Regulatory challenges of Germany’s “Energiewende”

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Agenda

- Presentation of the Bundesnetzagentur
- The Unbundling regime in Germany
- Germany’s Energy Turnaround so called: “Energiewende”
Role and competence of the Bundesneztagentur
- Independent higher federal authority in the scope of business of the Federal Ministry of Economics and Technology

- **Sector-specific authority** tasked with **ensuring effective competition** in the net-bound sectors
  - **Telecommunications and Posts** (since 1998),
  - **Electricity and Gas** (since 2005), and
  - **Railways** (since 2006)

- Electricity and Gas **network planning** (since 2011)

- **HQ in Bonn**

- BNetzA employs ca. 200 staff in energy regulation, up to 240 staff are being recruited for Electricity and Gas network planning

- Overall headcount for all sectors: ca. 2700 staff

- Budget: 180m euro expenses (2012)
Independence of the Regulator

- 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
  - direct instructions from the German Federal Ministry of Economics are possible to ensure parliamentary control
  - but have to be published → § 61 EnWG

- Takes autonomous decisions: independence from any political body
- Accountability (Ministry, Parliament....etc.)
- Separate annual budget allocations, with autonomy in the implementation of the allocated budget
- The top management / members of the board:
  - are appointed for 5-7 years, renewable once
  - may be relieved from office during their term only if they no longer fulfill the conditions set out in this Article or have been guilty of misconduct under national law
Network regulation

Potentially competitive market segments

- No ex-ante regulation, ex-post supervision by the Competition Authority

Generation → Wholesale trading → Transport and distribution networks → Supply

Natural monopoly

- Regulation by BNetzA

- Separation of generation and supply activities from network operation (*Unbundling*)
- Network access regulation, including tariffs

Limited responsibility of Bundesnetzagentur in comparison with other national energy regulators

More recently, however, rapidly growing fields of activity recently, linked to the *Energiewende*
Legislative measures – 8 new laws or amendments to existing laws (2011)

- **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 efficiency – i.e. tax concessions for renovation of buildings; climate-friendly development of cities and municipalities; public procurement

entered into force: the 4th and 6th August 2011
Unbundling
(Gastransport Nord)
More than 10 gas TSOs,
Circa 1600 electricity and gas DSOs
Unbundling - Certification of TSOs

- „Before an undertaking is approved and designated as transmission system operator, it shall be certified...“, Art. 10 RL 2009/72/EG (§ 4a Abs. 1 S. 1 EnWG)

- ex ante verification of unbundling rules is not to be confused with an authorisation of network operations

- TSOs have to ensure financial, technical and material means

- Certification, when complying the requirements is proven

- Goal: Independence of the competitive area
Unbundling models

- **Full Ownership Unbundled TSO**, Art. 9 RL 2009/72/EG (§ 8 EnWG)
- **Independent TSO**, Art. 17 ff RL 2009/72/EG (§ 10 EnWG)
- **Independent System Operator**, Art. 13 ff RL 2009/72/EG (§ 9 EnWG)
Full Ownership Unbundling (FOU)

- Ownership of the transmission system
- Control over a TSO and control over an undertaking performing any of the functions of generation, trading or supply are not compatible
- Prohibition of simultaneous activity for a TSO and an undertaking performing any of the functions of generation, trading or supply
- Ensuring financial, technical and material means to meet service obligations
Independent Transmission Operator (ITO)

- „Vertically integrated undertaking“ (VIU) - decisive term for:
  - Admissibility to provide services
  - Options for staffing the TSO („Cooling Off“ / „Cooling On“)
  - Options for investments in other companies and the position in the group

- Key criteria for a VIU:
  - Control (FKVO)
  - Activities in the energy sector (cf. Art. 2 Nr. 35 RL 2009/72/EG, Art. 2 Nr. 1 RL 200/93/EG)
Independent Transmission Operator (ITO)

- Ensuring financial, technical and material means to meet service obligations
- Ownership of the transmission system
- TSO shall not, in its corporate identity, communication, branding and premises, create confusion in respect of the separate identity of the VIU or any part thereof
- Own business premises
Independent Transmission Operator (ITO)

- Limitation of services between the TSO and the VIU
  - No services of VIU for the TSO
  - Services of the TSO for the VIU permitted under special circumstances
    - Non-discriminatory offer to third parties
    - No restriction or distortion of competition
    - Assessment by the national regulatory authority
Independent Transmission Operator (ITO)

- Clear staff separation between TSO and VIU
- Special rules for
  - Top company management
  - Executive management
  - Employees
- Special rules including
  - Requirements for recruitment („cooling on“)
  - Requirements after resignation („cooling off“)
  - Financial benefit from the VIU (no shareholding)
Following the Fukushima catastrophe, the orientations set in 2010 have been complemented by an accelerated nuclear generation exit (previously foreseen for 2036).

