Legal framework for grid connection and use in Germany

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About us

Becker Büttner Held has been operating since 1991. At BBH, lawyers, auditors and tax advisors work hand in hand with the engineers, consultants and other experts of our BBH Consulting AG. We provide advice to more than 3,000 clients and are the leading law firm for the energy and infrastructure industry.

BBH is known as "the" law firm of public utilities. But we are far more than that – in Germany and also in Europe. The decentralised utilities, the industry, transport companies, investors as well as political bodies, like the European Commission, the Federal Government, the Federal States and public corporations appreciate BBH's work.

- Accredited professionals: ca. 250; total staff: ca. 550
- Offices in Berlin, Munich, Cologne, Hamburg, Stuttgart and Brussels

Dr. Dörte Fouquet

Dr. Dörte Fouquet is specialized in EU law and international legal relations, with focus on competition, infrastructure, energy and environment. She is legal advisor to companies, finance institutions, associations, governmental agencies in Germany and other EU Member States, EU institutions and on international level.

- Studies of Law at the Universities of Marburg and Hamburg
- 1982 Research assistant, University of Hamburg
- 1988 Ministry for the Environment and Energy, Hamburg
- 1991 Liaison office of Hamburg and Schleswig-Holstein to the European Commission in Brussels
- 1993 Partner at law firm Kuhbier, Brussels
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Agenda

1. Introduction – the German „Energiewende"
2. Rules on grid connection and use
    1. Conventional energy sources
    2. Renewable energy sources
3. Conditions for decentralized electricity supply and demand
4. Conclusions and discussion

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The German Energiewende
Nuclear Phase-out

- June 2000: SPD/Green-Coalition announces the successive phasing out of nuclear power until 2021
  - (CDU)-Opposition lead by Merkel opposes this "Nuclear consensus"
- April 2002: Nuclear phase-out **becomes legally binding**
  - "Stade" closed down in Nov. 2003
  - "Obrigheim" closed down in May 2005
- November 2010: Merkel-Government decides to **extend the lifespan of all 17 nuclear power plants by 12 years in average**
  - Final phase-out deferred to 2040
  - 150.000 people demonstrate against the lifetime extension

The German Energiewende
Nuclear Phase-out after Fukushima

- 14.March 2011: Merkel announces **3 months moratorium** for 8 nuclear power plants to initiating security check ups
  - Massive public demonstrations demanding immediate exit
- June 2011: **Government proposes** to terminate 7 oldest nuclear power plants (+ „Krümmel") = phase-out by 2022

➡ BUT: Provision suggests to allow for one active nuclear power plant as back-up for possible blackouts

- After vexed discussions:
  - back-up provisions nullified
  - irrevocable closure of 8 plants **01.08.2014**
  - successive phase-out till 2022

