Germany

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1 Policy and law

What is the government policy and legislative framework for the electricity sector?

Since 2005, Germany's electricity industry has been regulated in accordance with European standards, based on the EU Commission's Energy packages. The purpose of German energy regulation is to ensure a safe, reasonably priced, consumer-friendly, efficient and environmentally friendly energy supply, and with regards to electricity networks, the legislator aims to ensure permanent, high-capacity and reliable operation of the grid.

In 2000 the German legislator passed the Act on the Development of Renewable Energy Sources (the Renewable Energy Act) to increase the share of renewable energies in the German energy mix, but also to promote further development of technologies to generate electricity from renewable energy sources. The Renewable Energy Act has been recently revised in 2017, and provides that renewable energy production shall account for 80 per cent of all energy generation in Germany by 2050.

Following the Fukushima nuclear disaster in March 2011, the German government fundamentally revised its energy policy. The development of the renewable energy sector became more significant and the government's policy now focuses on the improvement of the integration of renewable energy sources into the energy system and market.

According to the Federal Ministry of Economy, Germany's energy transition stems from a decision to produce energy on a sustainable basis and make Germany one of the most energy-efficient and environmentally compatible economies in the world. The expansion of renewable energy is one of the main pillars in Germany's energy transition, and the German legislator has also set out rules on the roll-out of smart meter devices to create a legal framework which allows for flexible generation as well as more flexible demand.

2 Organisation of the market

What is the organisational structure for the generation, transmission, distribution and sale of power?

In recent decades in the German electricity market, four incumbent power generators (RWE, E.ON, EnBW and Vattenfall) have shared the market with a handful of regional, and hundreds of municipal, utilities. Some of these have several thousand employees, others are small or medium-sized companies. As to the ownership structure, some municipal utilities are 100 per cent public companies, but a large number have private shareholders. In addition, independent producers and self-suppliers contribute to the energy mix by operating wind power stations and photovoltaic systems. Recently, there has been a trend towards decentralised power generation by private households, based on solar photovoltaics specifically.

With regard to electricity transmission system operators, the European Commission Directive Concerning Common Rules for the Internal Market in Electricity 1996 (96/92/EC) demanded legal unbundling of the network business, including the establishment of separate legal entities responsible for market-related activities such as the production and marketing of energy. Accordingly, Amprion, Tennet TSO, 50Hertz and TransnetBW became legally independent from their former parent companies (RWE, E.ON, Vattenfall Europe and EnBW respectively). The European Union's Third Energy Package (2011) introduced ownership unbundling. As a consequence, the German transmission operators were certified as fully independent transmission operators, or as independent transmission operators in the sense of the European directive.

Distribution networks are operated by more than 800 local and regional distribution network operators. Ownership unbundling with respect to the distribution of power is not required.

As to the sale of power and gas, market players are free to sell energy to end consumers, or on the wholesale market either over the counter or via the European Energy Exchange (EEX). According to the revised Renewable Energy Act, electricity from renewable generation needs to be directly sold on the market. The previous feed-in tariff system continues to be applicable for existing installations, but will only apply to small installations in the future.

Regulation of electricity utilities – power generation

3 Authorisation to construct and operate generation facilities

What authorisations are required to construct and operate generation facilities?

According to the EU's first Energy Package, power generation is not subject to specific regulatory approvals. There is no energy law based authorisation required to operate a generation facility. The German Energy Act only refers to technical safety regulation set by industry associations.

However, the construction of a generation facility must adhere to the general construction standards provided by the Federal Building Code and the Federal Emission Control Act.

4 Grid connection policies

What are the policies with respect to connection of generation to the transmission grid?

Connection to and use of the system are both customers' rights. Generators are grid customers and, in principle, there is no specific grid-use fee for connection to the grid.

Operators of renewable energy installations are granted a priority right of connection to the grid. According to the Renewable Energy Act, the grid operator is even obliged to expand the grid if the capacity is not sufficient for connection to the grid of the planned installation. For the connection of offshore windfarms to the grid, the Energy Industry Act sets out specific procedures, based on an Offshore Grid Development Plan, which need to be confirmed by the Regulatory Authority.

In 2007, a special regulation, the Connection of Power Plants Ordinance (KraftNAV), was issued which set out rules for the network connection procedure for new power plants, for the allocation of connection costs (to be paid by the power plant operator), and for expansion of the system upstream of the connection point (to be paid for by the system operator). These specific rules applied to power plants with a capacity of 100MW or more that were connected to high-voltage grids of 110kV and higher. In order to encourage the construction of new generation facilities, such new power plants were given a priority right of network access in the event of congestion in the German transmission system, provided that the connection application was

filed before 31 December 2007 and the plant was connected to the grid before 31 December 2012.

The grid operator is entitled to refuse grid connection if it is technically unfeasible, or economically unreasonable.

5 Alternative energy sources

Does government policy or legislation encourage power generation based on alternative energy sources such as renewable energies or combined heat and power?

