

Liberalization of German Energy Markets

— A Note on Germany's Energy Law

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Abstract

No other German market changed in the last ten years as rapidly as the German energy market. In 1998, the German energy sector could be described as completely monopolized. The law at the time avoided competition explicitly because of its “destructive effects”. In contrast to this, at least since 2005, the energy market in Germany is in legal terms fully liberalized. Within only seven years an isolated market turned into a market which is open for every energy undertaking.

What happened during these seven years? What is the economic structure of the German energy sector? How many energy utilities do exist in Germany? Which actions did the German government take to establish competition? What are the current rules ensuring a network connection and a third party access?

This article gives a general overview on the German energy

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market - from economic facts and data to the historic development of the Germany's energy law to concrete regulations provided by the German Industry Energy Act of 2005.

Introduction

No other German market changed in the last ten years as rapidly as the German energy market. In 1998, the German energy sector could be described as completely monopolized. The law at the time (Energiegesetz from 1935¹ - hereinafter referred to as "EnergG 1935") avoided competition explicitly because of its "destructive effects".² In contrast to this, at least since 2005, the energy market in Germany has been fully liberalized.³ Within only seven years an isolated market turned into a market which is open for every energy undertaking. In four parts, this article discusses the development of German energy law - beginning with an overview on the structure of the German energy market (below I.), to the historical development (below II.), to the status quo (below III.), and finally to an overview on prospective amendments (below IV.). It is the purpose of the following analysis to gain basic insight into Germany's energy law, i.e. to understand its historical structure and to get known to its most important regulations.

I. Structure of the German energy market

In order to understand energy law it is not sufficient only to know the applicable law. It is necessary to also understand two more things: the physical basics and the energy market structure of

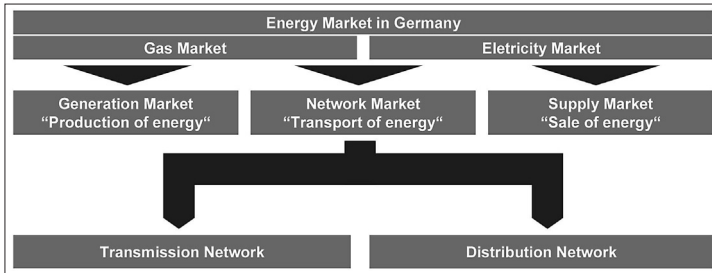
¹ Act Promoting the Energy Industry of December 13, 1935 (Gesetz zur Förderung der Energiewirtschaft - hereinafter referred to as "EnergG 1935"), RGBl. Part 1 of December 16, 1935, p. 1451 ff.

² EnergG 1935, p. 1452.

³ Theoretically, the German energy market had already been liberalized in the year 1998, see below II.

the considered country. Since the physical details cannot be discussed in one single article, this analysis is restrained to describing the structure of the German energy market before the legal details are explained.

The German energy market consists of various submarkets as the following graphic shows:



Source: by the authors

Figure 1: The energy market in Germany

For physical and legal reasons the German energy market is divided into an electricity market and a gas market. Both markets are subdivided into generation, network and supply sections. The electricity and the gas market structure as well as the regulations governing these markets differ in details. For a better understanding this article is focused on Germany's electricity market. Regarding this, generation simply means "production of electricity" in power plants.⁴ It is difficult to differentiate between network and supply. Whereas the network market only covers the "transport of electricity",⁵ supply means the "sale of electricity".⁶ This distinction is one of the cornerstones of German energy law. Due to the unbundling regime, according to which, the functions of transport and sale of energy may not to be exercised by the same company

⁴ Art 2 No 1 Electricity Directive 2003/54/EC of June 26, 2003 concerning common rules for the internal market in electricity (hereinafter referred to as "EltRL"), OJ L 176/37.

⁵ Art 2 No 3 EltRL and Art 2 No 5 EltRL.

⁶ Art 2 No 19 EltRL.

as will be discussed below.⁷ Thus, an energy undertaking in Germany basically consists of a supply company and a network company.⁸

1. Generation market

Since 1998, the German generation market is liberalized. Recently, foreign companies, such as Hitachi Power Europe, built power plants in Germany. However, as with the whole energy market in general, the generation sector in Germany is dominated by four large companies, namely E.ON Energie AG (hereinafter referred to as “E.ON”), RWE AG (hereinafter referred to as “RWE”), EnBW Energie Baden-Wurtemberg AG (hereinafter referred to as “EnBW”) and Vattenfall Europe AG (hereinafter referred to as “Vattenfall”). According to the Federal Cartel Office⁹ (Bundeskartellamt - hereinafter referred to as “BKartA”), roughly 60% of the electricity offered in Germany is generated by the two largest energy undertakings, E.ON and RWE, and roughly 90% when EnBW and Vattenfall are included.¹⁰ In fact, these four companies, which resulted from mergers in 2000,¹¹ constitute an oligopoly¹² and hence indirectly also control the wholesale market.

The most important energy source in Germany is coal, followed by nuclear power, and then gas. In 2005, roughly 60% of the coal demand in Germany was covered by imported coal, mainly from

⁷ See below III.2.

⁸ Note that an energy undertaking that provides less than 100,000 customers with energy is exempted from the legal unbundling and hence can conduct the activities of supply and network in a single company.

⁹ European Commission (hereinafter referred to as “EC”), Implementation report, dated on January 10, 2007, COM(2006) 841, p. 32.

¹⁰ EC, Implementation report, dated on January 10, 2007, COM(2006) 841, p. 32.

¹¹ E.ON resulted from a merger between VEBA and VIAG in 2000, RWE merged in 2000 with VEW, EnBW resulted from a merger between Badenwerk AG and Energie-Versorgung Schwaben in 1997, Vattenfall resulted from a merger between Hamburgische ElectricitätsWerke, Vereinigte Energiewerke, LAUBAG and BEWAG in 2002/2003.