} **legally effective from**

The German Energiewende
Increase renewable energy

Germany wants to reach **40-45% renewables by 2025, and 55-60% by 2035**

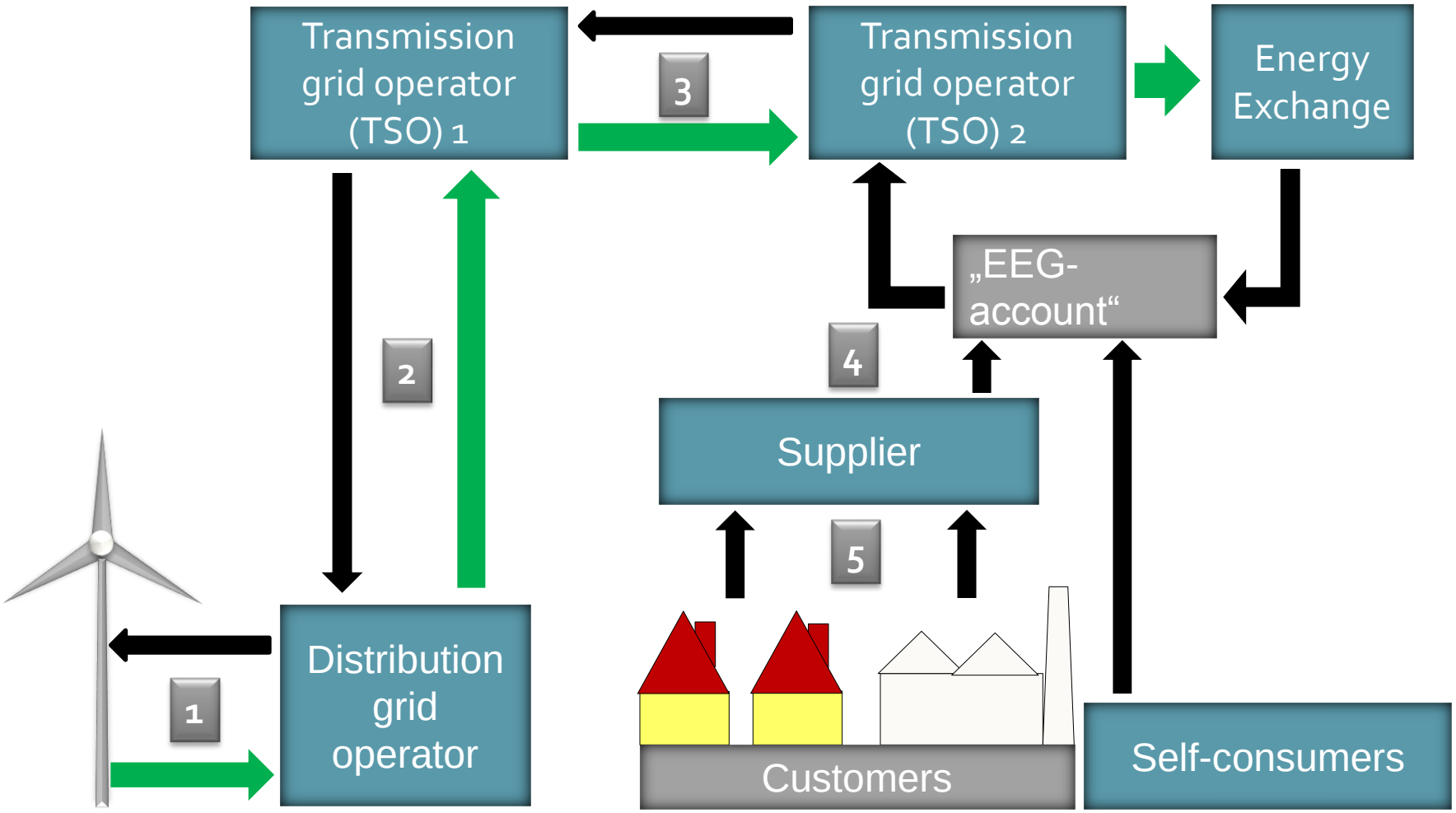
- To stay in control of the development
  - EEG 2012 introduced a **"breathing cap"** and development corridor for PV
    - 2,4 – 2,6 GW per year, overall limit of 52 GW
  - EEG 2014 now introduced "breathing cap" and a development corridor also for wind power
    - Onshore : 2,4 – 2,6 GW per year
    - Offshore: 6,5 GW until 2020, 15 GW until 2030
  - EEG 2014 capped development of biomass to 100 MW per year

The German Energiewende
Transition towards the market

With higher shares of renewable energy = more market integration

- All producers have to **start selling on the market**
  - **Market Premium** instead of Feed-In Tariff
    - Exception for small producers under 500 kW (from 2016 under 100 kW)
      - For them: "reduction" in EEG support compared to market premium of 0,2 – 0, 4 ct/kWh
  - All plants participating in the market premium support need to be equipped with **remote control**
    - Allowing grid operators to better balance the grid
  - After more than 6 hours of negative market prices – no more support

The German Energiewende
Interactions in the field of renewables



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Grid connection and use
Conventional sources

In Germany, everyone has a right to use the grid

- §20 EnWG: **right to use the grid** under regulated or approved conditions
  - Conditions regulated in respective regulations (e.g. StromNZV)
  - **Grid use tariffs** regulated in § 21 EnWG and respective regulations
    - Generally, only consumers pay grid use tariffs, not producers
  - Finally, conditions set out in **individual grid use agreement**

