and municipal energy supply companies from Germany, the Netherlands and Austria
- uses natural gas, therefore lower CO₂ emissions



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Luenen coal-fired power plant

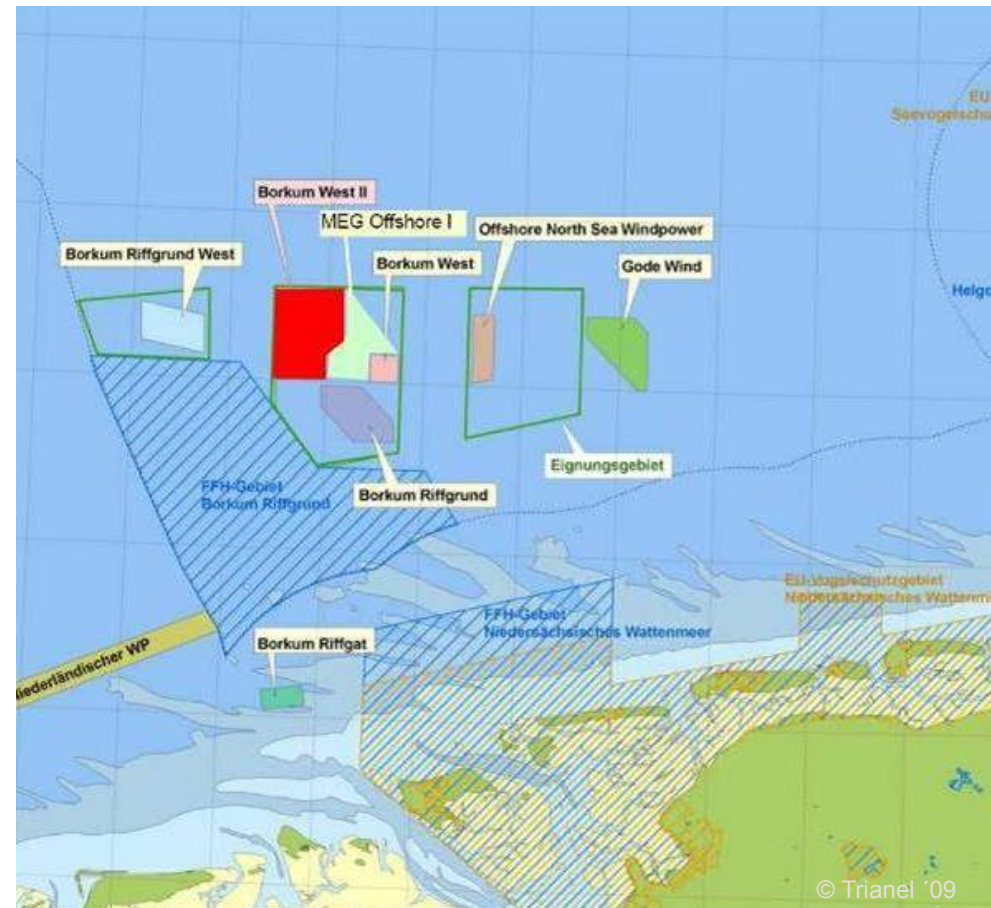
- net output of coal-fired power plant: 750 MW
- electrical efficiency: more than 45 %
- start of construction: 2008
- in operation: 2012
- investment volume: more than € 1 billion
- cooperation of 31 energy supply companies
- around 1.5 million tons less CO₂ emission per annum compared to traditional plants



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Borkum wind turbine plant

- installed output in 1st expansion stage: 200 MW (additional expansion planned)
- 40 wind turbines in total
- output per wind turbine: 5 MW
- type of wind turbine: Multibrid 5000
- investment volume: around € 600 million
- participation of around 40 energy supply companies





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