¹² Note that the BKartA does not assume an oligopoly between the big four energy undertakings but a duopoly between the two biggest energy undertakings E.ON and RWE.

Poland (8.8 mio. tons), South Africa (8.3 mio. tons), Russia (7.5 mio. tons), Australia (4.1 mio. tons) and Columbia (3.1 mio. tons).¹³ Besides coal, Germany generates power by 17 existing nuclear power plants. The portion of renewable energy in power generation amounts to roughly 10%.

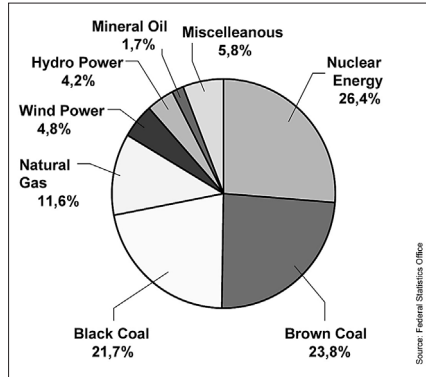


Figure 2: Portion of the energy sources in the power generation in Germany (2006)

In the future, two aspects will dominate the energy sources in the power generation in Germany: Firstly, it has to be noted that Germany agreed to a nuclear power phase out until the year 2023. Secondly, Germany aims to raise the shares of the renewable energy up to 12.5% in 2010 and 27% in 2020.

2. Network market

As stated above, the network market covers all the activities related and solely limited to the network. Basically, a network operator has nothing to do with the sale of energy to final consumers.¹⁴ It is strictly restrained to operating its network.

¹³ Federal Statistics Office (hereinafter referred to as "Statistisches Bundesamt"), *Energie in Deutschland*, p. 5.

¹⁴ Note that an energy undertaking that provides less than 100,000 customers with

Narrowing down the network market, the transactions of electricity transmission and electricity distribution have to be distinguished.

a. Transmission network market

Transmission means the “transport of electricity on the extra high voltage and high voltage interconnected system with a view to its delivery to final customers or to distributors, but not including supply”.¹⁵ The Transmission System Operator (hereinafter referred to as “TSO”) refers to the operator that transmits electricity from generation plants to the regional or local Distribution System Operators (hereinafter referred to as “DSOs”). Since there are only four large TSOs, namely the above mentioned E.ON, RWE, EnBW and Vattenfall, the German transmission network is divided into the following four control areas:



Figure 3: Control areas in Germany

In a nutshell, transmission networks can be described as large, supra-regional networks that mainly connect generation plants with distribution networks.

energy is exempted from the legal unbundling and hence can conduct the activities of supply and network by means of one company.

¹⁵ Art 2 No 4 EitrL.

b. Distribution network market

On the other hand, according to the statutory definition, *distribution* means the “transport of electricity on high voltage, medium voltage and low voltage distribution systems with a view to its delivery to customers, but not including supply”.¹⁶ In contrast to transmission networks, distribution networks are basically the link between transmission networks and final consumers.¹⁷

In addition to the four TSOs, more than 900 DSOs exist in Germany.¹⁸ The high number of DSOs, which cannot be found anywhere else in Europe, is due to historical reasons. At the beginning of the electrification, around the year 1882, each German local authority district constructed its own network system and founded a municipal company (Stadtwerk). For more than a hundred years, until 1998, these companies were monopolists on the network and supply market in their own service area, which is mostly equivalent to the municipal boundary. The legal framework changed, but most of these companies survive until today.

However, the large number of existing DSOs should not belie the fact that various energy undertakings are affiliated to other DSOs. In fact, numerous municipal companies have been partly privatized during the years. Especially the four German TSOs purchased shares in the DSOs and are now active in the entire value chain of the power business, from power generation to distribution and customer sales. As a result, the German energy market structure can be described as a mix of public-private ownership. There is a tendency towards privatization, but the involvement of municipalities is still strong.

c. Market definition and market power

In order to understand the balance of power on the German energy market, the relevant market has to be defined. The relevant product market is - as discussed above - separated into a

¹⁶ Art 2 No 5 EITRL.

¹⁷ However, frequently distribution networks also connect transmission networks with other distribution networks.

¹⁸ EC, Implementation report, dated on January 10, 2007, COM(2006) 841, p. 30.

transmission and a distribution network market. The relevant geographic market consists of the service area of the network operator, so that basically each network operator is a monopolist in its network area. Exemptions exist only in the rare case of parallel existing networks.

3. Supply market

Supply means sale, including resale of energy to customers.¹⁹ As discussed, the differentiation between the transactions of transporting and selling energy plays a very important role in German energy law,²⁰ that basically causes no German supply company to operate an energy network.²¹

The supply market is subdivided into a market for supplying energy to industrial customers and a market for supplying energy to household customers. Note that the market for supplying energy to industrial customers is geographically defined as nationwide,²² whereas the market for supplying energy to household customers is a regional respectively local market.²³ That is because industrial customers are rather motivated to change the supplier than household customers. On the industrial customer market third party access is granted significantly. On the contrary, the intensity of changing the electricity supplier within the household customer market is very low so that a market definition corresponding with the local network area is still necessary.

Disregarding the above market definition, i.e. assuming a nationwide supply market to all customers, according to the Association of German Electricity Producers (Vereinigung Deutscher Elektrizitätswerke - VDEW), the shares in 2005 of the four largest

¹⁹ Art 2 No 19 EURL.

²⁰ See above I.1. and I.1.b. Refer also to III.2.

²¹ Note that an energy undertaking that provides less than 100,000 customers with energy is exempted from the legal unbundling and hence can conduct the activities of supply and network by means of one company.