Grid connection and use
Conventional sources

Legal framework foresees general obligation to connect

- §17(1) EnWG: **obligation to connect** under "technical and economic conditions which are appropriate, non-discriminatory, transparent…"
  - Conditions regulated in § 19 EnWG and in other respective regulations (e.g. NAV, NDAV)
  - Finally, conditions set out in **individual grid connection and access agreement (s)**
    - Producer pays grid connection costs including a "one time off" contribution to the costs for the extension and improvement of the grid ("Baukostenzuschlag", BKZ)
    - Not costs of grid extension/improvement

Grid connection and use
Conventional sources

Grid connection and grid access agreement

Grid use agreement

Energy supply contract

Supplier

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Rules for renewable energy sources Development

Originally, EEG had **just one article** on grid access and use for renewable energy

- BUT: proved to be not very practical
  - More detailed rules were considered necessary
    - Where to connect
    - Within what time frame to connect
    - Which information to be provided by whom
    - What to do with grid extension/improvement (costs)
    - What to do in case of congestion
    - How to control feed-in
    - What about offshore grids
    - …

Grid access, transmission and dispatch Renewable energy sources

New rules **thus much more detailed** (§8-§15 EEG 2014)

- §8(1) EEG 2014: **Obligation to connect without delay and with priority**
  - Normally to the closest connection point, unless there is a technically and economically more fit connection point
  - **Obligation on the grid operator to connect also where this requires grid extensions and improvements** (§8(4) EEG 2014)
  - Obligation to inform by grid operator (§8(6) EEG 2014)
  - Producer pays the **cost only for the connection** (§8(6), §16 EEG 2014), including **a "one time off" contribution** to the costs for the extension and improvement of the grid ("Baukostenzuschlag", BKZ)
    - Grid operator pays for extension and improvement (§17 EEG 2014)

Grid access, transmission and dispatch
Renewable energy sources

Technical rules and rules on information exchange added

- §9 EEG 2014: **Technical rules for power plants > 100 kW**
  - Equipped with remote control
  - Possibility for grid operator to read out real-time feed-in at any time
- § 9(2) EEG 2014: **Special rules for Solar PV**
  - Obligation to have remote control and read out possibility already for plants > 30 kW
  - Otherwise max. 70% of the production may be fed in
    - NOTE: Special rules also as regards **which plants are considered "one plant" for those purposes** (same property and into operation within one year)

Grid access, transmission and dispatch Renewable energy sources

To ensure that greatest amount renewable electricity possible is in the grid:

- §11 EEG 2014: **Obligation on grid operator to give priority physical take off, transmission and dispatch of renewable electricity**
  - In case of continued Feed-In Tariff, not only physical take-off but also commercial take-off
  - § 11(2) EEG 2014: Obligation continued: not only off-taking grid operator, but also "on-taking" grid operator in (higher) distribution or transmission grid

Grid access, transmission and dispatch Renewable energy sources

Clarity on obligations as regards grid extension and improvement

- §12 EEG 2014: **Grid operators obliged to extend/improve the grid to ensure take off, transmission and dispatch of renewable electricity**
  - Also for distribution grids (< 110 kV) to which the renewable electricity plant is not directly connected, if necessary
- §13 EEG 2014: If grid operator does not comply with obligation **= possibility for producer to claim damages**
  - Producers can ask grid operator for information on what was done and why

Grid access, transmission and dispatch
Renewable energy sources

Regime for congestion management

- §14 EEG 2014: In exceptional cases curtailment for renewable electricity plants allowed
  - Otherwise grid congestion
  - And priority for renewable electricity to the extent possible ensured
  - After data of real-time feed-in of those plants was collected
    - Solar PV plants complying with technical rules to be curtailed only in subordinated role
  - Grid operators to inform curtailed producers immediately about times, extent and reasons for curtailment
    - Upon request: Proof of necessity

Rules on curtailment
Renewable energy sources

In cases of curtailment, obligation to pay compensation (**„hardship" cases**) (§ 15 EEG 2014)

- Grid operator has to **compensate 95% of the lost income**
  - In case the lost income of one year amounts to more than 1% of the overall income of the plant, the grid operator has to cover 100% of the lost income
    - Grid operator of the grid wherein the reason for the curtailment lies has to compensate the grid operator who has to pay the compensation to the producer
    - Grid operator can include those costs into grid use tariffs, i.e. pass them on
      - BUT: Not if due to own fault (e.g. failure to extend/improve the grid)
- Additionally: **Damages possible**

