Center for Geopolitics of Energy and Raw Materials
(CGEMP)

In partnership with:

French Association of Energy Economists

Power in Germany: The turning point of 2011

One year later, lessons for neighbouring countries

The new role of Germany in the European power market

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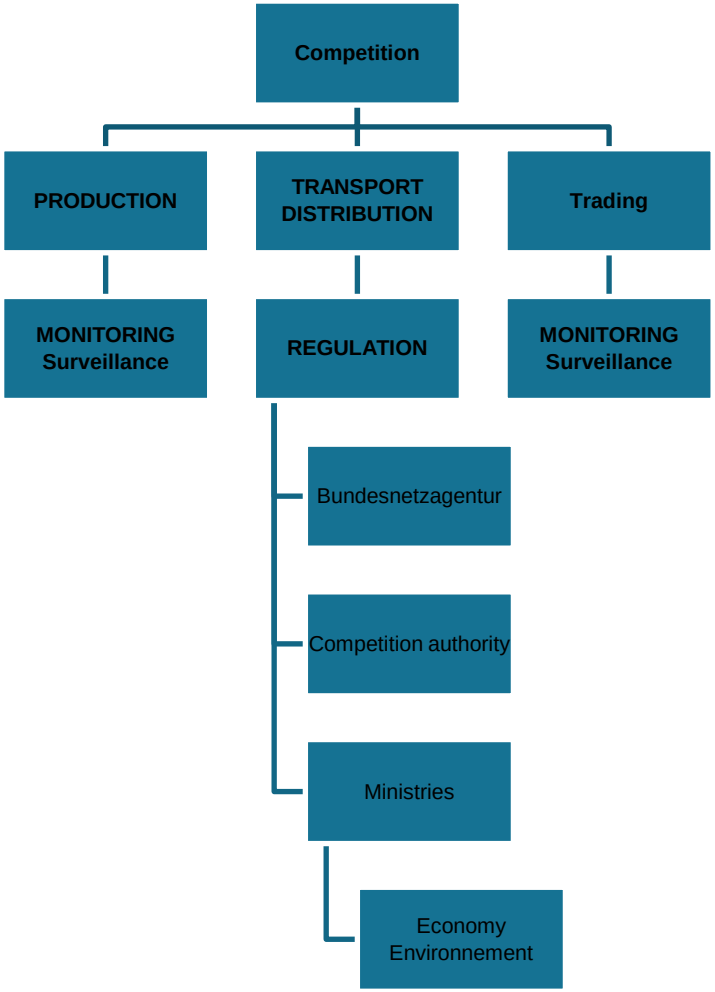
The regulation of German energy markets: a European task