²² See Sondergutachten der Monopolkommission, Strom und Gas 2007: Wettbewerbsdefizite und zögerliche Regulierung, para. 144.

²³ BKartA, Order of March 12, 2007, B8-62/06 “Saar/Ferngas”, p. 12, 35.

companies, including their consolidated subsidiaries, in the entire 519.8 TWh (terawatt hour) supplied to consumers were as follows: E.ON 16.9%, RWE 16.7%, EnBW 10.9%, Vattenfall 4.2%.²⁴

After the first phase of liberalization, from 1998 through 2000, many newcomers pushed on the supply market and the prices for electricity sank an average of 13%, not taking into account taxes.²⁵ However, due to the implementation of governmental measures such as the establishment of an energy tax in 1999, the effects of the liberalization were compensated so that the electricity prices went down by only 0.3%.²⁶ Since November 2000, the price for electricity, not considering taxes, is increasing continually and reached the pre-liberalization level in 2005. Moreover, governmental measures such as increasing the energy tax and raising prices according to the Renewable Energy Act and the Combined Heat and Power Act, led to higher electricity prices.²⁷ Nearly 40% of the whole energy price is caused by the state, as the following graphic shows:²⁸

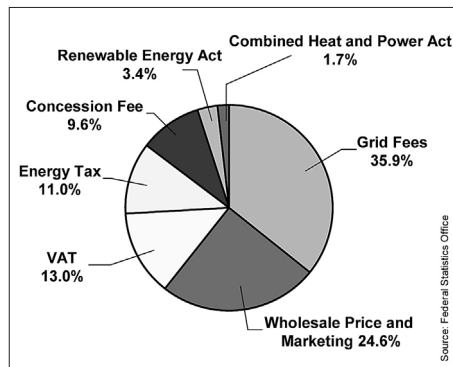


Figure 4: Components of the electricity prices for household customers in 2005

²⁴ Energiewirtschaft 2007 (volume 5), p. 42 f.

²⁵ Statistisches Bundesamt, Energie in Deutschland, p. 35.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

II. Overview on the historical development of German energy law

The following figure and remarks on the historical development of the German energy law will help the understanding of the current regulation system.

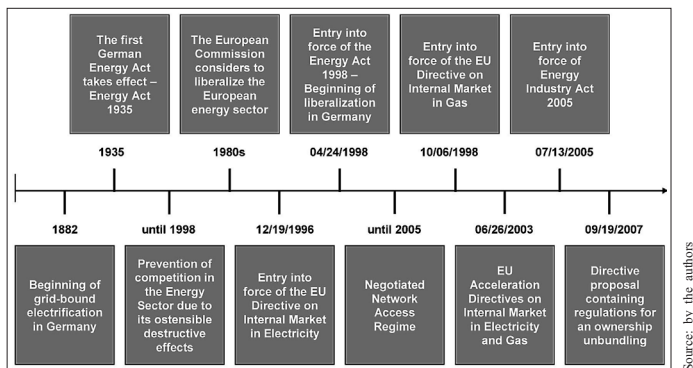


Figure 5: Overview on the German energy law history

1. Situation until 1998

From the beginning of the electrification to the year 1935, a special codification regulating the German energy market did not exist. At that early period the German Civil Code was the decisive factor to pass a sentence concerning the energy industry. As the importance of the energy sector increased over the years, the government determined in 1935 the necessity of a particular codification. The EnergG 1935 supported the monopolized structures which had already been legally developed at that time.

In the course of time, substantive supervision and price controls were formed, backed up by controls of anti-competitive practices by the cartel office. Nevertheless, exclusive concession contracts with municipalities and demarcation agreements, which were allowed by § 103 of the Act against Restraints of Competitions (Gesetz gegen

Wettbewerbsbeschränkungen from 1989 - hereinafter referred to as “GWB 1989”), impeded competition.

2. Situation between 1998 and 2005

The first moves to liberalize the energy market were made at the European level. In the 1980s, the European Commission developed a legislative strategy for creating a European single energy market. The EU Directives for the Internal Markets in Electricity and Gas built on this strategy and aimed chiefly at creating competition-oriented markets.²⁹ The EU Directive on the Internal Market in Electricity was transformed into national legislation with the amended Energy Industry Act 1998 (Energiewirtschaftsgesetz von 1998 - hereinafter referred to as “EnWG 1998”).³⁰ The aim of the EnWG 1998 had been to open the market for networked energy. The regional monopolies set up and protected by the state were thus abolished. Therefore, the former § 103 GWB 1989 which exempted various demarcation agreements for the Energy Industry was eliminated.

One of the core issues of the EnWG 1998 was to open the existing energy grids for use by other energy undertakings. The construction of parallel energy networks was seen as economically unacceptable and thus unlikely to play a major role. The European Energy Directives constituted two different proceedings to achieve a third party access: The Member States were authorized to establish a regulated network access or a negotiated network access. Germany was the only country in Europe whose legislator implemented a negotiated network access in § 6 EnWG 1998, which contained an explicit right to access the energy networks. Network operators were obliged to transport the energy to the consumer under conditions no less favorable than for comparable

²⁹ See BNetzA, http://www.bundesnetzagentur.de/enid/48c62dd4d95b75137346cf1341f6da8b,0/General_information_on_energy_regulation/History_of_liberalisation_20m.html.

³⁰ Act Against Restraints of Competition of December 22, 1989 (Gesetz gegen Wettbewerbsbeschränkungen - hereinafter referred to as “GWB 1998”), BGBl. Part I, p. 2486 ff.

services to related undertakings. Working out these conditions was one of the main problems at that time. Lastly, the German energy undertakings agreed upon accomplishing general guidelines (Verbandvereinbarungen) for a transaction-based network access model and for the determination of third party access fees in order to avoid a state regulation. Since that time, the German electricity market is, *in legal terms*, 100% open.