In 2000, in order to incentivise the production of renewable energy, the German legislator established, under the Renewable Energy Act, a complex system of fixed feed-in tariffs for electricity generated from renewable sources. The feed-in tariff system has been amended several times since, in 2009, 2012, 2014 and 2016. However, the legal framework was only amended with respect to new power plants and therefore the applicability of the feed-in tariff system and related conditions is dependent on time of commissioning.

Renewable energies promoted under the Renewable Energy Act include hydropower (including wave, tidal, salinity gradient and marine current energy), onshore and offshore wind energy, solar radiation energy, geothermal energy, energy from biomass including biogas, biomethane, landfill gas, sewage treatment gas, and gas from the biologically degradable portion of waste from households and industry. Mine gas is also treated as renewable energy.

The system includes rules on priority grid connection and grid access, as well as financial promotion, such as feed-in tariffs and payment of a market premium in case of direct marketing. For plants commissioned under the Renewable Energy Act (2014), regular feed-in tariffs are only applicable to small installations. Until 1 January 2017, the applicable subsidy depended on the respective energy source used, the date of commissioning of the installation and the capacity of the installation. With effect from 1 January 2017, the method used to determinate the applicable subsidy was changed to a tendering process applicable to onshore wind, offshore wind, larger photovoltaic plants and certain categories of biomass plants. The tenders provide the mechanism for adhering to the established 'deployment corridor' by auctioning a specific amount of capacity volume each year. For all other renewable energy sources (including smaller photovoltaic plants) the respective applicable subsidy will still be determined by law.

The Renewable Energy Act provides a cost-balancing and cost-shifting mechanism in order to place the cost of subsidising renewable energies on the end customers, who have to pay a surcharge for each kilowatt hour of renewable-energy-generated power used.

A regulation also exists regarding the obligation of the network operator to connect power producers to the network who generate electricity in combined heat and power (CHP) generation plants. The fundamental regulation is laid down in the Combined Heat and Power Generation Act (KWK-G), which was revised in 2015, entered into force on 1 January 2016 and was most recently amended on 1 January 2017. Pursuant to KWK-G, grid operators have to connect combined heat and power plants to their grids and purchase any electricity they produce. The feed-in tariffs consist of an agreed price and an additional statutory premium, or the additional statutory premium only in the case of direct marketing (which is mandatory to new CHP plants). After the entry into force of the revised KWK-G on 1 January 2016, the European Commission granted state aid approval for the revised law on 24 October 2016. The European Commission's approval is based on Germany's commitment to broaden its CHP support to imported CHP electricity by allowing the participation of foreign operators in CHP support tenders of 1–50 MW as of winter 2017/2018. On 29 June 2016, the German Parliament approved the Tender Ordinance for CHP plants and innovative CHP systems. The tenders will begin on 1 December 2017.

6 Climate change

What impact will government policy on climate change have on the types of resources that are used to meet electricity demand and on the cost and amount of power that is consumed?

The German government continues to pursue its goal of reducing greenhouse emissions by 40 per cent (as compared to 1990 levels) by 2020, and by 80–90 per cent by 2050.

In the long term, the government also plans for 80 per cent of electricity demand to be met from renewable generation, compared to the current average rate of 35 per cent. To ensure security of supply during the transition period, the government wants to increase flexibility of both electricity generation and consumption.

Following the Fukushima accident, the German legislator provided a roadmap for the structured phasing out of the utilisation of nuclear power for commercial electricity generation. In 2011 eight nuclear power plants forfeited their operating licences and the operating licences for the three newest nuclear power plants will expire by 2022. According to analysis by the German government there is sufficient power plant capacity in Germany regardless of the nuclear energy phase-out. The increase in renewable energies, increase in energy efficiency and the replacement of older fossil power plants with state-of-the-art fossil power plants will compensate for the displaced nuclear power.

7 Storage

Does the regulatory framework support electricity storage including research and development of storage solutions?

Energy storage systems are an integral part of Germany's energy transition. Currently, the main application of energy storage systems is marketing of frequency response services.

Nevertheless, German energy law does not provide regulatory incentives for storage applications. The existing regulation aims at safeguarding specific advantages for renewable energy producers under the Renewable Energy Act. For electricity which is supplied or conducted for the purpose of temporary storage to an electrical, chemical, mechanical or physical electricity storage installation, the transmission system operators' entitlement to payment of the Renewable Energy Act surcharge shall not apply if energy is removed from the electricity storage installation solely for the purpose of re-feeding electricity into the grid system. There is also a grid fee exemption for storage facilities, which in the past largely applied to pump storage plants only, but which has become increasingly relevant for other energy-storage systems.

A recent amendment of the Electricity Tax Act enables operators of chemical storage facilities to apply for qualification of their storage facility as a component of the grid. This avoids double counting of electricity tax, first when feeding in and second when using the stored electricity.

There are no specific incentives for grid operators with regard to investments in grid scale storage applications. However, with regard to private households, the federal government makes PV-battery system investments attractive through the provision of incentives including low-interest loans and investment grants. The amount of support depends on the size of the PV-system and the cost for the storage system.

