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**Privatisations in Europe's liberalised electricity markets – the cases of
the United Kingdom, Sweden, Germany, and France**

December 2007

This research is part of the project
Understanding Privatization Policies: Political Economy and Welfare Effects
funded by the European Commission (contract n. CIT5-CT-2005-028647)

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1. Introduction

More than ten years have past since the European Union's First Electricity Directive, which entered into force on 19 February 1996, set a new regulatory framework for the European electricity industry and started a process of electricity market liberalization in the Member States.¹ Since 1 July 2007 every household and industrial consumer of electric energy in the European Union is entitled to freely choose its supplier. Nonetheless, a truly competitive internal market for electricity has not yet been achieved due to various reasons such as the market power of the former monopolists on the wholesale level or cross-border transmission constraints. When the European Commission tabled a third package of legislative proposals in September 2007, the major focus lay on the question of network ownership. According to the Commission, the present regulation on the separation of network activities from supply and production of electricity, which only demands a legal unbundling of vertically integrated companies², proved insufficient to prevent network owners from discriminating in favour of their retail and wholesale businesses. Instead, in the reform package the Commission proposes ownership unbundling as the preferred option in order to guarantee neutral and independent network operation.³

Irrespective of the obstacles that have to be overcome in order to achieve a fully functioning internal market for electricity, the liberalisation policies pursued on EU level as well as in several Member States have already led to tremendous changes in the national electricity sectors, not least with regard to the ownership structure of the utilities. At EU level no explicit stance on ownership has been taken due to the different national attitudes towards the role of the state in the ownership and control of the utilities. Article 295 of the EC-Treaty expressly states that this "Treaty shall in no way prejudice the rules in Member States governing the system of property ownership." This did not prevent the European Commission from recognising from time to time that privatisations of state owned utilities may be beneficial for improving the competitive environment in which these companies operate – yet without developing policy approaches in this respect.⁴ It cannot be denied, however, that the liberalisation policy initiated on EU level has had influence on the ownership structure of the respective industries in the Member States:

"In summary, as the EU has worked towards removing restraints on trade resulting from regulation, this had implications for the nature of ownership in industries previously protected from competition. Deregulation policy implies a change in the relationship between government and state-owned utilities, most notably in terms of rul-

¹ The United Kingdom and Sweden had already started to liberalise their electricity sectors earlier. See the respective chapters in this paper.

² Vertically integrated companies are active in all three segments of the electricity market: generation of electricity, running the transmission network, and local distribution.

³ For more details refer to URL: http://ec.europa.eu/energy/electricity/package_2007/index_en.htm.

⁴ See David Parker: Privatisation in the European Union: an overview, in: David Parker (ed.): Privatisation in the European Union. Theory and Policy Perspectives, London/New York 1998, p. 10-48, p. 23.

ing out state subsidies and introducing private sector competition. In turn, this had created an economic environment which has led member states to review the benefits of retaining state ownership.”⁵

The aim of this paper is to examine the interdependence between the liberalisation of the electricity supply industry and the privatisation of its formerly state-owned utilities. Does the introduction of competition to the electricity market necessarily entail privatisation? Is there a certain step sequence of liberalisation and privatisation measures?

For a long time, the electricity sector has been considered a “natural monopoly” just like other network industries such as telecommunication, water, or air transport. Electricity seemed to have specific features that impede it from being traded in a competitive environment (chapter 2). This view became increasingly contested during the 1980s, which eventually resulted in the opening-up of markets to competing providers (liberalisation) in a number of countries as well as the adoption of a liberalisation policy at EU level (chapter 3).

The four case studies of Germany, France, Sweden, and the United Kingdom, which constitute the main part of this paper (chapter 4), exemplify the way in which the ownership structure of the national electricity industry has been influenced by the process of liberalisation with regards to privatisation. The privatisation of state-owned utilities in this context is understood in two ways: 1. as “formal privatisation” which means a change in the legal status of a municipal undertaking or institution of public law into a limited liability company or stock corporation constituted under private law, and 2. as “material privatisation” meaning the (partial or complete) divestiture of state-owned assets in a company to private shareholders.

The cases of Germany, France, Sweden, and the United Kingdom have been chosen because prior to the market opening their electricity sectors showed significant differences with regard to the regulatory regime, the ownership structure of the utilities, and also the actual start of the liberalisation process. The French and the British electricity supply industry had been centralised and dominated by a state-owned monopolist. In contrast, in Germany and Sweden the electricity sectors had been characterised by a coexistence of public, mixed-economy, as well as private companies and never had been neither completely nationalised nor centralised. However, while German electricity has been (and still is today) dominated by an oligopoly of vertically integrated companies, the state-owned company *Vattenfall* plays a leading role in the electricity supply industry of Sweden. Concerning market liberalisation, the United Kingdom has been a pioneer, later serving as an example to European liberalisation policy. The same is true for some aspects of the market opening in Sweden, where the liberalisation of the electricity sector already started at the beginning of the 1990s. France and Germany on the other hand needed the incentive from EU level to open up their mar-

⁵ Parker: Privatisation in the European Union, p. 23-24.

kets, with France as one of the Member States most reluctant to introduce competition on its electricity sector.

2. Particularities of the electricity market

The liberalisation of electricity markets often has been attacked by critics⁶ who refer to the specific qualities of electricity, stating that it is not another product to be bought and sold in a market just like other commodities.