III. The Energy Industry Act from 2005

In the same year the EnWG 1998 came into force, the European Commission decided to enact new directives to achieve the single European energy market. The aim of these Acceleration Directives, as the name says, was to give a further push to energy liberalization and the creation of uniform conditions for competition in the internal electricity and natural gas markets. Other than their predecessors, the Acceleration Directives no longer allow Member States to choose between regulated or negotiated network accesses. In contrast, regulated network access was laid down as the only route by which European law was to be transposed. Since the old EnWG 1998 was based on the described negotiated network access, it had to be renewed fundamentally. Taking effect on July 13, 2005, the amended Energy Industry Act (Energiewirtschaftsgesetz - hereinafter referred to as “EnWG”) implemented the European Directives on the Internal Markets in Electricity and Natural Gas into national legislation. Whereas the EnWG 1998 contained only 19 sections, the new EnWG consists of 118 sections. This dramatic increase of regulations means the substantial reformation of German Energy Law. The core issues of the EnWG are described in the following.

1. Aim of the EnWG

According to sec 1 EnWG the purpose of the EnWG is to ensure a safe, inexpensive, consumer friendly, efficient and

environmentally supply of electricity and gas to the public. While “safe supply” means a quantitatively sufficient and a technical secure supply, the definitional element “inexpensive” shall ensure an energy supply with competition prices.³¹ The transparency regulations contained in the EnWG, according to which the supply companies have to publish their terms and conditions, represent a “consumer friendly” supply.³² An “efficient supply” necessitates an efficient use of primary energy and prohibits the waste of energy.³³ Less environmental pollution and an economic use of energy shall be ensured by an “environmentally supply”.³⁴

Apart from these aims, the EnWG shall achieve the creation of effective competition.³⁵ Regulation and deconcentration of energy networks in order to promote competition on the market for the benefit of the consumers is the main aim of the new law.³⁶ To reach this, the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway (Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post und Eisenbahnen - hereinafter referred to as “BNetzA”), as well as the Bkarta, supervise the German energy sector on the federal level.³⁷

2. Unbundling

One of the core issues in order to accomplish a non-discriminatory access and thus to gain competition is the new established unbundling regime. “Unbundling” denotes the separation of monopoly functions (transport and distribution) discharged by the electricity and gas supplier from the freely organized activities (generation, trade and sale) based upon legal guidelines. Unbundling measures aim to avoid discrimination, cross-subsidies and distortion

³¹ See Sondergutachten der Monopolkommission, Strom und Gas 2007: Wettbewerbsdefizite und zögerliche Regulierung, paras. 23 and 24.

³² See *id.* para. 30.

³³ See *id.* para. 31.

³⁴ See *id.* para. 32 et seq.

³⁵ See sec 1 EnWG.

³⁶ Deutscher Bundestag, Entwurf eines Zeiten Gesetzes zur Regelung des Energiewirtschaftsrechts, BT-Drs. 15/3917, p. 47 et seq.

³⁷ See below III. 6.

of competition by increasing transparency of the network operator's costs.³⁸

The EnWG distinguishes in its §§ 6 - 10 between legal unbundling, functional unbundling, information unbundling and accounting unbundling.

a. Legal unbundling

Where the network operator is part of a Vertically Integrated Undertaking (hereinafter referred to as "VIU"), it shall be independent at least in terms of its legal form, organisation and decision making from other activities not relating to transmission.³⁹ The key message of legal unbundling is that transmission and distribution have to be conducted by a separate network company. However, the network company must not necessarily own the network assets; an ownership unbundling is so far not required by the EnWG or by the European Directives.⁴⁰ The obligation to set up a separate company only concerns the network business. All other activities, namely supply and generation, may retain in one single company.⁴¹

The VIU is free to choose a legal form of the network company, provided that the type of company selected ensures the independence of the management of the network company from the parent company. This is done in order to fulfill the requirements of functional unbundling.⁴² In Germany, most of the VIUs supplying more than 100,000 customers founded wholly owned subsidiaries (mostly limited liability corporations) to which they lease out their network:

³⁸ BNetzA, http://www.bundesnetzagentur.de/enid/3315?c_id=7944.

³⁹ Sec 6 subs 1 EnWG

⁴⁰ However, note that the EC is presently thinking about establishing an ownership unbundling, see below IV.

⁴¹ Note of DG Energy & Transport on Directives, 2003/54/EC and 2003/55/EC on the internal market in electricity and natural gas, dated on January 16, 2004, p. 5.

⁴² Id. p. 55.

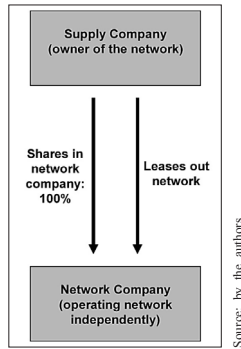


Figure 6: Unbundled company structure

DSOs were able to postpone implementation of the legal unbundling provisions until July 1, 2007, while VIUs serving fewer than 100,000 directly or indirectly connected customers are completely exempted from legally unbundling DSOs which they control within the meaning of Art 3 subs 2 EC Treaty.⁴³ In the German electricity sector, for instance, 150 DSOs serve more than 100,000 customers and hence have to follow legal unbundling.⁴⁴

b. Functional unbundling

To ascertain the network operator's independence within the energy undertaking, VIU's also have to meet the requirements of functional unbundling according to which transmission and distribution must be independent in terms of organization and decision-making from other activities not related to the networks, sec 8 subs 1 EnWG.

Concretely, management staff of the network operator may not participate in company structures of the integrated undertaking responsible directly or indirectly for the day-to-day operation in the field of generation or supply of energy.⁴⁵ This regulation prevents the conflict of interests that occurs when a director of a network

⁴³ Sec 7 subs 2 EnWG.