8 Government policy

Does government policy encourage or discourage development of new nuclear power plants? How?

As mentioned in question 6 above, following the Fukushima incident in March 2011, the German government decided to progressively phase out nuclear energy. All nuclear power plants will be shut down by 2022.

Regulation of electricity utilities – transmission

9 Authorisations to construct and operate transmission networks

What authorisations are required to construct and operate transmission networks?

For the construction of transmission networks, operators have to adhere to explicit building regulations and nature conservation laws. Under the Energy Industry Act, a planning approval decision is required for building, operating and modifying high-voltage overhead transmission lines of 110kV or more. If an environmental impact assessment is not mandatory for a project and individual rights of third parties are not substantially affected, section 43b no. 2 of the Energy Industry Act allows a planning permit application instead of a planning approval, which is granted by way of a less formal planning procedure.

The Energy Industry Act provides for an optional planning approval decision with regard to high-voltage underground transmission lines of 110kV located not more than 20km from the coastline.

Planning approval and planning permit decisions give permission for all elements of a transmission line. Accordingly, the results of prior regional planning procedures carried out under provisions of the Regional Planning Act and the Planning Acts of the Federal States and integrated environmental impact assessments have to be considered by all public authorities dealing with planning acts and measures affecting the subject of the regional planning procedures. The results of a regional planning procedure have no binding effect, however, and do not represent a substitute for any planning approval or other permit.

Transmission network operators also need to obtain an authorisation from the responsible state regulatory authority. New operators have to file for this authorisation, however incumbent operators that acted as transmission network operators before this authorisation requirement was introduced in July 2005 do not have to. Existing authorisations are passed to the legal successor in the event of restructuring or the implementation of unbundling.

In addition, transmission network operators have to apply for a certification. Within the certification process the Federal Network Agency for Electricity (the Federal Network Agency) examines whether the transmission network operator fulfils the specific unbundling restrictions for transmission network operators.

10 Eligibility to obtain transmission services

Who is eligible to obtain transmission services and what requirements must be met to obtain access?

Network operators are obliged to grant third-party access to their system on a non-discriminatory basis in accordance with duly substantiated criteria. Network access may only be denied if the network system operator provides evidence that the requested access is impossible or unacceptable due to operational or other reasons.

11 Government transmission policy

Are there any government measures to encourage or otherwise require the expansion of the transmission grid?

Transmission network expansion is mainly encouraged by allowing transmission network operators to pass on to grid users the capital expenditures for certain so-called investment measures by including the costs in network tariffs.

Pursuant to the Incentive Regulation Ordinance, the Federal Network Agency sets revenue caps for a period of five years for each transmission system operator. The revenue cap is the upper limit of revenues that a transmission system operator is allowed to earn via network tariffs. If the Federal Network Agency approves an expansion of the transmission system as an investment measure pursuant to the Incentive Regulation Ordinance, the transmission system operator is allowed to adjust its revenue cap by the relevant capital expenditure of the investment measure (taking into account depreciation, interest on equity, trade income tax and interest on debt).

12 Rates and terms for transmission services

Who determines the rates and terms for the provision of transmission services and what legal standard does that entity apply?

Pursuant to the Energy Industry Act, all system operators must provide final customers, neighbouring and downstream electricity distribution systems, power lines, and generation facilities with connection to their system. The terms and conditions for network connection have to be reasonable, non-discriminatory, transparent and not less favourable than those used in comparable situations within their company or affiliated companies. As an exception to this rule, system operators may refuse a connection if they demonstrate that the provision of a system connection is impossible or unreasonable for operational or other technical reasons. In the event of a shortage of capacity, the reasons given for a refusal to connect must contain adequate information as to which specific measures would be necessary and what individual costs would be involved for the development of the network.

Operators of energy supply systems must grant all persons access to their system on a non-discriminatory basis in accordance with duly substantiated criteria. They have to publish terms and conditions, sample agreements and tariffs for such system access on the internet. To structure the right of access, final customers or suppliers of electricity must conclude agreements with those system operators from whose networks electricity is to be taken off or into whose networks electricity is to be fed. Grid users have the right to conclude such system agreements.

The rates for access to the network (network tariffs) are regulated by the Federal Network Agency. Pursuant to the current Incentive Regulation Ordinance the Federal Network Agency determines revenue caps for a period of five years for each network operator. The revenue cap is the upper limit of revenues that a network operator is allowed to earn via grid fees. The revenue cap is based on a review of each network operator's costs in the 'photo year' and an efficiency benchmark of all network operators that is carried out by the Federal Network Agency. The efficiency benchmark results in a so-called efficiency value for each network operator reflecting its efficiency in relation to the most efficient network operators. All network operators are to be gradually raised to the efficiency level of the most efficient company/companies.