Paris, June 22th 2012

Dr. Nadia Horstmann
Bundesnetzagentur

Regulatory tasks – Many responsabilities

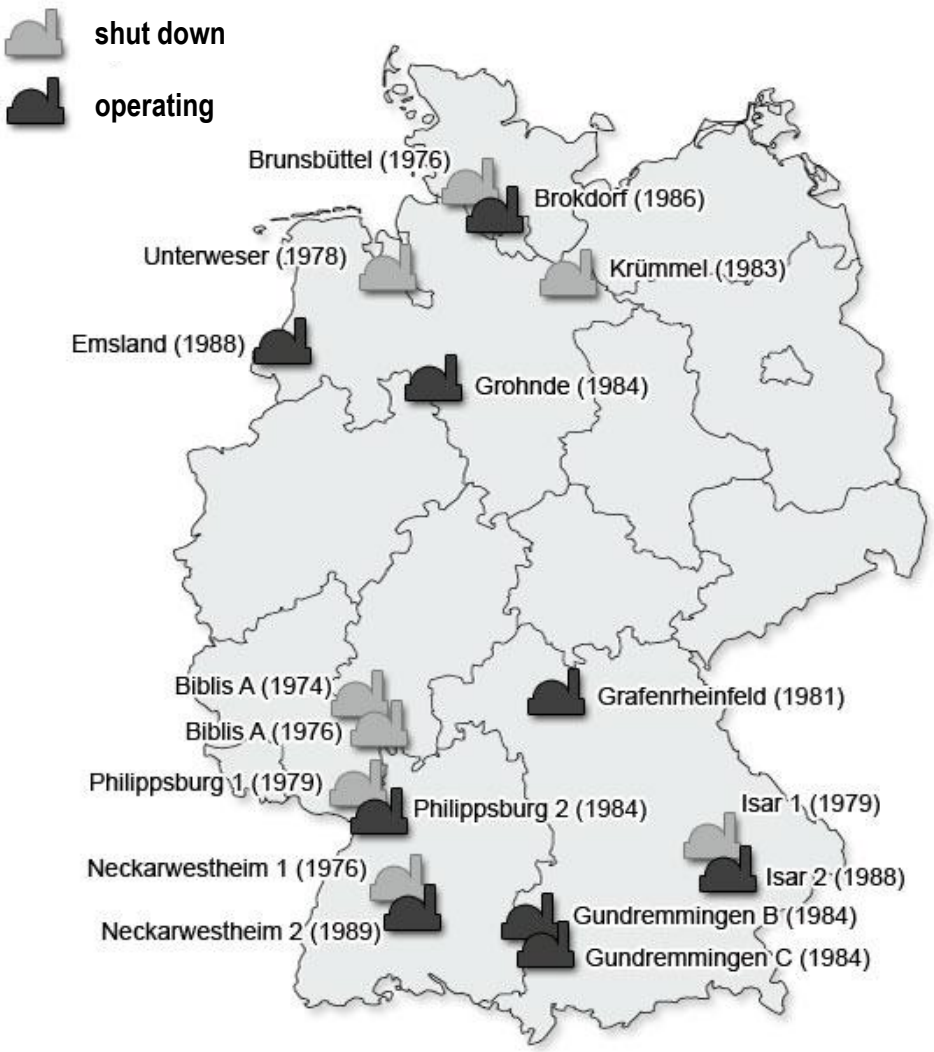


Energy Industry Act- Independence of the Regulator

- BNetza : seperate higher federal authority within the scope of business of the Federal Ministry of Economics and Technology

- Staff and Management act independently (art. 35, art. 37(4) and (5) Electricity / Gas Directives)
  - from any market interest
  - do not seek or take direct instructions from any government or other public or private entity when carrying out the regulatory tasks
- Takes autonomous decisions: independence from any political body !
- Collaborate with EU-regulators (CEER)
- Collaborate with the Agency for the cooperation of Energy Regulators (ACER)

Nuclear Phase-Out in Germany



- On 15 March 2011, the German government announced to shut down 8 of its 17 reactors **immediately**, i.e. all reactors that went online before 1981
- On 30 May 2011, the government plan to progressively **shut down all nuclear reactors by 2022** and massively foster the development of renewable energy production
- By 2050 80% of the production renewable
- Consequences on the grid stability analyzed by BNetzA - Report on our website

Outcomes of the Bundesnetzagenturs Report on energy supplies 7 May 2012

1. Situation in electricity grids in winter 2011 2012 was severely strained
2. Additional measures from TSOs necessary to maintain system security
3. Unexpected gas shortfall of Feb. 2012 put added strain on electricity grids
4. German and Austrian reserve power plants were called upon more than one time – for next winter reserve power plants needed also

Main outcomes for the Power System Security

- The historically singular simultaneous shutdown **brings the transmission grids to the edge of their resilience**
- But, the main extreme situations for the transmission networks are **manageable** thanks to the operator‘s intervention instruments
- BNetzA‘s studies also show that transmission networks will remain controllable without the use of a **reserve nuclear plant**.