⁴⁴ EC, Implementation report, dated on January 10, 2007, COM (2006) 841, p. 30.

⁴⁵ Sec 8 subs 2 No 1 EnWG

company is at the same time an executive director of the holding company. Furthermore, pursuant to sec 8 subs 2 EnWG, employees entrusted with other grid-concerning functions in the VIU have to be subordinated to the instructions of the management of the network operator. Thus it is ensured that employees of the network operator cannot be subject to instructions by the holding company.

Moreover, according to sec. 8 subs 3 EnWG, appropriate measures must be taken to ensure that the management of the network operator is capable of acting independently. Therefore, the network operator must have effective decision-making rights with respect to assets necessary to operate, maintain or develop the network. The network operator must also be able to exercise these rights independent from the management responsible for the VIU. This includes that all commercial and operational decisions related to the network operation must be made within the network business and without involvement of the holding company. Furthermore, the network operator must have enough human and physical recourse to carry out its network.⁴⁶ Not least, supervision rights of the holding company are limited; insofar the EnWG diverges from the general company law and is hence *lex posterior specialis*. Regarding the aforementioned, it is not allowed to base the salary of the network management on the performance of the holding company.⁴⁷

In order to ensure that the network business as a whole complies with the principle of non-discrimination, the VIU has to establish a compliance program.⁴⁸ This formal framework shall contain rules of conduct, which have to be respected by staff and are subject to possible sanctions in case of a violation. The compliance program must be reported to the BNetzA and must be regularly monitored by a person or a body who has to submit an annual report to the regulatory authority.⁴⁹

According to sec 8 subs 6 EnWG Energy, undertakings serving

⁴⁶ Note of DG Energy & Transport on Directives, 2003/54/EC and 2003/55/EC on the internal market in electricity and natural gas, 16.01.2004, p. 11.

⁴⁷ Id. at p. 8.

⁴⁸ See sec 8 subs 5 EnWG.

⁴⁹ Sec 5 subs 5 EnWG.

less than 100.000 customers are exempted in the same way from the functional unbundling as they are from the obligation of legal unbundling.

c. Informational unbundling

VIUs and network operators have to implement measures to preserve the confidentiality of commercial sensitive business information obtained in the course of carrying out their business, pursuant to sec 9 subs 1 EnWG. On the other hand, according to sec 9 subs 2 EnWG they have to prevent that information about their own activities, which may be commercially advantageous, are disclosed in a discriminatory manner. Other than legal and functional unbundling, derogations from the informational unbundling regime for smaller DSOs are not allowed.

d. Accounting unbundling

In order to avoid discrimination, cross-subsidies and distortion of competition, the accounting unbundling regime necessitates VIUs to keep separate accounts for each of the following activities, as they would be required to do if the activities in question were carried out by separate undertakings: transmission of electricity, distribution of electricity, transmission of gas, distribution of gas, gas storage and LNG-facilities.⁵⁰ The EnWG allows no exemption from the accounting unbundling provisions. Thus, accounting unbundling and information unbundling is the minimum separation requirement to be respected by every network operator without exception.

Regarding the above, a typical legal structure of a German energy company is as follows (*Figure 7*):

⁵⁰ Sec 10 subs 3 EnWG.

Source: by the authors

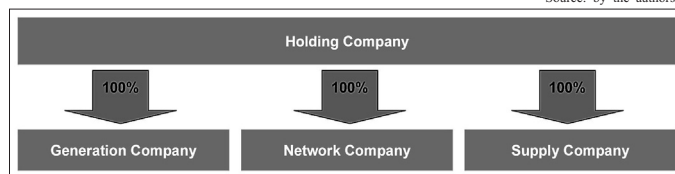


Figure 7: Typical company structure

3. Network connection and network access

The German Energy Law distinguishes between network connection and network access. Whereas network connection (§§ 17 - 19 EnWG) denotes the technical connection from generating units or customer facilities to a network, the network access (§§ 20 - 28a EnWG) deals with the problem of third party access. In other words, the network connection means the right of being connected to the network physically, while the network access contains the right of using a network system to supply customers with energy.

a. Network connection

Network operators are obliged to connect final consumers to their network. The network connection contract governs the technical and economic details of setting up the customer facility connected to the network, as well as the usage of this connection. Unlike its predecessor, the new EnWG contains two claims of network connection (§ 17 EnWG and § 18 EnWG). While § 18 EnWG regulates the network connection of final consumers to low voltage distribution systems respectively low pressure systems, § 17 EnWG covers all the other cases of a network connection demand.

The terms and conditions of a network connection according to § 17 EnWG must be adequate, non-discriminatory, transparent and not less favorable than what is asked for by the network operator in comparable cases either within the energy undertaking to which it belongs or from affiliated or associated undertakings. Network operators have to connect final consumers as well as electricity and gas supply networks of the same or a lower voltage pressure level,

and generation and storage facilities to their network. The network operator may refuse connection where it is impossible or unreasonable to do so for operational or other commercial or technical reasons, taking into account the aims of the EnWG, sec 17 subs 2 EnWG.⁵¹

According to sec 18 EnWG, network operators are obliged to publish general terms and conditions for the network connection of final consumers in those local authority areas in which the operator is responsible for the general supply. Furthermore, the network operator has to connect everyone to its network and must allow the use of that connection for the withdrawal of energy. This can be denied if the connection or its usage is unreasonable for commercial reasons.

As a consequence of introducing the unbundling regime, the joint connection and supply obligation, which existed until this point, was divided into a connection obligation on the network side (sec 17 et seq. EnWG) and into a public supply obligation on the supply side (sec 36 et seq. EnWG), which will be discussed below.⁵² All the details in connection with the network connection are regulated in the Low Voltage Connection Ordinance (Niederspannungsanschlussverordnung - NAV) for the electricity sector and the Low Pressure Connection Ordinance (Niederdruckanschlussverordnung - NDV) for the gas sector.

b. Network access

Network access denotes the possibility of using the network of another network operator in order to supply customers with energy. Network operators must grant everyone access to their network, based on objectively justified criteria and without discrimination. Pursuant to sec 20 subs 1 EnWG, the network operator must publish terms and conditions, sample contracts and prices.