Network operators' costs are divided into two categories: controllable and non-controllable costs. With respect to non-controllable costs the Incentive Regulation Ordinance distinguishes between permanently non-controllable costs and temporarily non-controllable costs. The permanently non-controllable costs are explicitly defined in the ordinance and do not need to be reduced by the network operator; the total amount can be included in the revenue cap. Temporarily non-controllable costs are the costs that are in principle controllable by the network operator but can be regarded as efficient and therefore do not have to be reduced by the network operator. Controllable costs are costs that the network operator can control, and which have to be reduced corresponding to the inefficiency of the relevant network operator. The amount of inefficiency is expressed by the efficiency value.

Each revenue cap is based on a formula that, put simply, contains the aforementioned cost elements as well as further elements to reflect inflation, general sectoral productivity and quality of network services.

The network system operators have to calculate their network tariffs by converting the total volume of allowed revenues into network tariffs. If network operators succeed in reducing their costs beyond those that are allowed on the basis of the revenue cap set for the respective year, they may keep the difference between revenues and costs.

13 Entities responsible for grid reliability

Which entities are responsible for the reliability of the transmission grid and what are their powers and responsibilities?

Pursuant to Part 3 of the Energy Industry Act grid operators are obliged to operate, maintain and develop as needed a safe, reliable, and efficient energy supply system. Therefore, system security is the responsibility of grid operators, who have to maintain and appropriately optimise, strengthen and expand the grid within economically reasonable limits. Operating a safe transmission grid involves having reasonable protection against threats to data and telecommunication systems which are necessary for secure and reliable network operation. The Federal Network Agency has therefore issued, in cooperation with the Federal Office for Information Security, a list of safety requirements.

Additionally, the Energy Industry Act grants transmission system operators specific rights to intervene by employing network-related measures and market measures in the event of danger to the system or malfunctioning. Local power failures to the transmission network, temporary congestion or difficulties in ensuring frequencies, voltage and stability are each considered dangerous cases affecting the security and reliability of the electricity supply system of the respective control area.

Power generators contribute to system security due to their obligation to accept measures of feed-in management carried out by the grid operators. In addition, power generators contribute to system security by delivering balancing power to the transmission system operators. Virtual power plants and battery storage providers have also recently been granted prequalification by transmission operators to participate in the balancing power market. This is a developing market.

Energy traders also contribute to system security, being obliged to quarter-hourly balance their balancing groups to maintain a balanced supply and demand in their area of responsibility.

Since 2011, the Federal Regulatory Authority has been entitled to prevent power plant operators from shutting down their installations, if electricity generation from such installations is relevant for system security. In such cases, power plant operators are granted an indemnification.

Regulation of electricity utilities – distribution

14 Authorisation to construct and operate distribution networks

What authorisations are required to construct and operate distribution networks?

The permission procedures for the construction, operation and modification of transmission lines, set out in question 9 above, do not apply to distribution networks. However, a permit for construction, operation and modification of distribution lines is needed under Federal or Regional Control pollution provisions, public planning and building provisions, or both. The requirements to be met for the construction and operation of a distribution network are similar to the requirements for transmission network operators.

Further, distribution network operators also have to apply for an authorisation according to section 4 Energy Industry Act unless the grandfathering clause for incumbent distribution network operators applies (see question 8). The certification procedure regarding the unbundling provisions set out in section 4a Energy Industry Act for transmission network operators does not apply to distribution network operators.

15 Access to the distribution grid

Who is eligible to obtain access to the distribution network and what requirements must be met to obtain access?

Pursuant to the Energy Industry Act all system operators must provide final customers, neighbouring and downstream electricity distribution systems, power lines and generation facilities with connection to their system. The terms and conditions for network connection have to be reasonable, non-discriminatory, transparent and no less favourable than those used in comparable cases within their company or affiliated companies. As an exception to this rule, system operators may refuse the connection if they demonstrate that the provision of a system connection is impossible or unreasonable for operational, or other financial or technical reasons. In the event of a shortage of capacity, the reasons given for a refusal to connect must contain adequate information as to which specific measures would be necessary and what individual costs would be involved for the development of the network.

16 Government distribution network policy

Are there any governmental measures to encourage or otherwise require the expansion of the distribution network?

To date, distribution network expansion has largely been encouraged by allowing the distribution network operators to pass on to the grid users the capital expenditure of certain so-called investment measures by including the costs in network tariffs. Until the end of the second regulatory period, distribution network operators are allowed to apply for an extension factor in order to be able to include costs for necessary network expansion measures in their revenue caps. However, the extension factor is a regulatory instrument that does not reflect the actual costs of the relevant extension measure but rather allows for the inclusion of a specific lump sum of costs in the revenue cap. The relevant adjustment of the revenue cap on the basis of an extension factor can be made in the following year of the regulatory period in which the extension has become effective.

In 2016, the German government adopted amendments to the regime for determining network tariffs for distribution system operators that also affect the encouragement of expansion measures of distribution network operators. From the third regulatory period onwards, distribution network operators are allowed to adjust their revenue caps every year according to relevant capital costs incurred. The adjustment consists of a step-up of capital costs, as well as a reduction of capital costs. The amendments to the regulatory regime for distribution network operators aim at promoting necessary investments in the distribution networks.