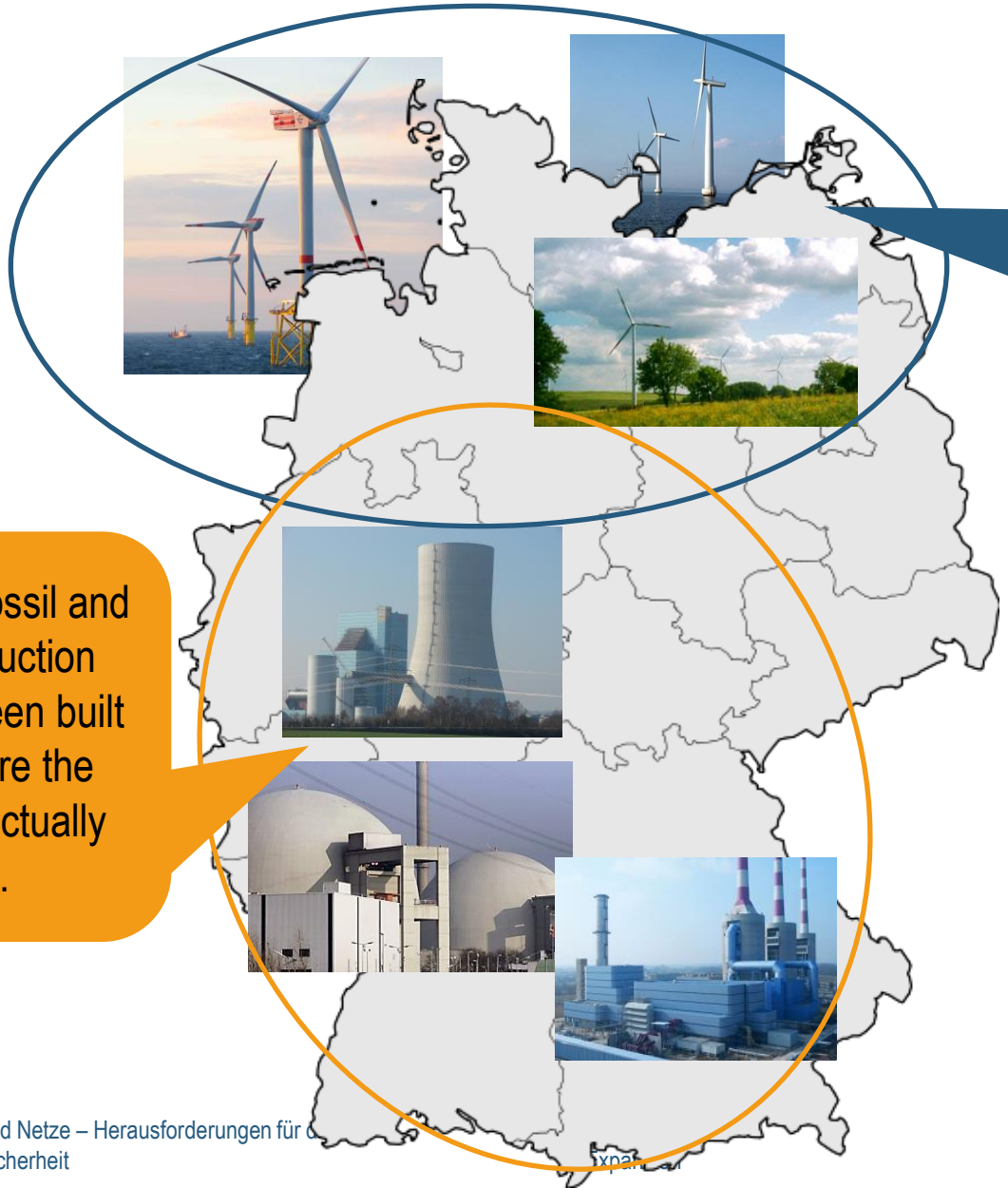
The German Energy Package 2011

- Legislative measures – 8 new laws or amendments to existing laws

  - **Atomic Energy Act** – phase-out of German NPPs
  - **Act to Accelerate the Expansion of the Grid** – including acceleration of spatial planning
  - **Energy Industry Act – transposition of 3rd Internal Market Directive**
  - Renewable Energies Act – cost-efficient expansion of renewables
  - Energy and Climate Fund Act – from 2013 all revenues from auctioning emission allowances will be a contribution to this fund
  - Energy efficiency – i.e. tax concessions for renovation of buildings; climate-friendly development of cities and municipalities; public procurement