Undeniably there are certain distinguishing features. First of all, electricity cannot be economically stored; it must be used the instant it is generated – supply and demand must match at all times in order to avoid blackouts or even the collapse of the entire system. This explains the need for spare capacity (about 12 to 30% of total capacity) resulting in extra costs for electricity suppliers. Mechanisms for procuring and effectively operating these “standby” generators hence are necessary, yet difficult to design if the system is not vertically integrated with only one utility responsible for generation, transmission, and distribution. Second, electricity is network bound. Electricity transmission networks form a natural monopoly for they can only be duplicated at a very high cost. Network congestion, combined with non-storability, may limit the geographic expanse of competition and further enhance market power problems. Third, spot electricity prices are inherently very volatile, because the demand elasticity is very low and supply gets very inelastic at high demand levels. As a result, electricity prices are “unusually susceptible to the creation of opportunities for suppliers to exercise market power unilaterally.”⁷ At the same time, electricity plays a vital role economically as well as socially in modern society, whose operability is totally dependent on reliable supplies of electricity. Power blackouts like the ones that occurred in the United States, Germany, or Italy in recent years will lead to immediate welfare and economic impacts. Unlike for most other products, there are also no ready substitutes for many uses of electricity, which could otherwise alleviate the effects of a market failure.

Due to the reasons mentioned above, after the pioneer era of electricity generation and supply in small local or regional networks ended, and large national integrated transmission networks evolved, electricity supply for a long time was considered a natural monopoly that is justified even in a market economy. Eventually, however, it became widely recognised that only certain segments of the value chain (distribution, transmission, system operation) should be exempt from competition and continued to be regulated. Generation and retail

⁶ See for example the papers concerning electricity at Public Services International research Unit (PSIRU), which is mainly financed by the global confederation of public service trade unions. URL: <http://www.psiru.org>.

⁷ Paul L. Joskow: Electricity Sector Restructuring and Competition: Lessons Learned, in: Latin American Journal of Economics, December 2003, p. 548-558, p. 551.

supply on the other hand are viewed as potentially competitive segments, which should be separated either structurally through divestiture or functionally.⁸

3. The Liberalisation of the EU electricity market

Until the 1990s in most of the European Union Member States there existed the prevalent view that competition was not suitable for the electricity sector because of its macroeconomic importance, the technical complexity, and its capital intensive facilities. However, the realisation of the European Common Market around 1990 made differences between electric energy prices in the Member States an increasingly important factor for the competitiveness of their national companies. In fear of the relocation of production to low-price-countries most of the Member States shared an interest in the reform of the electricity regime. Yet, the heterogeneity of national electricity regimes made it extremely difficult for the European Commission, who was in favour of market liberalisation, to submit policy proposals that could reach a general consensus. In addition to that, especially France for a long time had been impeding an agreement – supported by the European Parliament, which opposed the initiative, because in the opinion of a majority of its members it focussed too much on economic aspects rather than recognizing the public service qualities of electricity companies. These utilities lobbied for preservation of the status quo. With discounts in electricity prices they managed to prevent large industrial customers willing to switch their supplier from filing complaints at the European Commission, who thus lacked lobby support like the one it had in the case of telecommunications. During the long lasting negotiations the preconditions for liberalisation of the electricity markets nevertheless improved. On the one hand, there were new encouraging experiences from the United Kingdom (see chapter 4.3), Norway, the United States, and New Zealand. On the other hand, many electricity supply companies from Member States had started to enter the reformed electricity markets of Eastern Europe, which made it difficult for them to oppose the liberalisation of their home market for technical reasons.⁹

It eventually took more than five years until the Council of Ministers agreed upon a common position concerning a “Directive of the European Parliament and of the Council concerning common rules for the internal market in electricity” (96/92/EC) on 19 December 1996. The first Electricity Directive entered into force on 19 February 1997 and had to be transposed into national legislation within two years. While basically respecting the differ-

⁸ See Joskow: Electricity Sector Restructuring and Competition, p. 549, Gert Bruche: Elektrizitätsversorgung und Staatsfunktion. Das Regulierungssystem der öffentlichen Elektrizitätsversorgung in der Bundesrepublik Deutschland, Frankfurt/New York 1977, p. 100-101, and a critical standpoint Steve Thomas: Electricity liberalisation: The beginning of the end, PSIRU report, London, September 2004, p. 8-9, URL: <http://www.psiru.org/reports/2004-09-EWEC.doc>.

⁹ See Susanne K. Schmidt: Liberalisierung in Europa. Die Rolle der Europäischen Kommission, Frankfurt/New York 1998, p. 251-252, 266-272 and Ullrich Heilemann, Bernd Hillebrand: Liberalisierung der Strom- und Gasmärkte – Eine erste Bilanz, in: Hartmut Berg (Hrsg.): Deregulierung und Privatisierung: Gewolltes – Erreichtes – Versäumtes, Berlin 2002, p. 29-57, p. 31-32.

ent electricity regimes of the Member States, it contained reform provision in four main areas: construction of new generation capacity, unbundling, access to the network, and retail competition.