17 Rates and terms for distribution services

Who determines the rates or terms for the provision of distribution services and what legal standard does that entity apply?

Operators of energy supply systems must grant all persons access to their system on a non-discriminatory basis in accordance with duly substantiated criteria. They have to publish terms and conditions, sample agreements and tariffs for such system access on the internet. To structure the right of access, final customers or suppliers of electricity must conclude agreements with those system operators from whose networks electricity is to be taken off, or into whose networks electricity is to be fed. Grid users have the right to conclude such system agreements.

The rates for access to the network (network tariffs) are regulated by the Federal Network Agency. Pursuant to the Incentive Regulation Ordinance the Federal Network Agency determines revenue caps for a period of five years for each network operator. The revenue cap is the upper limit of the revenues that a network operator is allowed to earn via grid fees. The revenue cap is based on a review of each network operators' costs in the so-called photo year and an efficiency benchmark of all network operators that is carried out by the Federal Network Agency. The efficiency benchmark results in an efficiency value for each network operator reflecting its efficiency in relation to the most efficient network operators. All network operators are to be gradually raised to the efficiency level of the most efficient companies.

Network operators' costs are divided into two categories: controllable and non-controllable costs. With respect to non-controllable costs, the Incentive Regulation Ordinance distinguishes between permanently non-controllable costs and temporarily non-controllable costs. Permanently non-controllable costs are explicitly defined in the ordinance, and do not need to be reduced by the network operator; the total amount can be included in the revenue cap. Temporarily non-controllable costs are the costs that are in principle controllable by the network operator but can be regarded as efficient and therefore do not have to be reduced by the network operator. Controllable costs are costs that the network operator can control, and they have to be reduced corresponding to the inefficiency of the relevant network operator. The amount of inefficiency is expressed by the efficiency value.

Each revenue cap is based on a formula that, simply put, contains the aforementioned cost elements as well as further elements to reflect inflation, general sectoral productivity and quality of network services.

Network system operators have to calculate their network tariffs by converting the total volume of the allowed revenues into network tariffs. If network operators succeed in reducing their costs beyond those that are allowed on the basis of the determined revenue cap for the respective year, they may keep the difference between revenues and costs.

As stated above (see question 16), in 2016 the German government adopted amendments to the regime for determining network tariffs for distribution system operators. From the third regulatory period onwards, distribution network operators are allowed to adjust their revenue caps every year according to the relevant capital costs incurred. The adjustment consists of a step-up of capital costs as well as a reduction of capital costs. With the amendment, the legislator abolishes the two-year time-lag between the costs incurred and the day when the distribution network operator is allowed to adjust its revenue cap accordingly.

Regulation of electricity utilities – sales of power

18 Approval to sell power

What authorisations are required for the sale of power to customers and which authorities grant such approvals?

The sale of power is not subject to any approval in Germany. Pursuant to part 1 of the Energy Industry Act, energy supply companies that supply household customers are obliged to notify the Federal Network Agency of the commencement and the termination of their activities. Recently, there have been disputes regarding the quality of energy supply from companies that supply services to end consumers, allowing consumers to set up their own decentralised generation.

19 Power sales tariffs

Is there any tariff or other regulation regarding power sales?

There is no tariff or other regulation regarding power sales in Germany. The only exception to the rule is the electricity basic supply which guarantees consumers a continuous energy supply. The basic supplier is obliged to publish its power sales tariffs on the internet. This refers to low voltage supply to private households.

20 Rates for wholesale of power

Who determines the rates for sales of wholesale power and what standard does that entity apply?

Power prices on the wholesale energy market are based on market mechanisms. The Federal Cartel Office is allowed to review abusive market behaviour.

With regard to the wholesale trading of power via an energy exchange, the EEX determines the rates for the sale of power by employing the Physical Electricity Index (Phelix). Phelix describes the base load (Phelix Base) and peak load (Phelix Peak) price index published daily on the Power Spot Market for the German or Austrian market area.

21 Public service obligations

To what extent are electricity utilities that sell power subject to public service obligations?

Under the Energy Industry Act, the grid-bound supply of electricity and gas to the general public is to be ensured as safe, reasonably priced, consumer-friendly, efficient and environmentally compatible. There is no explicit public service obligation for energy suppliers in Germany, but the concept of delivering energy is considered a service of general interest.

With regard to private households, a general service provider, known as a basic supplier, secures the continuous supply of energy. The energy supply company which supplies the most household customers in a given supply network area is qualified as basic supplier. There is no general service obligation for the energy supply company if the supply is unreasonable on economic grounds. In principle, the energy supplier is entitled to cut its electricity supply on only four weeks' notice if a customer has defaulted on any payment due.

Regulatory authorities

22 Policy setting

Which authorities determine regulatory policy with respect to the electricity sector?

In Germany, the functions of the federal regulatory authority are performed by the Federal Network Agency (BNetzA). Decisions of the Federal Network Agency, in accordance with the Energy Industry Act, are made by the Ruling Chambers. Undertakings directly concerned may participate in the Ruling Chamber proceeding.