To be able to understand the energy price regulation in Germany it has to be mentioned in advance that there are different

⁵¹ See also E. Ehlers, *The New German Energy Industry Act - Do Good Things Come To Those Who Wait?*, *Utilities Law Review*, Vol. 14, Issue 6 (2004), p. 263.

⁵² See below III. 4.

regulation authorities. Each of the 16 German Federal States is allowed to set up its own Cartel Office and Network Agency. The Network Agencies are in charge of regulating the network fees only (see below c.), whereas the Cartel Offices are in charge of regulating all the other components of the energy price as a whole (see below d.).⁵³ Since the network charge approximately amounts to 35% of the total energy price (at least in the electricity sector),⁵⁴ the Network Agencies can only control these 35% whereas an examination of the remaining percentage does not fall into the Network Agencies', but into the Cartel Offices' sphere of responsibility.

c. Regulation of network charges by the Network Agencies

How to calculate the network charge is one of the most controversially discussed problems in German energy law. The EnWG itself comes up with the two following calculation methods:

(1) Cost-plus calculation method

Sec 21 subs 1 EnWG implements the cost-plus calculation method. According to this section, the terms, conditions and the charges for network access must be reasonable, non-discriminatory, transparent and not less favorable than what a network operator charges, in comparable cases, its own company or affiliated or associated undertakings for costing purposes or in real terms. Charges shall be established on the basis of the costs of operating the network business, which have to reflect the costs of an efficient and structurally comparable network operator. This must also take into account incentives for an efficient output as well as a reasonable, competitive and risk adequate rate of return on capital, according to sec 21 subs 2 EnWG. Those costs and elements of costs which would not arise if competition existed may not be considered. The details of the cost-plus calculation of network charges are stipulated in the Electricity Network Charges Ordinance

⁵³ See sec 111 EnWG.

⁵⁴ See above I.3.especially, Fig.4.

(Verordnung über die Entgelte für den Zugang zu Elektrizitätsversorgungsnetzen - herein after referred to as “StromNEV”) respectively Gas Network Access Ordinance (Verordnung über die Entgelte für den Zugang zu Gasversorgungsnetzen - hereinafter referred to as “GasNEV”).

With respect to the calculation of network charges the EnWG basically provides for an entry-exit system meaning that network operators have to offer in-feed and out-feed capacities, which enable network access without being attached to a certain transport path subject to a particular transaction, and which can be individually used and traded, according to sec 20 subs 1b EnWG.⁵⁵ However, in detail, the GasNEV distinguishes between transmission networks and distribution networks. On the distribution level, the network charges consist of a standing charge and a running charge without being attached to a certain transport path. On the transmission level, network charges have to be calculated in accordance with the cause of costs.

According to sec 23a subs 1 EnWG network charges have to be approved by the BNetzA. The approval has to be requested six months prior the date the new grid fees shall be applicable.⁵⁶ The EnWG also stipulates which documents the applicant has to attach to its request.⁵⁷ Furthermore, the BNetzA has to limit the approval to a certain time period.⁵⁸

(2) Incentive based calculation method

Sec 21a EnWG provides for the possibility to deviate from the cost-plus calculation of network charges in support of an incentive based regulation, meaning that limits for network charges (then price cap regulation) or for total revenues (then revenue cap regulation) are set up for a certain regulatory period, taking into account efficiency criteria, sec 21a subs 2 EnWG. Each network operator will receive limits for network charges or revenue ceilings

⁵⁵ With respect to the gas market, see Ehlers, supra note (51) at p. 265.

⁵⁶ Sec 23a subs 3 EnWG.

⁵⁷ Sec 23a subs 3 EnWG.

⁵⁸ Sec 23a subs 4 EnWG.

from these charges enabling them to concentrate on optimizing their business. Network operators lowering their costs quicker than provided by the Network Agencies may retain any profits gained thereby. It is up to the companies how they lower their costs and, with greater reductions, how they achieve higher returns. It is assumed that the companies perform better to be more efficient and that they will transfer the earnings to the consumers in the form of lower prices.⁵⁹ According to the EnWG one regulatory period may not last less than two years, but may also not exceed 5 years.⁶⁰

In 2006, the BNetzA published a report, running to nearly 250 pages, concerning the introduction of an incentive based regulation.⁶¹ Accordingly, the BNetzA prefers a revenue cap regulation giving basically three reasons. Firstly, the price cap regulation necessitates a deep insight into the network access prices and is hence less practical than the revenue cap regulation. Secondly, a revenue cap regulation fits better with the already existing ordinances. Finally, the BNetzA considers that a price cap regulation leads to over-regulation and excessively restraints the freedom to conduct a business.⁶² The BNetzA comes out in favor of a regulatory period lasting three years.⁶³

After this report was published, the Federal Ministry of Economic and Technologies (Bundesministerium für Wirtschaft und Technologie - BMWi) drew up an Incentive Regulation Ordinance (Anreizregulierungsverordnung - hereinafter referred to as "ARegV") which contains the details regarding the incentive based regulation and which took effect on November 6, 2007. According to the ARegV, a revenue cap regulation shall start on January 1, 2009.⁶⁴

One regulatory period will last for five years.⁶⁵ Moreover, the

⁵⁹ Beschlussempfehlung und Bericht des Ausschusses für Wirtschaft und Arbeit, BT-Drs. 15/5268, p. 109.

⁶⁰ Sec 21a subs 3 EnWG.