Range of new provisions to implement the Energiewende! A long process…

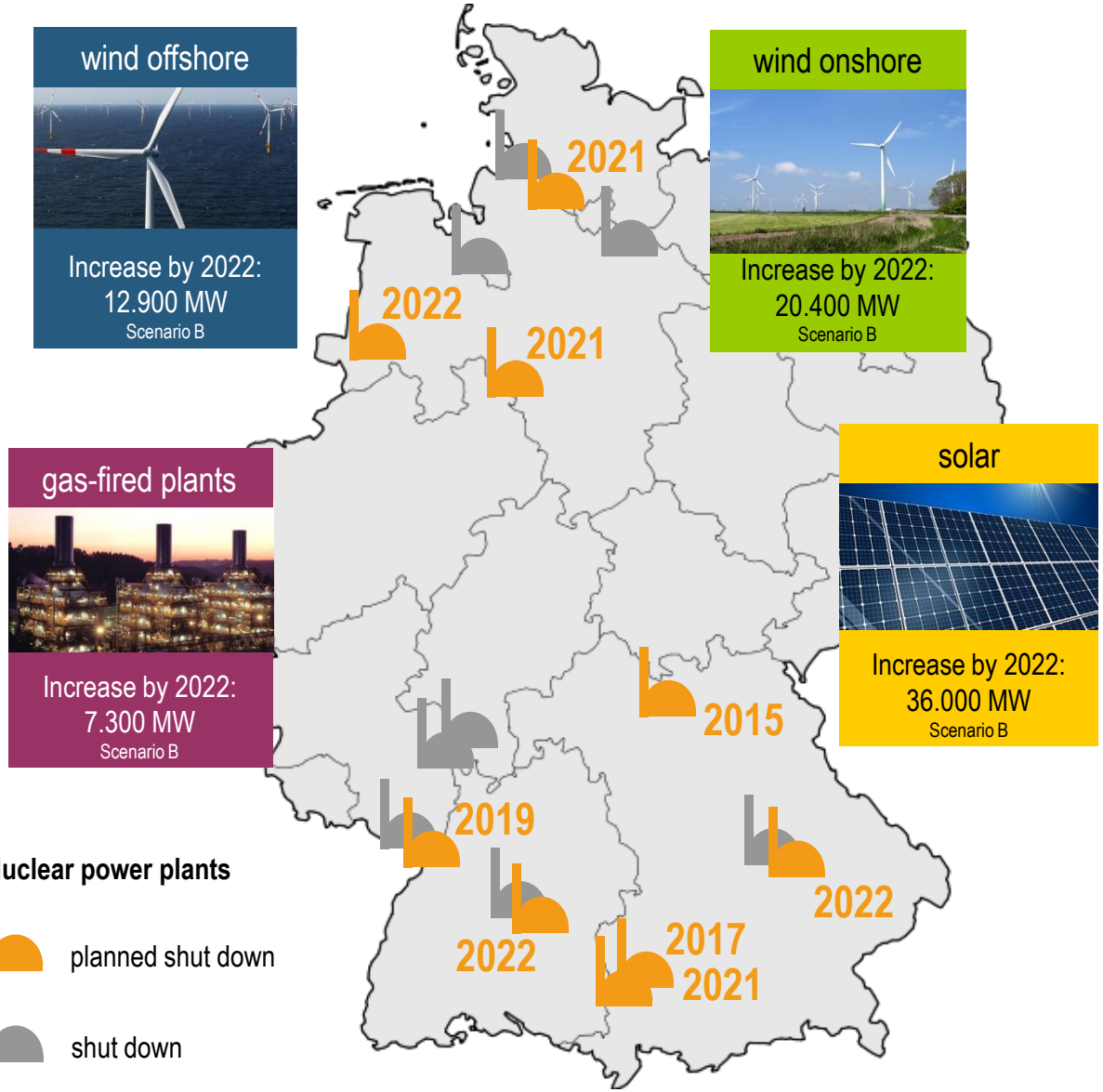
Changes in Generation Require New Grids



Renewable energy production develops mainly in Northern Germany

Traditionally, fossil and nuclear production plants have been built close to where the energy was actually needed.

Changes in Electricity Generation Require New Lines



- **Expansion and reinforcement** of the **networks** urgently needed
  - Transmission system
  - Offshore wind farm connection
  - Modernisation of the distribution system
- Investments needed of approx. **€ 30 to 50 billion until 2020**
- **New competences for BNetzA a new role beyond regulation !**

Reasons for Network Development

The German Energy Package 2011

- ↗ Rapid expansion of renewables: 80% wind, sun and biomass by 2050
- ↗ Nuclear phase-out by 2022
- ↘ Reduced electricity consumption as a result of increased efficiency
- ↗ Increased cross-border electricity trading

Consequences for the network

- Volatility of consumption and production in terms of both time and location reduces predictability
- The average distance between production and consumption increases
- Volatility of the network situation increases