With respect to regulation of transmission system operators, the Federal Network Agency is also responsible for the enforcement of European Law. The Federal Network Agency was nominated by the EU as the competent authority for regulating the electricity and gas markets by application of EC Regulation No. 1228/2003 on cross-border exchanges in electricity.

Unlike the Federal Network Agency's competences, the Federal Cartel Office does not have any responsibilities concerning network tariff calculation, or towards transmission system operators' compliance with mandatory Energy Industry Act legislation. Nevertheless, in some cases the Federal Network Agency is obliged to cooperate with the Federal Cartel Office, particularly in making decisions requiring the Federal Cartel Office's consent.

The state regulatory authorities are responsible for regulatory issues concerning distribution system operators with fewer than 100,000 customers connected to their networks.

23 Scope of authority

What is the scope of each regulator's authority?

The measures undertaken by the Federal Network Agency with regard to energy regulation include the approval of network tariffs for the transmission and distribution of electricity and gas, the removal of obstacles that impede access to the energy networks for suppliers and consumers, the standardisation of the relevant processes for switching suppliers, and the improvement of conditions under which new power plants are connected to the networks. The Federal Network Agency is also responsible to facilitate the process of changing energy suppliers.

The Federal Network Agency shall initiate proceedings ex officio or upon petition. It not only enforces the rules of the Energy Industry Act and the relevant ordinances, but also of European law, namely Regulation EC No. 1228/2003 on cross-border exchanges in electricity.

The Federal Network Agency is a member of the Council of European Energy Regulators. The Agency takes part in the European Electricity Regulatory Forum (Florence Forum), which does not have rule-making power, but issues non-binding guidelines and addresses recommendations and opinions to the EU Commission. The Federal Network Agency also participates in the work of the Agency for the Cooperation of Energy Regulators (ACER), which involves reviewing investment plans of transmission system operators and conducting assessments on how far the system operators' investment plans are consistent with the Europe-wide 10-year network development plan.

24 Establishment of regulators

How is each regulator established and to what extent is it considered to be independent of the regulated business and of governmental officials?

The Federal Network Agency is a separate, higher federal authority within the scope of business of the German Federal Ministry of Economic Affairs and Energy and has its headquarters in Bonn. On 13 July 2005, the Regulatory Authority for Telecommunications and Post, which superseded the Federal Ministry of Post and Telecommunications and the Federal Office for Post and Telecommunications, was renamed the Federal Network Agency.

The Federal Cartel Office is an independent competition authority based in Bonn. It is located within the scope of business of the German Federal Ministry of Economic Affairs and Energy.

Both authorities are independent of the regulated business.

25 Challenge and appeal of decisions

To what extent can decisions of the regulator be challenged or appealed, and to whom? What are the grounds and procedures for appeal?

Decisions of the Federal Network Agency can be appealed. The procedure is regulated in the Energy Industry Act and basically follows the rules of administrative jurisdiction, similar to cartel law procedures. The appeal against a decision must be filed within one month after service of the decision, which cannot be extended. The reasons for the appeal must then be submitted within a month starting from the date that the appeal was filed. This respite can be extended by the court.

With regard to litigation in the electricity sector, the Higher Regional Court in Düsseldorf is the exclusively competent court at first instance. The decisions of the Higher Regional Court in Düsseldorf may be appealed. The competent court for such appeal is the Federal Supreme Court.

In the event of a legal dispute, neither the Federal Network Agency nor the Federal Ministry of Economic Affairs and Energy can quash the decision made by the Ruling Chambers. In contrast to the provisions of the German Law prohibiting Restraints of Competition (GWB), a 'ministerial decision' is not foreseen.

Acquisition and merger control – competition

26 Responsible bodies

Which bodies have the authority to approve or block mergers or other changes in control over businesses in the sector or acquisition of utility assets?

Whether the Federal Cartel Office or the European Commission is responsible for providing clearance to an envisaged merger depends on the annual turnover of the involved businesses. If the combined businesses exceed specified thresholds in terms of global and European sales, the proposed merger must be notified to the European Commission. Below the specified thresholds, the Federal Cartel Office is responsible.

The Federal Cartel Office is assigned to the Federal Ministry for Economic Affairs and Energy, and examines and assesses the effects the merger will have on competition. The internal organisation of the Federal Cartel Office is based on independent chambers. The decision on merger clearance is prepared and taken by the responsible Chambers, which are specialised in electricity sector matters. In doing so, the Chamber determines if the specific transaction would lead to dominant market position or a strengthening of such position. If negative effects prevail, a merger can be prohibited or, in the case of minor negative effects, cleared with restrictions aimed at reducing the identified negative effects.

27 Review of transfers of control

What criteria and procedures apply with respect to the review of mergers, acquisitions and other transfers of control? How long does it typically take to obtain a decision approving or blocking the transaction?