⁶¹ BNetzA, Entwurf eines Berichtes der Bundesnetzagentur nach § 112a EnWG zur Einführung der Anreizregulierung nach § 21a EnWG of May 2, 2006.

⁶² See *id.*, para. 228.

⁶³ See *id.*, para. 261 et seq.

⁶⁴ Sec 3 subs 1 ARegV.

⁶⁵ Sec 3 subs 2 ARegV.

ARegV and its appendixes contain detailed provisions concerning the calculation of a revenue limit. According to the intended schedule there shall be two revenue cap regulatory periods (ten years) before a Yardstick regulation shall be introduced.⁶⁶ Below please find the road map for the introduction of an incentive based regulation:

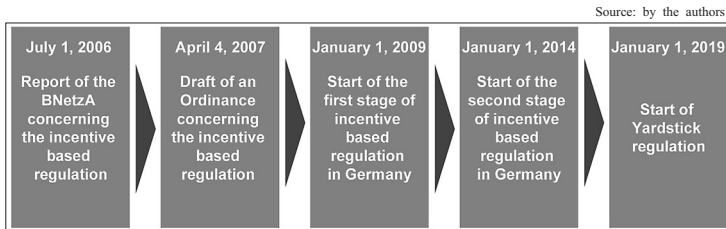


Figure 8: Road map for the introduction of an incentive based regulation in Germany

Yardstick regulation means that the BNetzA compares companies and rewards those with superior performance, penalizes those with inferior performance. Yet, the BNetzA has not set up details for an upcoming yardstick regulation system. In general, the advantages of yardstick regulation include, providing companies with incentives to improve efficiency and it also dampens the effects of network charges asymmetries between companies. In a yardstick regulation system requirements for revenue reduction will be set entirely on the basis of a comparison with other companies. To be able to establish a yardstick regulation system it is mandatory to create comparability first. That is done by the revenue cap regulation starting on January 1, 2009.

d. Regulation of the remaining energy rate components by the Cartel Offices

As mentioned above, the BNetzA is in charge of regulating the

⁶⁶ BNetzA, Entwurf eines Berichtes der Bundesnetzagentur nach § 112a EnWG zur Einführung der Anreizregulierung nach § 21a EnWG of May 2, 2006 para. 279 et seq.

network industry whereas the BKartA is competent to execute the general cartel law. This includes examining the electricity prices by means of the stipulations which shall prevent an abuse of a dominant position (sec 19 and 20 EnWG). Pursuant to sec 19 GWB, an abuse exists in particular if a dominant undertaking as a supplier demands payment or other business terms which differ from those which would very likely arise if effective competition existed. Moreover, the European antitrust regulations contain similar rights enforceable by the BKartA (Art 81 and Art 82 EC Treaty). According to sec 111 subs 1 EnWG, sec 19 and 20 GWB are not applicable as far as the provisions of the EnWG or regulations based thereon are conclusive. Pursuant to sec 111 subs 2 EnWG the provisions and regulations on network connection and access are conclusive. Published network access charges hence bind BKartA and state competition authorities in proceedings concerning energy prices for final consumers.⁶⁷ As Art 82 EC Treaty is generally applicable, even in regulated sectors, the competition authorities maintain their corresponding powers.⁶⁸ However, in practice, the BNetzA is the overall competent authority for network charges and the BKartA only regulates the price components exceeding these fees.

4. Public service obligation

The EnWG includes a public service obligation that contains the right of household customers to be supplied by an energy supply company on general terms and conditions and at standard rates.⁶⁹ Energy suppliers must publish and post on the internet their general terms and conditions and rates of supply in low-voltage or low-pressure networks for those network areas where they have a public service obligation, sec 36 subs 1 EnWG. The public service obligation does not exist if the supply is unreasonable for commercial reasons. Pursuant to sec 36 subs 2 EnWG, the energy

⁶⁷ Ehlers, *supra* note (51) at p. 265.

⁶⁸ *Ibid.*

⁶⁹ Sec 36 et seq. EnWG.

undertaking supplying the most household customers in an area of general supply at a certain date has to carry out the public service obligation.

In consequence of liberalization and due to the fact that any energy supply company in Germany is free to sell energy to any consumer in Germany, it may occur that final consumers withdraw energy without the existence of an appropriate in-feed of energy. This problem might emerge, for instance, in cases of an intended but failed change of supplier. The consumer assumes an in truth not-existing supply contract. He withdraws energy, which had never been fed in. If the withdrawal of energy is not related to an in-feed, like in the mentioned example, sec 38 EnWG simulates a legal relationship between the final consumer and the energy undertaking executing the public service obligation (Ersatzversorgung). The details are regulated in the Basic Electricity Supply Ordinance (Stromgrundversorgungsverordnung - StromGV) respectively in the Basic Gas Supply Ordinance (Gasgrundversorgungsverordnung - GasGV).

5. Concession rights

Public ways have to be used when an energy undertaking intends to construct a network in order to provide consumers with energy. Therefore, a concession agreement between the municipalities and the network operator is mandatory. As mentioned above, before the liberalization, demarcation agreements were allowed and energy undertakings had the exclusive right to construct networks and to supply customers in their network area. In order to establish competition in the energy sector, this regulation was abolished in the first instance in 1998.

The right of energy undertakings to use public ways is currently stipulated in sec 46 EnWG. According to this regulation, municipalities have to conclude concession agreements with energy undertakings which intend to use public ways for the construction and operation of networks, sec 46 subs 1 EnWG. Concluding such a concession agreement can only be refused by the municipalities

if the energy undertaking declines paying concession fees and an agreement containing the amount of the concession fee is not yet reached.