Concerning the construction of new electrical power plants the Member States were given the two options to choose between authorization and tendering, which both must be conducted in accordance with objective, transparent, and non-discriminatory criteria (*Articles 4-6*). More important regarding the creation of a market for electricity had been the other three points: The Member States were required to determine Transmission System Operators (TSO), responsible for “operating, ensuring the maintenance of, and, if necessary, developing the transmission system in a given area and its interconnectors with other systems, in order to guarantee security of supply”, as well as one or more Distribution System Operators (DSO), obligated to supply customers located in a given area (*Articles 7-12*). If these duties were carried out by vertically integrated companies, separate accounts had to be kept for their generation, transmission, and distribution activities in order to avoid “discrimination, cross-subsidization, and distortion of competition”, a concept referred to as *unbundling* (*Articles 13-15*). The TSOs and DSOs were required to grant non-discriminatory access to the electricity network. Member States could choose between negotiated (between generators, retail suppliers and system operator), regulated third party access (at published tariffs), or the “single buyer” option. Under the “single buyer” procedure, which was incorporated in the directive to accommodate France, a legal person could be designated to purchase the electricity within the territory covered by the TSO (*Articles 14-18*). As soon as the directive became operative the electricity markets were opened to competition for (large industrial) consumers using more than 40 GWh per annum, which equalled a share of about 22% of the national electricity markets. In 2000 this threshold was lowered to 20 GWh (about 28%) and in 2003 to 9 GWh annual electricity consumption (about 33%). These thresholds defined minimum rules, which could be exceeded by the Member States. A further liberalisation of the market for electricity could be considered by European Parliament and Council to take effect in 2006 (*Articles 19 and 26*).¹⁰

While the directive had been criticised by some for not going far enough, most Member States went much beyond its minimum requirements and chose the more liberal options when transposing the directive into national legislation. In 2000, two thirds of the consumer market for electricity had been opened to competition. 12 out of 15 Member States opted for legal or even ownership unbundling of transmission network operation from generation and distribution activities of the integrated company (rather than just management unbundling as demanded by the directive). Germany had been the only country that chose a negotiated network access, while the other Member States installed a system of third party access

¹⁰ See Steve Thomas: Electricity industry reforms in smaller EU countries: Experience from the Nordic region, PSIRU report, London, October 2004, p. 3-4, Internet: <http://www.psiru.org/reports/2004-10-E-Nordic-elec.doc>, and Hans-Wilhelm Schiffer: Energiemarkt Deutschland, Köln 2005, p. 190-191.

with a regulating authority. On top of this, electricity prices in the European Union fell on average 6% between 1996 and 1999.¹¹

This provided the Commission with the necessary tailwind to present new proposals to push the electricity market liberalisation forward and close the “loopholes” of the first Electricity Directive, thereby particularly focussing on unbundling and network access. The new, so called “Acceleration Directive” (2003/54/EC) was agreed upon in June 2003 and had to be implemented by July 2004.¹²

Regarding the construction of new generating plants the authorisation procedure became the norm while tendering could only be used if the former fails to ensure the security of supply (*Articles 6-7*). Transmission and Distribution System Operators had to be legally unbundled when they were part of a vertically integrated undertaking. The European Commission hoped that this would facilitate a non-discriminatory access to electricity networks, which was considered to be of “paramount importance” for a functioning market. While this went beyond the provisions of the first directive, it did not entail an obligation to separate the ownership of the networks from the rest of the enterprise. With regard to distribution networks this rule did not apply to integrated electricity undertakings serving less than 100.000 connected customers (*Articles 8-17*). Member States had to create regulatory authorities that are fully independent from the interests of the electricity industry and that are responsible for establishing the terms and conditions for the connection and access to national networks. The negotiated network access and the “single buyer” procedure were no longer options (*Article 23*). All non-household customers became eligible to choose their retail supplier by July 2004. The market had to be opened for all customers including households by July 2007 (*Article 21*).¹³

Besides the fact, that no specific measures had been introduced to break the market dominance of a number of companies participating in several Member States’ electricity markets, the directive was criticized – even though unbundling of the network operators had been raised to a new level – for not making ownership unbundling the rule.¹⁴

As described in the introduction, the European Commission put the issue of ownership unbundling at the centre of the third package of legislative proposals regarding EU electricity policy presented to the public in autumn 2007. According to the Commission, it had been observed that the applicable unbundling requirements do not guarantee independent net-

¹¹ See European Commission: Recent progress with building the internal electricity market. Communication from the Commission to the Council and the European Parliament, COM(2000) 297, Brussels, 16 May 2000, p. 3, 13-14, Internet: <http://ec.europa.eu/energy/library/com-2000-297-en.pdf>.

¹² Out of 25 Member States meeting the deadline was only accomplished by the Netherlands and Slovenia.

¹³ See Knud Hädicke: Energiewirtschaft im Umbruch, in: Aktuelle Probleme der Daseinsvorsorge in der Europäischen Union. EZFF Occasional Papers No. 33, p. 33-70, p. 40-41.