The Federal Cartel Office shall not provide clearance to a merger which has a significant negative impact on competition in the respective markets, in particular if the merger leads to a dominant market position or a strengthening of the market position. To this end, the Federal Cartel Office has to identify the respective markets and review the market position of all parties to the merger separately and jointly in order to review competition before and after the respective merger.

After the merger filing has been submitted, the Federal Cartel Office must decide within one month whether the envisaged merger needs to be examined in more detail or can be cleared (first phase). If there is any indication that the merger may cause a negative impact on competition, a formal in-depth investigation is initiated (second phase), extending the time frame up to a total of four months from the date of notification.

Decisions are usually issued within the initial investigation period of one month due to the common practice of informal pre-notification discussions with the Federal Cartel Office. In cases in which it is expected that the Federal Cartel Office might require additional information or raise doubts as to the impact on competition, it is advisable that the Federal Cartel Office is contacted in advance.

28 Prevention and prosecution of anti-competitive practices

Which authorities have the power to prevent or prosecute anti-competitive or manipulative practices in the electricity sector?

The generation, trade and supply of power to customers takes place on free, non-regulated markets. To ensure competition on these markets the Federal Cartel Office and respective Cartel Offices of the German states are empowered to investigate and prosecute anti-competitive or manipulative practices. Given the monopoly nature of grid ownership and operation, transmission and distribution of electricity is subject to specific grid regulation to ensure non-discriminatory grid access and grid usage. Grid regulation is allocated to the Federal Network Agency and respective Regulatory Authorities of each state. The Energy Industry Act provides that the Federal Cartel Office and Federal Network Agency should cooperate with regard to several tasks.

In order to combat insider trading and market manipulation on the wholesale energy market the European Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) entered into force on 28 December 2011. With the introduction of REMIT, ACER and the national regulatory authorities have obtained the opportunity to ensure market integrity by comprehensive monitoring of wholesale energy trading. ACER will be responsible for collecting and analysing wholesale markets and other relevant data to identify possible instances of market abuse and will notify the concerned National Regulatory Authority (Federal Network Agency). After an initial assessment, and when there are grounds to believe that abusive behaviour has actually occurred, the Federal Network Agency will have to carry out investigations and put in place penalties to stop and prevent market manipulation.

29 Determination of anti-competitive conduct

What substantive standards are applied to determine whether conduct is anti-competitive or manipulative?

Apart from articles 101 and 102 TFEU and EU Council Regulation No. 1/2003 on the implementation of articles 101 and 102 TFEU, the general provisions of the GWB apply to determine whether a conduct is anti-competitive or manipulative. In this regard, the GWB provides a sector-specific provision on abusive pricing. According to section 29 of GWB, an undertaking that is a supplier of electricity or pipeline gas (public utility company) on a market in which it, either alone or together with other public utility companies, has a dominant position, is prohibited from abusing such position by demanding fees or other business terms which are less favourable than those of other public utility companies or undertakings in comparable markets, unless the public utility company provides evidence that such deviation is objectively justified. Costs that would not arise to the same extent if competition existed must not be taken into consideration in determining whether an abuse remains unaffected.

The GWB provision refers to comparable markets. Thus, the Federal Cartel Office may apply the 'comparable market concept', which is meant to compare the respective market with either neighbouring markets for the same product, the same market one or a couple of years ago, or a different market, but a very similar product.

Another procedure to determine whether a specific conduct or practice could be anti-competitive is the 'sector inquiry'. If the Federal Cartel Office or any other regulatory authority suspects that competition in a certain sector might be restricted, the regulatory authority tries to gain a deeper understanding of the way in which the relevant markets and market levels function through a further investigation of the specific sector and the practices concerned.

Furthermore, the Federal Cartel Office – in collaboration with the Federal Network Agency – observes possible developments in the energy sector (this is known as energy monitoring). As set out in section 48 of the GWB, the Federal Cartel Office specifically observes the degree of transparency and degree and effectiveness of liberalisation, and extent of competition, on the wholesale and retail markets, as well as on the energy exchanges. The results of the monitoring activities are published by the Federal Network Agency and the Federal Cartel Office in an annual monitoring report.

30 Preclusion and remedy of anti-competitive practices

What authority does the regulator (or regulators) have to preclude or remedy anti-competitive or manipulative practices?

In general the Federal Cartel Office can demand discontinuation of the anti-competitive or manipulative behaviour. The Federal Cartel Office can also impose fines, the amount of which shall depend on the economic impact of the anti-competitive or manipulative practice. At

Update and trends

On 30 November 2016, the EU Commission presented a package of measures entitled 'Clean Energy for All Europeans', which notably includes proposals for reviewing the Energy Efficiency Directive and the Energy Performance of Buildings Directive. The Commission proposed a 2030 binding energy efficiency target of 30 per cent for the EU. The legislative proposals cover not only energy efficiency, but also renewable energy, the design of electricity markets, security of electricity supply and governance rules for the EU energy market. Furthermore, the Commission proposes a new way forward for Ecodesign and a strategy for connected and automated mobility. This European energy policy will have an impact on the national climate and energy policies throughout Europe.