However, the German energy law contains no right of municipalities to refuse a concession agreement on the grounds that another energy network already exists. Hence, electricity and gas undertakings are allowed to construct networks in a network area of another energy undertaking. Since it would be economically pointless to construct a parallel energy network in the same area, in practice, this right is hardly exercised. In fact, energy undertakings supply their customers by means of third party access.

6. Administration and proceedings

The BNetzA is the regulatory authority in Germany. It has a short, but eventful past. Before liberalization, the Federal Ministry of Posts and Telecommunications and the Federal Office for Posts and Telecommunications were responsible for the post and telecommunication markets. In 1998, these bodies were superseded by the Regulatory Authority for Telecommunications and Posts. Five years later, the European Electricity Directive concerning common rules for the internal market in electricity took effect, according to which Member States shall designate one or more competent bodies with the function of regulatory authorities. These authorities shall be wholly independent from the interests of the electricity industry.⁷⁰ The German legislator decided to entrust the Regulatory Authority for Telecommunications and Posts with the functions resulting from the Electricity and Gas Directives. On July 13, 2005 the Regulatory Authority for Telecommunications and Posts was renamed Federal Network Agency (BNetzA) and has been competent for the major German network markets ever since.

As mentioned above, regulatory responsibilities in connection with the energy networks are split between the BNetzA and the Network Agencies of the federal states. The BNetzA is operating

⁷⁰ Art 23 sec 1 ElTRL

on a nationwide level whereas regional regulatory authorities deal with cases occurring in their states as long as the government of the federal state implemented a regulatory authority. If they did not do so, the BNetzA takes over the tasks falling legally into the federal state's sphere of responsibility.⁷¹ However, in this case the BNetzA does not act as a federal but as a state agency. Apart from that the BNetzA performs tasks and executes powers that under the EnWG have not been assigned to the federal state regulatory authorities which are in charge of regulating energy undertakings with fewer than 100,000 customers connected to their electricity or gas networks and whose networks do not extend beyond a federal state's borders.⁷²

Regulatory decision-making is made by ruling chambers guaranteeing the independence of the decision-making mechanism. Decisions on an appeal shall be made exclusively by the Court of Appeal for the district in which the regulatory authority has its seat, according to sec 75 subs 4 EnWG. In case the BNetzA is the regulatory authority, the Higher Regional District Court of Duesseldorf is always the Court of Appeal. Basically, legal actions against the decisions of the BNetzA do not entail any suspending effect.⁷³

IV. Prospective developments

With an average electricity price for household customers of 14.33 Euro-cent/kWh in 2007 Germany is one of the countries with the highest energy prices in Europe.⁷⁴ Only the prices in Italy (16.58 Euro-cent), Luxembourg (15.09 Euro-cent) and Ireland (14.65 Euro-cent) are above the German level. The EU-average amounts to 11.73 Euro-cent; the lowest prices can be found in Bulgaria with 5.47 Euro-cent. Since 2000, the prices for electricity in Germany

⁷¹ Sec 54 et seq EnWG.

⁷² Sec 54 EnWG

⁷³ Sec 76 EnWG.

⁷⁴ Eurostat, <http://www.epp.eurostat.ec.europa.eu>.

are rising continuously. And there is no end in sight. At the beginning of 2008, nearly 450 energy supplier increased their prices by averagely 7%, some of them by as much as 24%.⁷⁵

The German politicians mostly react in a populist manner, namely with strong words and idle threats. But nothing happens. On the contrary, the government itself is responsible for rising energy prices due to recent measures such as tax increases or burdens caused by the support of renewable energies.

Chancellor Merkel's party, the CDU, argues for stopping the nuclear power phase out to lower the prices, but cannot enforce its wish because the co-governing socialist party, the SPD, decided the abolishment of nuclear power in 2000, and still sticks to its decision. However, due to the rising energy prices, the number of proponents in the German population supporting nuclear power is increasing. Hence, it cannot be excluded that the nuclear power phase out will at least be postponed.

The BKartA and the BNetzA do everything in their power to lower the energy prices, but mostly their efforts end up in lowering the price increase requested by the energy undertakings. It remains to be seen if the introduction of the incentive based calculation of network charges in 2009 can significantly lower energy prices.

The European Commission is very active in the field of energy law and is currently drafted a proposal for a further liberalization including regulations for an ownership unbundling.⁷⁶ Some of the four large energy undertakings already reacted and announced to sell their energy network. Hopefully, the price policy of the energy undertakings is the reason for the high energy prices and not the costs incurred by implementing liberalization provisions. In the latter case a raise of energy prices in the future cannot be excluded.

(30th November 2008)

⁷⁵ Spiegel Online, Article dated on January 13, 2008, viewable on <http://www.spiegel.de/wirtschaft/0,1518,528286,00.html>.

⁷⁶ Proposal for a Directive of the Parliament and of the Council amending Directive 2003/55/EC concerning common rules for the internal market in natural gas, dated on 19.09.2007, COM(2007) 529.

Supplementary note

After finishing the article, we indicate recent developments on the topic since 2009.

First, contrary to their announcement, the TSOs do not sell their network yet. In fact, the so called big fours (E.ON, RWE, EnBW, Vattenfall) still own their transmission networks.

Second, the European Commission does not pass the new Directives yet. They will probably come into effect in 2010. Then, the Member States might be obliged to put the regulations into national legislation until 2011. However, it is very likely that the unbundling regime will be strengthened, i.e. the TSOs will be obliged either to carry out a full ownership unbundling or to meet the criteria of an Independent System Operator (ISO) scheme. In an ISO scheme the vertically integrated company remains owner of the network, but the assets are operated by a system operator that is independent from generation and supply. On the distribution network level the unbundling premises will be strengthened, but neither an ownership unbundling nor an ISO scheme will be introduced.

Third, On January 1, 2009 the incentive regulation system started in Germany. BNetzA are active with handling all the procedures and appellant processes. However, the economic effects cannot be foreseen yet.