¹⁴ See Thomas: Electricity industry reforms in smaller EU countries, p. 5.

work operation and a proper functioning of the electricity market.¹⁵ As a consequence, either ownership unbundling of vertical integrated enterprises, as it is already the case in about half of the Member States, or as a second option the creation of an “independent system operator” was proposed by the Commission.¹⁶

4. Privatisations in the electricity sector: the cases of the United Kingdom, Sweden, Germany, and France

4.1 United Kingdom

4.1.1 The British electricity sector

The privatisation of the British electricity supply industry in 1989/90 dramatically changed this sector's structure, which had been under complete public ownership since 1947 when the Labour government had nationalised more than 570 public and private bodies involved in the generation and distribution of electricity. The Electricity Act of 1947 as well as two re-organisations in 1955 and 1957 led to the establishment of the Central Electricity Generating Board (CEGB) in England and Wales, which had monopoly rights over power generation and transmission. It supplied the twelve regional electricity companies that were in charge of distribution to end consumers. The overall coordination was the role of the Electricity Council whose members were representatives of the CEGB and the twelve area boards. In Scotland and Northern Ireland the system was supplied by two, respectively one vertically integrated companies.¹⁷

First steps to increase competitive pressures in the electricity supply industry were undertaken by the Thatcher government with the Electricity Act of 1983. This legislation abolished the statutory monopoly of the electricity boards on generation and opened the market to private generators. However, this attempt at liberalisation failed because substantial barriers to competition still existed: The market share of privately generated electricity did not increase in the following years because of excessive costs of third party access to the CEGB's national grid.¹⁸

4.1.2 The privatisation and restructuring of the British electricity supply industry

Prior to 1979 when the conservative Thatcher government took office the United Kingdom possessed one of the largest public enterprise sectors in Europe. In the extensive privatisation programme started by the conservative government (and later continued on a lower

¹⁵ See Philip Lowe et al.: Effective unbundling of energy transmission networks: lessons from the Energy Sector Inquiry, in: Competition Policy Newsletter, 1/2007, p. 23-34, Internet: http://ec.europa.eu/comm/competition/publications/cpn/cpn2007_1.pdf.

¹⁶ See European Commission: Energising Europe: A real market with secure supply (IP/07/1361), Brussels, 19 September 2007.

¹⁷ See Harald Eiß: Die Ordnung des Elektrizitätsmarktes in der Europäischen Gemeinschaft, München 1990, p. 326 ff.

¹⁸ See David Elliot, Trevor Houghton, Jane Roberts: Privatising Electricity. The Politics of Power, London, New York 1991, p. 51-53.

level by the subsequent Labour government) state assets worth 127.67 billion US-Dollars (2006) were sold to the private sector.¹⁹ During the first phase of privatisation until 1983 the government focussed on the sale of public enterprises that operated in competitive markets. In the second phase privatisations extended into the public utility sector and also included policy measures that aimed at liberalising monopoly markets.²⁰

When in February 1988 the Conservative government published the White Paper *Privatising Electricity*²¹ the country had already seen the privatisations of two other network industries, telecommunications and gas, which were considered success stories even though they were criticised for sacrificing liberalisation objectives. In the White Paper it was acknowledged that the Reform of 1983 failed to promote competition. The target to end the monopoly in generation and at the same time to increase the influence of consumers and distribution companies was set.²² The following Electricity Bill, which received Royal Assent on 27 July 1989, contained the six principles for restructuring the electricity sector of England and Wales already formulated in the White Paper:

The power stations owned by the CEGB were to be divided between two new companies now known as *National Power* and *Power Gen* prior to the privatisation of these companies. In March 1991 60% of the shares of these two companies have been sold, followed by a second tranche with the remaining 40% floated by the British government in 1995. The total profit of this divestiture has been 9,873 billion US-Dollars. According to the original plan all of the existing and planned nuclear power stations were to be transferred to *National Power*. This privatisation scheme was altered, however, due to the poor economics of nuclear power. The nuclear power stations were bundled in a company called *Nuclear Electric* that was retained by the State. After taking over the Scottish nuclear power plants in 1995, the company, now named *British Energy*, was eventually privatized in 1996.

The British generation market has developed into a market with many diverse generating companies. In 2006, eight companies had market shares exceeding 5% and, the largest three companies (*British Energy* and the German-based companies *E.ON* and *RWE*) held 39 % of the installed capacity.²³

The twelve area boards were privatised and became licensed Regional Electricity Companies (RECs). In an attempt to foster “popular capitalism” through a wide spread of shares the 12 companies were sold to private investors in December 1990 (raising 1,84 billion US-Dollars). In 1995, a successful take-over of a REC by foreign company took place for the first time – until the end of 2001, more than two dozen successful take-overs and acquisitions occurred

¹⁹ See URL: <http://www.privatizationbarometer.com>.

²⁰ See Paul Cook: Privatisation in the UK. Policy and Performance, in: Parker (ed.): Privatisation in the European Union, p. 218-241, p. 218-219.

²¹ See Department of Energy: Privatising Electricity. Cm 322, London 1988.

²² Ibid., point 6 and 7.

²³ See Ofgem’s 2006 Submission to the European Commission (DGTREN) Report, London, 20 April 2006, p. 27-28.

in the UK.²⁴ In 2007, seven distribution companies are operating the 14 distribution areas of England, Wales, and Scotland.

The transmission grid was transferred from the CEGB to the new company *National Grid Company plc*, which now function as transmission system operator. It has been owned by the 12 privatized RECs who eventually floated the company on the stock exchange in 1995.

The statutory obligation to supply electricity was transferred from the CEGB to the RECs. The distribution companies were at first subjected to only some competitive pressure: Large industrial consumers received the choice of directly buying from a generator. In May 1999 the market for electricity was opened completely and household customers were free to choose their suppliers, too.

The security of supply was to be guaranteed by the creation of a protected market for nuclear power and renewables in order to reduce the dependency on fossil fuels. The RECs were legally obliged to contract for a specific amount of capacity from non-fossil fuels each year²⁵.