Attention will also continue to focus on 'flexibility' of demand and supply, and also on flexibility of grids. For example, in 2016 new rules on the introduction of smart metering were implemented which are leading to the adaptation of distribution grid operators' business models in particular, and also enable the market entry of new service providers. In general, the power market will develop as a decentralised and digitalised market, providing energy suppliers and consumers with multiple roles. We expect innovative business models to further develop, such as energy services based on smartphone apps, and the optimisation of energy consumption by linking PV production and storage devices in private homes with the simultaneous marketing of frequency response to transmission grid operators. Utilities will continue to develop their communications and information technologies to handle a decentralised power supply based on millions of small renewable generation units.

the very least, the Federal Cartel Office can demand reimbursement to customers.

International

31 Acquisitions by foreign companies

Are there any special requirements or limitations on acquisitions of interests in the electricity sector by foreign companies?

Under the Foreign Trade and Payments Act, the trade in goods, services, capital, payments and other types of trade with foreign territories, as well as the trade in foreign valuables and gold between residents (foreign trade and payments) is, in principle, not restricted. There are exemptions to this rule if national security interests are affected. On 18 July 2017, the Ninth Regulation Amending the Foreign Trade and Payments Regulation entered into force, pursuant to which the federal government strengthened the review rights of the Federal Ministry for Economic Affairs, broadened the notification requirements and extended the time limits for review.

Due to the Third European Energy Package, Germany introduced a rule on the investment of third-country investors in German transmission grids. In the event that certification is requested by a transmission system owner or a transmission system operator that is controlled by a person from a third country, the regulatory authority shall notify the European Commission. The regulatory authority shall also notify the Commission if a third party investor is going to acquire control of a transmission system or a transmission system operator.

32 Authorisation to construct and operate interconnectors

What authorisations are required to construct and operate interconnectors?

The construction of interconnectors as DC cables in Germany requires a specific planning approval process pursuant to the Energy Act (see answer to question 9). This planning procedure has a 'concentration effect', which means that it concentrates all necessary public law approvals. In addition, such planning procedure includes a specific hearing process to involve citizens who are affected by the project.

Network operators – including operators of interconnectors – are supposed to obtain an authorisation issued by the competent regional authority according to state legislation. Such authorisation shall guarantee reliability of the operation in terms of personnel, as well as the necessary technical and economic capacity. In addition, on a high-voltage transmission level the grid operator needs certification to assure correct ownership unbundling. Such certification is issued by BNetzA.

33 Interconnector access and cross-border electricity supply

What rules apply to access to interconnectors and to cross-border electricity supply, especially interconnection issues?

There is no national regulation on cross-border electricity exchanges. The relevant rules are at the European level. The most important regulation for the cross-border use of networks and thus for the management of interconnectors is the EU Regulation on Cross-border Exchanges in Electricity (Regulation (EC) No. 714/2009).

This Regulation contains mandatory provisions for the settlement of cross-border electricity trading. The scope of the Regulation includes the setting of harmonised principles on cross-border transmission tariffs, rules for the handling of congestion management, in particular the exchange of information, and the establishment of a compensation mechanism for (unintended) cross-border flows of electricity. In order to facilitate the settlement of commercial transactions over the networks, transmission system operators (TSOs) in the neighbouring countries are obligated to cooperate. In particular, they have to organise the non-discriminatory access to the interconnectors of their transmission networks and ensure the cross-border exchange of information between the TSOs involved.

This Regulation on cross-border exchanges of electricity indirectly affects the wholesale market of electricity to the extent energy supplies and cross-border capacities take place within 'implicit auctions', in which energy supply and network capacity is sold as a bundled product.

Transactions between affiliates

34 Restrictions

What restrictions exist on transactions between electricity utilities and their affiliates?

The unbundling rules provide that vertically integrated energy companies and legally independent system operators that are affiliated with vertically integrated supply companies are obliged to ensure transparency and non-discriminatory operation of the system. In general, unbundling means that those companies must ensure the independence of system operators from other energy supply activities, namely generation and supply of electricity.

Vertically integrated energy companies must ensure that their network business is conducted by a legally independent network operator. The network operator is allowed to remain part of an affiliated group of companies. The network operator must also be independent with respect to its organisation, decision-making authority and network operation. This means that employees on a high or medium management level have to belong to an operational unit of the network operator and must not be involved in activities for the operational units of the vertically integrated energy supply company.

Apart from the restrictions provided in the Energy Industry Act, there are some restrictions regarding merger control in the GWB as well. This is especially the case if the merger is expected to create or strengthen a dominant market position (see question 27).

35 Enforcement and sanctions

Who enforces the restrictions on utilities dealing with affiliates and what are the sanctions for non-compliance?

The Federal Network Agency is responsible for the enforcement of the above-mentioned restrictions.

In the event of a violation of the unbundling obligations, the Energy Industry Act provides that the regulatory authority may enforce its orders through fines.

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