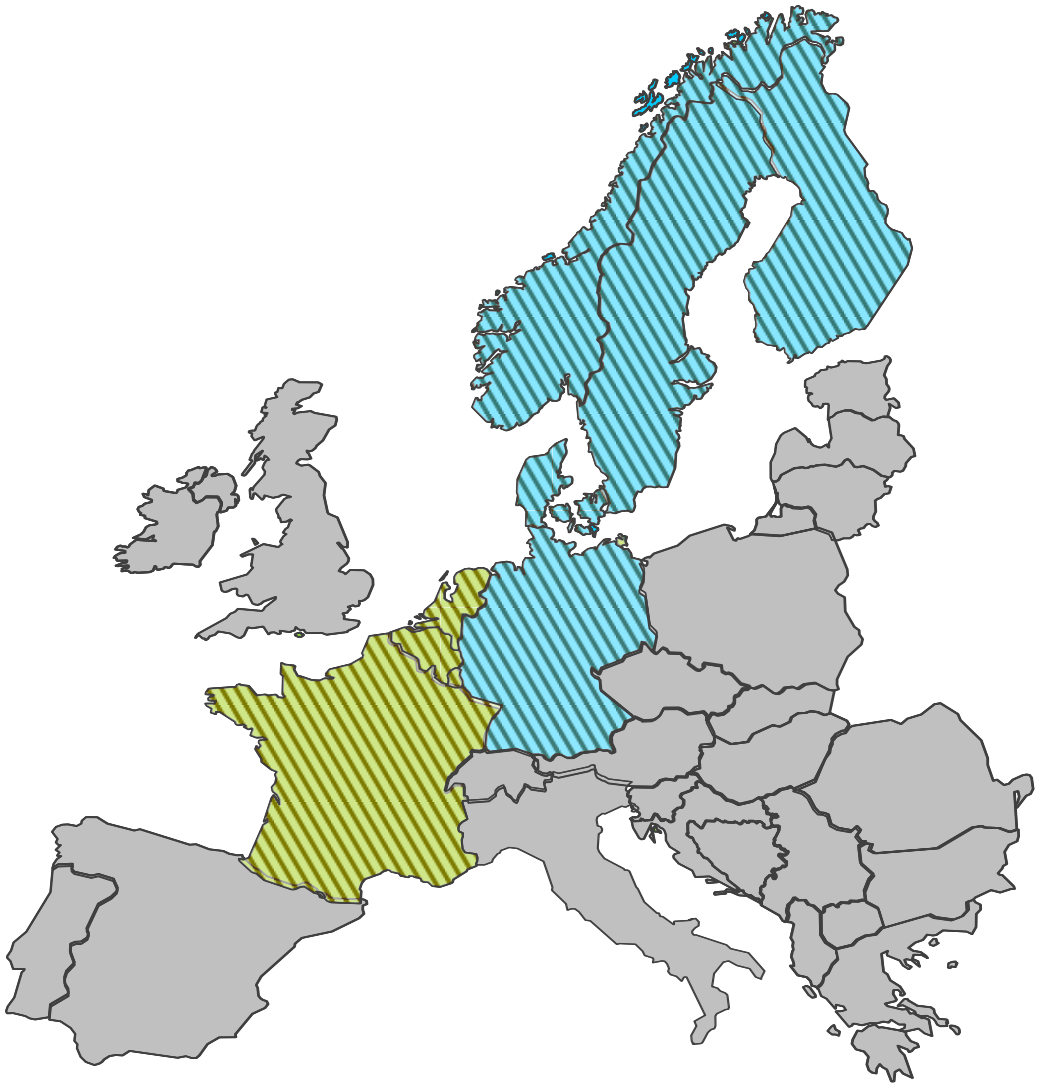
➔ **NETWORK DEVELOPMENT IS A PRIORITY**

How will BNetza work on this?

Implementation of EnWG 2011 and NABEG:

- BNetzA is building up competence in –
  - network modelling and network planning
  - specialist planning and plan approval
  - environmental issues and
  - procedures of participation
- Around 240 new colleagues
- Connection between the new tasks and energy regulation issues ➔ **synergies and bundling of competence**
- Cooperation with federal states:
  - consistent decisions
  - Bundesfachplanungsbeirat

Integration of European Markets



Market Coupling between Germany and Scandinavia

Market Coupling between Germany, France and Benelux

North-West European Market Coupling

National legislation directly linked to the European Goals and provisions:

1. Energy Infrastructure Package and climate targets
2. European Network Codes

EU 2020 energy/climate targets

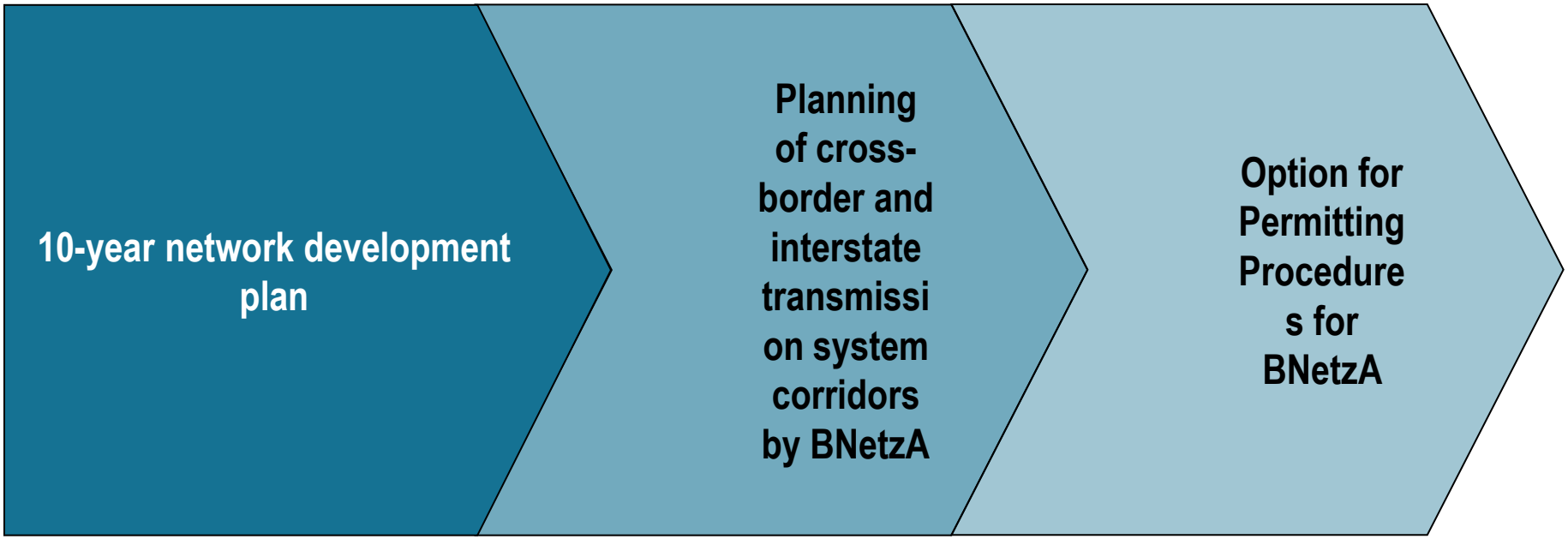
- **Increase renewables' share in final energy consumption to 20%, including a 10% biofuels in transport target in each MS**
- **Commissions communication on renewables: need for convergence of the national renewable schemes**
- **Move towards a 20% increase in energy efficiency compared to projections for 2020**
- **Reduce greenhouse gas emissions by 20% compared to 1990**

- **“Connecting Europe Package”** (19th Oct 2011):

  Investment requirements for Europe of approx. € 1 trillion in the period to 2020

  - **€ 500bn in generating capacity** (310-370bn of this in renewables)
  - **€ 600bn in distribution an transmission systems** (incl. smart grids) and storage facilities, incl. € 200bn in electricity an gas networks

Enhancement of Network Development



- Network development as a transparent concept **under federal supervision of BNetzA**
- **Faster permit procedures** are on the way in Germany – legislation passed in June 2011
- Network expansion is clearly decided: “of **highest public interest**”

Conclusion

4 reasons why it is worth investing in German energy infrastructure:

1. Germany is the **biggest electricity and gas market in Europe**.
2. Germany has the most **secure electricity network** in Europe and an **excellent natural gas infrastructure**.
3. Germany has the most **ambitious energy and climate change targets**. Infrastructure expansion is a **growth market**.
4. **Bundesnetzagentur has done a lot** to clear up cases of doubt regarding the framework conditions

Grids rules are no more national rules:

- **Grid connection (requirements for generation)**
- **Capacitiy allocation**
- **Congestion management**
- **Tariffs harmonisation**
- **Balancing**

Grids rules are no more national rules

1. Regulators within ACER to develop Framework Guidelines
    1. Grid operators to develop Network Code
    2. Commission to send Network Codes to Comitology process
    3. Adoption of Network Code as regulation no need to implement in national law
2. Status review on blackout and restoration planning (ENTSOE)

Regulatory provisions discussed and agreed at EU-Level

One year after…

- a lot of pessimism
- But: it is a „Generation project“
- BNetzA to support the politicall goals on the regulatory side
- Grid expansion is a key issue
  - Reduce congestions on transmission grids
  - Integrate offshore wind production in the transmission grids
  - Have smart distribution grids

Thank you for your attention