The remaining monopolies in distribution and transmission (and to a smaller degree also the liberalised generation market) were to be monitored by the newly established Office of the Director General of Electricity. In 1999, it merged with the regulatory authority of the British gas sector to form *Ofgem*, the Office of Gas and Electricity Markets.²⁶

The structure of the integrated Scottish electricity supply industry remained the same after liberalisation. This move was justified by the smaller size of the Scottish industry, which made fragmentation difficult if viable companies were to result. The assets of the two Scottish electricity boards were vested in three new companies: *Scottish Hydro-Electric*, *Scottish Power* (both were privatised in June 1991), and *Scottish Nuclear*, which remained a state-owned company before becoming a wholly owned subsidiary of *British Energy* (see above).²⁷ In 2005, the Scottish electricity market was unified with the one of England and Wales. Additionally, the *National Grid* became the “independent system operator” of the Scottish transmission network, operating it on behalf of the two vertically integrated electricity companies.²⁸

²⁴ See International Energy Agency: Energy Policies of IEA countries. The United Kingdom 2002 review, Paris 2002, p. 112

²⁵ See Paolo Agnolucci: Opportunism and competition in the non-fossil fuel obligation, Tyndall Centre Working Paper No. 78, July 2005, p. 4, URL: http://www.tyndall.ac.uk/publications/working_papers/wp78.pdf.

²⁶ See Elliot, Houghton, Roberts: Privatising Electricity, p. 57-77, Paul Cook: Privatisation in the UK, p. 230-236, and International Energy Agency: The United Kingdom 2002 review, p. 109-113.

²⁷ See Michael Pollitt: The Restructuring and Privatisation of the Electricity Supply Industry in Scotland, Cambridge, January 1999, p. 5, URL: <http://www.econ.cam.ac.uk/eprg/people/pollitt/esiscotland.pdf>.

²⁸ See Ofgem's 2006 Submission to the European Commission (DGTREN) Report, p. 6.

4.2 Sweden

4.2.1 The Swedish electricity sector

The electricity supply industry in Sweden shows similarities to the German electricity sector for it is made up from public, mixed-economy as well as private companies and had at no time been neither completely nationalised nor centralised. Unlike Germany with its oligopoly of vertically integrated companies, the Swedish electricity sector, however, has been dominated by only one enterprise, the state owned company *Vattenfall AB*. Founded in 1909 as *Kungliga Vattenfallstyrelsen* (the Royal Waterfall Board) *Vattenfall*, making use of the hydro power in northern Sweden, soon was – and still is today – responsible for the generation of nearly half the country's electricity.²⁹

The electricity transmission and distribution network in Sweden is divided into three levels: The national high-voltage transmission grid was designed to facilitate the flow of power from the hydroelectric generating centres in the north to the main consumption centres in southern Sweden. A parliamentary decision in 1946 gave *Vattenfall* a monopoly in operating and constructing the national grid that lasted until 1992 when it was transferred to the state authority *Svenska Kraftnät* (see next chapter). The regional transmission networks transport electricity from the national grid to the more than local distribution networks and in some cases directly to larger electricity consumers. They are owned by the large generators like *Vattenfall*. The local distribution networks are owned by private, state and municipal companies or co-operative associations.³⁰

Until 1970, Sweden's electricity production system was based on hydro-power and thermal power. This changed in the following years when, as a response to the increasing demand in electricity, Sweden chose to start an enormous expansion of its nuclear power facilities. A further development of hydro power was not allowed for environmental reasons and oil fired units would have intensified the dependence on oil imports. In 2005, nuclear power supplies 45% of the country's electricity, hydro power supplies about 47% and the remaining 8% was made up of fossil-fuelled and biofuel-based production as well as wind power.³¹

Due to a high proportion of electricity intensive industries, a cold climate, a high proportion of electric heating and historically low electricity prices per-capita, electricity use in Sweden is the highest in the EU. The average use in the EU-15 is about 55% less than that in Sweden.³²

²⁹ Today (2005), *Vattenfall AB* produces 46 % of the country's electricity. See Swedish Energy Agency: The Swedish Energy Markets Inspectorate's Annual Report to the European Commission 2006, p. 23, URL: http://www.ceer-eu.org/portal/page/portal/EREGG_HOME/EREGG_DOCS/NATIONAL_REPORTS/2006/E06_NR_Sweden-EN.doc.

³⁰ See Walter Bittner: Die Elektrizitätswirtschaft Schwedens. Dissertation, München 1965, p. 179 ff.

³¹ See International Atomic Energy Agency: Sweden. Country Nuclear Power Profile, 2003, p. 809-810, URL: http://www-pub.iaea.org/MTCD/publications/PDF/cnpp2003/CNPP_Webpage/PDF/2003/index.htm and Swedish Energy Agency: Energy in Sweden 2006, p. 37, URL: www.swedishenergyagency.se.

³² See Swedish Energy Agency: Energy in Sweden 2006, p. 36.