Grid access, transmission and dispatch
Special regime for offshore wind

In order to ensure sufficient grid development for offshore wind

- § 17b EnWG: **10 year offshore grid development plan**
  - Incl. information on the planned completion and binding dates for the start of the works
  - Annual updates on progress, incl. information on reasons for delay
- § 17d EnWG: **obligation on transmission grid operators who will connect to execute grid development plan**
  - Realization in coordination with offshore wind developer
- § 17d(3) EnWG: Capacity normally allocated by regulator
  - Until 2020 6,5 GW to be allocated

Rules on curtailment
Special regime for offshore wind

Financing offshore grid development and compensation

- §17d (7) EnWG: **special surcharge to finance development**
  - Transmission grid operators equalize the costs among each other and pass it on to consumers
- §17e EnWG: **compensation/damages regime**
  - Interruption/accident: compensation of 90% of lost income in case feed-in of the offshore plant not possible for more than 10 consecutive days, starting the 11th day
  - Connection not completed in time: compensation of 90% if binding date exceeded by 10 day, starting the 11th day
  - Construction/repair works: compensation of 90% of the lost income if more than 10 days a year, starting the 11th day

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Decentralized systems
Role of the distribution grid operators

The German legal framework generally foresees a rather active role for distribution grid operators

- § 14 EnWG: **responsibility for system stability also to distribution grid operators**
  - Demand side management at distribution grid level is thus in principle possible
    - Within their grid, they thus have to match demand and supply in order to ensure the system is stable
  - E.g. §14 a EnWG requires grid operators to charge **reduced grid use tariffs for electricity consumers that allow being completely cut off from the grid temporarily**
    - (Industrial) Consumers thus can get "compensated" for such system services

Decentralized systems
Role of the producer

The German legal framework sets incentives for decentralized generation through "avoided grid use costs"

- §18 StromNEV jo. 24 EnWG, §57 Abs.3 EEG and §4 Abs.3 KWKG gives producers in decentralized systems right to payment for **„avoided grid use costs"**
  - Idea: decentralized generation saves costs in the higher level grid – i.e. grid use costs are avoided
  - For renewable energy supported by EEG: **payment for "avoided grid use costs" included in EEG support**
    - i.e. "avoided grid use costs" supposed to contribute to EEG support and lower EEG surcharge

Decentralized systems
(Potential) Role of the consumer

The German legal framework may also allow for a more active role of the consumer

- Supply and demand should determine the price
  - Little demand at times of high supply = should lead to low prices
- § 40 EnWG thus **requires electricity suppliers to offer variable prices**
  - Potential incentives for consumers to adapt their consumption behaviour (lower prices in times of less demand etc.)
- § 21c EnWG requires **at least for new connections and large energy consumers the installations of "smart meters"**
  - Improvement of the information on consumption may lead to better uptake of incentives for changing consumption behaviour
    - As the law currently does not address existing building stock, Germany is considering a general "smart meter roll-out" to all households

Decentralized systems
Example: Community projects

In Germany, **more than 50% of**

wind power capacity is "community owned"

- Friedrich-Wilhelm-Lübke-Koog was one of the first
  - Close to the Danish border, in the North of Germany
  - First turbines built in 1992, expansion in 1999, up to 32 wind turbines with a combined capacity of 18.5 MW in 2004
  - Owned by 270 residents of the polder
- Many immediate advantages
  - Profits flow to citizens through the local economy
  - Project pays local taxes increasing local welfare
  - Higher public acceptance
  - …

Decentralized systems
Example: Self-consumption in industry

Many consumers such as industry parks in Germany have some renewable energy production capacity

- Until 2014: No EEG-Surcharge
  - Changed with EEG 2014
- Now: Introduction of **reduced EEG-Surcharge** for self-consumption
- No grid use tariffs for production in self-consumption
- Favorable tax treatment for self-consumption
  - NOTE: With the introduction of the EEG-Surcharge on self-consumption, role of distribution grid operators even more active!

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Conclusions and discussion

Transition to renewable energy will come with transition towards **more decentralized generation**

- Need for legislative framework allowing market entry
- Need for markets allowing effective participation
- Need for more active role of distribution grid operators
- Need for a tariff system reflecting the benefits of decentralized generation
- Need for specific rules for self-consumers
- …

Thank you very much for your attention.

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