- Moratorium imposed by the Government on the eight oldest nuclear power plants immediately after the Fukushima catastrophe rendered permanent.
- Closure of the remaining nine nuclear power plants by 2022.
- BNetzA assessing generation adequacy and network development requirements.
Conventional and nuclear generation sited mostly in Southern and Western Germany, as well as most of (industrial) load.

Renewable energy sited mostly in Northern Germany (esp. wind).

Changes in the energy mix
Transmission network planning

- National Ten-Year Network Development Plan (TYNDP) prepared by TSOs for consultation, based on EU Directives
- Covers 2012-2022 and based on generation/load scenarios
- Identifies requirements for network optimisation, improvement and expansion
- New Alternating-Current (AC) links: 2.800km on existing routes, 1.700km in new routes
- For the first time, 2.100km of Direct-Current (DC) links (10 GW capacity) in 4 corridors
- Cost estimated at 20bn euro
- BNetzA consulted on the TYNDP and approved it with revisions
- TYNDP now to be turned into a federal law, spatial planning and line permitting will follow
Development Plan Electricity

Elaboration of the draft Plan and consultation of all concerned stakeholders

Elaboration of a common scenario framework

Submission of the plan to BNetza

Evaluation of the plan:
- conformity with European TYNDP/ACER
- if necessary request for changes

Approval

Consultation of the scenario framework and approval

Federal Requirements Plan = Act of Parliament: confirmation of need and urgent demand of projects

Submission to the Government as Draft Federal Requirements Plan

TSOs: Electricity

Bundesnetzagentur
Act to Accelerate the Expansion of the Grid

- Faster permitting procedures for supra-regional and cross-border grid development projects in the Electricity sector
  - Determination of all needed investments by a German common network development plan in electricity: in charge: the Bundesnetzagentur and TSOs
    - Transfer of the common network development plan to the government and adoption by the parliament (at least every 3 years) resulting in a Federal Requirements Plan
  - Spatial planning: Bundesnetzagentur is in charge
    - New structure of the process
    - Use of synergies of: grid planning, environmental audit
    - Federal Grid Plan
  - Timeframe for the procedure: 5 years
  - Permitting: competence transfer from regional (Länder) to federal level is still under discussion.
Results of BNetzA’s assessment

BNetzA for now only confirmed the need for:

- 51 out of 74 proposed projects
- Only 3 out of 4 proposed DC corridors were approved
- Overall 2,800 km in new routes were confirmed, 2,900 km in existing routes

Projects not confirmed

- AC 380kV new build
- AC 380 kV reinforcements
- DC corridors
Contents of the NEP

The TSOs shall provide

- all effective measures to optimise, reinforce and develop the network in line with requirements
- a prioritisation of measures in terms of timing
- pilot projects, e.g. for high temperature low sag conductors
- data on transmission technologies used

- **TSOs** are drawing up the Network Development Plan 2012 on the basis of the approved scenario framework: Submission by 3 June 2012
- **BNetzA** is preparing the assessment process for the NEP to ensure its consistence with the European-wide TYNDP and requirements that have to be met as regards the Federal Requirements Plan.

⇒ **Objective: secure and reliable network operations**

⇒ The NEP lists the planned network development measures which are assessed by the Bundesnetzagentur.
Relationships with European bodies

European Commission

ENTSO-E

ENTSOG

Director

ACER

National TSOs

NRA

BNetzA

CEER
- European Network of Transmission System Operators
- represents 41 electricity transmission system operators (TSOs) from 34 countries across Europe
- ENTSO-E was given legal mandates by the EU’s Third Package for the Internal Energy Market 2009
- set to develop with the energy transition and the successes of European market integration

- Objectives
  - Ensuring the optimal function of internal energy market
  - Integration of renewables
  - System flexibility
  - Security of supply
ENTSO-E contributes to the achievement of these objectives through:

- Policy proposal
- Drafting of network codes and contributing to their implementation
- Regional Security Coordination Initiatives (RSCIs)
- Technical cooperation
- Ten-Year-Network-Development-Plan (TYNDP)
- TYNDP (Ten-Year-Network-Development-Plan)
  - Consists of report, six detailed regional investment plans, scenario outlook, adequacy forecast
- Network Codes
  - Pan-European rules drafted by ENTSO-E, with guidance from ACER, to facilitate the harmonization, integration and efficiency of the European electricity market
  - Three overarching areas: connection codes, operational codes, market codes
Challenges for BNetzA

1. Transformation of political targets into the technical framework

2. Broader and deeper involvement of stakeholders

3. Streamlining of regional planning and permitting procedures: One-stop shop
Thank you for your attention