4.2.2 The liberalisation of the Swedish electricity market

The market for electricity in Sweden has been liberalised since 1 January 1996 when production and trading became subject to competition. The network operation, however, remained regulated and supervised by state authorities, because the transmission lines are considered natural monopolies. Moves towards a more competitive electricity market were started as soon as 1991/92 by the newly elected centre-right government in view of the economic recession, the amount of energy intensive industries and the high per capita electricity consumption as an important element of the government's strategy to reposition Sweden as a high-growth, high-enterprise nation.³³ Following an earlier legal unbundling of transmission and generating activities, in January 1992 the transmission activities of the national grid were removed from *Vattenfall* altogether. The newly founded state agency *Svenska Kraftnät* became responsible for managing and operating Sweden's national grid and oversea links and acted as system operator. At the same time *Vattenfall* underwent a legal privatisation being transformed into a limited liability company, albeit still completely owned by the Swedish state. After a number of inquiries in the 1992-95 period, primarily focussing on new electricity legislation and the introduction of a marketplace for electricity and also the election of a new government headed by the Social Democratic Party in 1994, the new electricity legislation was eventually adopted by parliament in autumn 1995 and became operative on 1 January 1996. Subsequently, the legislation was revised and a new coherent Electricity Act came into effect on 1 January 1998 replacing the old act from 1901. Transposing the first EU electricity directive in the following year required only minor amendments to legislation.³⁴

As mentioned above the key principle of the reform is "the establishment of the electricity market by the legal separation of electricity generation and network operations. Basically, network operations remain regulated, whereas generation and sale of electricity now take place on competitive terms."³⁵ Besides the legal unbundling of network activities (on regional and distribution level), the Electricity Act also introduced the statutory duty to make the transmission grid accessible to all actors. The regulation of network operations with regard to awarding grid concession and monitoring transmission terms and tariffs is performed by the Swedish Energy Agency³⁶.

To make the electricity market work like any other commodity market by effectively facilitating consumer choice, in 1999, the statutory period of notice before switching the electricity supplier was reduced to one month. Furthermore, the requirement of the installation of a costly meter before switching the supplier, which had kept small consumers from chang-

³³ See International Energy Agency: Energy Policies of IEA Countries. Sweden 1996 Review, Paris 1996, p. 38.

³⁴ See Mats Höjeberg: Energy Services in Sweden, in: John H Chesshire (ed.): From Electricity Supply to Energy Services; Prospects for Active Energy Services in the EU. Report Prepared for the European Commission, Brussels, June 2000, chapter 7, p. 4.

³⁵ International Energy Agency: Energy Policies of IEA Countries. Sweden 1996 Review, Paris 1996, p. 39.

³⁶ Since 2005 the autonomous Energy Markets Inspectorate within the Swedish Energy Agency took over this duty.

ing, was abolished for the majority of consumers. Since then, the number of households that have been active in the market by negotiating new contracts with their suppliers or switching suppliers rose from 25% to 54% in 2005.³⁷

An open Nordic electricity market on the wholesale level gradually replaced the longstanding cooperation between the large generators in the Scandinavian countries. The power exchange *Nord Pool* started on 1 January 1996,³⁸ and is jointly owned by *Svenska Kraftnät* and the Norwegian national grid company *Statnett*. It became the first international commodity exchange for trading electric power. The integrated market area was later joined by Finland (1998) and Eastern Denmark (2000). *Nord Pool Spot*, a subsidiary that organises the physical trade in electricity, is owned in equal shares by *Nord Pool* as well as the four national TSOs. In 2005, about 45% of the electricity used in the four member countries was traded here while the remaining physical electricity was traded internally within electrical utilities or via bilateral agreements outside *Nord Pool*.³⁹

The liberalised electricity market of Sweden has not seen significant privatisations, but rather changes in ownership and increases in market concentration. It has been noted above that *Vattenfall* was legally privatised, but remained completely state owned. In March 2007 the newly elected centre-right government announced a policy change concerning state ownership in companies and declared that the sales process should start by reducing ownership in six companies, which operate in business sectors such as banking and finance, telecommunications, and alcohol wholesale. In the bill presented to parliament it is stated, however, that it is “not currently intended” to sell *Vattenfall*.⁴⁰

Besides *Vattenfall*, Swedish electricity production today is dominated by two other companies: the Swedish branch of the German company *E.ON* and the mixed-economy enterprise *Fortum* in which the Finnish state holds about 50% of shares. Together these three companies in 2005 accounted for 88% of the country’s total electricity production. This concentration of market power is not considered to be a problem since on the whole Nordic market these three producers account for only 40% of total electricity production.⁴¹

Analysing the outcomes of electricity market reform in Sweden, several reports have referred to the sharp decline in the number of suppliers on the electricity distribution market due to takeovers and mergers. In 1996 there were more than 220 suppliers; by 2005 this

³⁷ See Ecotec Research and Consulting Ltd.: The Effects of the Liberalisation of the Electricity and Gas Sectors on Employment. A final report to the European Commission, Birmingham 2001, p. 73, URL: <http://ec.europa.eu/energy/electricity/publications/doc/ecotecfinalreport.pdf>, Swedish Energy Agency: The Swedish Energy Market 2005. Theme: The Storm Gudrun, p. 27, URL: www.swedishenergyagency.se.

³⁸ *Nord Pool* was established in Norway already in 1993 wholly owned by the national TSO *Statnett*.

³⁹ See Svenska Kraftnät: The Swedish Electricity Market and the Role of Svenska Kraftnät, Vällingby 2007, p. 5-6, Internet: <http://www.svk.se/upload/4184/Engwebb.pdf> and Swedish Energy Agency: Energy in Sweden 2006, p. 39.

⁴⁰ Government Bill 2006/07:57, Sale of certain state-owned companies, Stockholm, 1 March 2007, p. 8, URL: <http://www.sweden.gov.se/content/1/c6/07/79/45/6e370f03.pdf>.

⁴¹ See Swedish Energy Agency: The Swedish Energy Markets Inspectorate’s Annual Report to the European Commission 2006, p. 23 and Swedish Energy Agency: The Energy Market Inspectorate Annual Report 2005, Eskilstuna 2006, p. 28-29, URL: www.energimarknadsinspektionen.se.

number had fallen to about 130.⁴² This trend, however, had begun a long time before the electricity market was liberalised: while there had been 1.569 supply companies in 1957, this number declined to 525 in 1976 and 273 in 1994.⁴³ In the run up to and during the first years of reform especially the large producers tried to strengthen their position in the end-user market by taking over suppliers from municipalities or co-operatives “who did not feel that conducting business on a electricity market exposed to competition constituted a part of the primary duties of the municipality”, or used the opportunity to improve the municipal finances, and rather concentrated on running the electricity network.⁴⁴ In 1996, the three largest suppliers – *Vattenfall*, *Fortum* and *E.ON* – had a market share in the retail sector of about 30%. In 2005, they had increased their market share in this sector to approximately 50% of sales to end-use costumers.⁴⁵

4.3 Germany

4.3.1 *The German electricity sector*

The German electricity market is dominated by an oligopoly of today four (formerly eight) vertical integrated electricity supply companies, which together control 90% of the generating capacity, most of the high voltage transmission network and about half the retail market.⁴⁶ It is complemented by around 700 other companies on regional and local level. This structure developed at the beginning of the 20th century. The German electricity sector has been characterized by a regulation under private law, the strong position of the *Länder* and local authorities, and the coexistence of private, mixed-economy, and public companies.

The laying of the transmission grid by an electricity company on public grounds in Germany never had been an act of state, but rather has to be signed through a licence agreement under private law with the corresponding public body. This gave the local authorities a strong position, especially in the retail market and the *Länder* through their property influence over long distance transmission. The licence agreements usually granted the contracting companies exclusive wayleave, which meant a de facto monopoly within the corresponding supply areas. They were complemented by demarcation treaties between the electricity companies themselves. German energy legislation, which remained basically unmodified from 1935 until the liberalisation of the sector in 1998, as well as the Anti Trust law of 1953 exempted this part of economy from competition because of its specific features (the existence of a

⁴² See Swedish Energy Agency: The Swedish Energy Markets Inspectorate’s Annual Report to the European Commission 2006, p. 27; Swedish Energy Agency: The Energy Market Inspectorate Annual Report 2005, p. 33; International Energy Agency: Energy Policies of IEA Countries. Sweden 2004 Review, Paris 2004, p. 103-104.

⁴³ See Mats Höjeberg: Energy Services in Sweden, p. 6-7.

⁴⁴ *Ibid.*, p. 7.

⁴⁵ See Swedish Energy Agency: The Energy Market Inspectorate Annual Report 2005, p. 34.

⁴⁶ See European Commission: Germany – Internal Market Fact Sheet, Brussels, January 2007 (http://ec.europa.eu/energy/energy_policy/doc/factsheets/market/market_de_en.pdf).

“natural monopoly” of the transmission grid amongst others), but gave the federal state far reaching supervision rights.⁴⁷

The important role of the *Länder* in the public electricity supply is further explained by another distinctiveness of German federalism. Unlike in many other states natural resources and water rights remained for a long time at the disposal of the single states and were used as primary energy sources to build up electricity companies of the *Länder*.⁴⁸

The revision of the National Energy Act (*Energiewirtschaftsgesetz*) in 1998, which transposed the first EU Electricity Directive into national law, resulted in the – at least formal – complete liberalisation of the electricity market for industry and households in Germany until 1999. Territorial monopolies over electricity generation and supply were abolished. Germany had been the only Member State that at first opted for a “Negotiated third party access”, which took place in the form of an agreement between energy producers and industrial consumers. When these agreements failed to guarantee a non-discriminatory access to the transmission networks, Germany abandoned its resistance to the “Acceleration Directive” of 2003 and established a regulated access including a responsible regulating agency (*Bundesnetzagentur*).⁴⁹

4.3.2 Privatisations in the German electricity sector

From the beginnings of this industry in the late 19th century, the shareholders of German public electricity supply companies included both governmental as well as private investors. Until the First World War the sector was dominated by private capital as well as local ownership. This changed after the war, when the electricity companies of the German Reich and its federal states took the lead in developing the electricity supply industry.

There have been only gradual changes in the ownership structure in the Federal Republic of Germany until the opening of the electricity market in 1998.⁵⁰ Unlike to other countries where privatisations in the electricity sector were embedded in national reform programmes, the process of privatisations in Germany was “rather creeping”⁵¹. Nevertheless, there have been early initiatives in divesting shares of state owned electricity utilities. In a (failed) attempt to create “popular capitalism” through state asset sales, the German Federal government partly privatized the state owned energy-holding VEBA AG (*Vereinigte Elektrizitäts- und Bergwerks AG*) and its subsidiary Preussag AG (*Preußische Bergwerks- und Hütten AG*) in 1959 and 1965.⁵² When a new centre-right government took office in 1982, it declared privatisations a main element of its economic policy. Amongst others, the federal state disposed of its

⁴⁷ See Schiffer: *Energiemarkt Deutschland*, p.186 ff.

⁴⁸ See Bruche: *Elektrizitätsversorgung und Staatsfunktion*, p. 113ff.

⁴⁹ See Torsten Brandt: *Liberalisation, privatisation and regulation in the German electricity sector*, Düsseldorf 2006, p. 6-7, Internet: http://www.boeckler.de/pdf/wsi_pj_piq_sekstrom.pdf.

⁵⁰ See Gerold Ambrosius: *Der Staat als Unternehmer. Öffentliche Wirtschaft und Kapitalismus seit dem 19. Jahrhundert*, Göttingen 1984, p. 45-47, 71-73 and 121-122; Bruche: *Elektrizitätsversorgung und Staatsfunktion*, p. 67.

⁵¹ Brandt: *Liberalisation, privatisation and regulation in the German electricity sector*, p. 17.

⁵² See Josef Esser: *Privatisation in Germany: symbolism in the social market economy?*, in: David Parker (ed.): *Privatisation in the European Union. Theory and Policy Perspectives*, London/New York 1998, p. 101-122, p. 107.

remaining stakes in *VEBA AG* (1984, 1985 and 1987) and entirely divested its shares of the industrial holding *VIAG AG (Vereinigte Industrieunternehmen AG)*, which also acted as an electricity supplier. Noticeable privatisations of electricity enterprises, however, remained confined to the central government level. In contrast, the federal states had been quite restrictive in selling their capital shares of electricity utilities. On the local level various municipalities even tried to expand their involvement in the electricity sector.⁵³

The privatisation of the East-German electricity sector, which had been agreed upon shortly after the Fall of the Wall in 1990 by Western-German electricity supply companies, the East-German government and the privatisation agency *Treuhandanstalt*, which was responsible for divesting East-German state-owned enterprises during the unification process, has been an exceptional case. The newly founded integrated electricity enterprise *VEAG* was sold to a consortium of seven West-German electricity companies in 1994. Today it is owned by *Vattenfall Europe*, a subsidiary of the state-owned Swedish enterprise.⁵⁴

Since the mid-1990s divestitures of public utilities in the electricity sector became popular on the level of the Federal States as well as the municipalities, too. Especially on local level, but also in several Federal States, the decision to privatise was not so much a result of overall policy changes, but primarily driven to generate additional revenue in the short term in order to rehabilitate the public budgets.⁵⁵ The Federal States sold practically their entire remaining shares in the large vertically integrated companies – today (2007) Bavaria is the last state that holds 2% of the shares in one (*E.ON AG*) of the four large electricity companies. Because various municipalities sold their shares, too, out of these four, the *EnBW AG* from south-western Germany is the only one with a majority of the shares (50.88%) left under the control of the state (in this case several associations of municipalities).⁵⁶ In the course of liberalisation these large electricity companies tried to expand their market share on distribution level by taking over regional and local supply companies from the municipalities. While it is hard to find exact numbers for the complex local level, a clear tendency towards privatisation could be observed during the last 10 to 15 years. In 2003, 45% of the public utilities of Germany's largest cities already had private shareholders.⁵⁷

When compared to the time before the start of liberalisation, not only a change in the ownership structure can be observed, but also an increasing concentration of the electricity market. As indicated above, as a result of mergers and acquisitions the number of vertical

⁵³ See Jochen Monstadt, Mathias Naumann: Netzgebundene Infrastrukturen unter Veränderungsdruck – Sektoranalyse Stromversorgung, *netWorks-Paper*, No. 5, Berlin 2003, p. 15-16.

⁵⁴ See Schiffer: *Energiemarkt Deutschland*, p. 184-185 and Brandt: *Liberalisation, privatisation and regulation in the German electricity sector*, p. 17.

⁵⁵ See Klaus-Peter Schmid: alles muss raus. Schrumpft sich der Staat gesund? Die deutschen Städte und Gemeinden privatisieren, was das Zeug hält nicht aus ökonomischer Vernunft, sondern aus reiner Finanznot, in: *Die Zeit*, 26/2006, URL: <http://www.zeit.de/2006/26/Priv-Flucht-ins-Private>.

⁵⁶ Municipalities are holding 29,1 % of the shares in the *RWE AG*, *Vattenfall Europe AG* is almost completely owned by the Swedish State, Bavaria is the only public shareholder in the *E.ON AG*. Source: company websites.

⁵⁷ See Sebastian Bolay, Jan Hendrik Trapp: *Privatisierung in Kommunen - eine Auswertung kommunaler Beteiligungsberichte*, *Difu-Materialien* 10/2003.

integrated network energy supply companies reduced from 8 to 4. Nevertheless, their market share in wholesale generation increased from 79% in 1997 to 90% in 2007. On the distribution level, the network energy supply raised their market to almost 73% in 2004 compared to 50% in 1995. During this time the share of regional and local utilities declined to about 27%. Due to takeovers and mergers the number of municipal utilities dropped from 900 in 1995 to about 700 in 2005. Furthermore, about 25% of them were linked with the large network supply companies due to minority capital investments of the large network energy supply companies.⁵⁸

4.4 France

4.4.1 The French electricity sector

After World War II the modernisation of the economy in France was regarded as a precondition in order to regain the importance of the past by the French leadership – a national task that had to be coped with primarily by the state itself. In view of the immense investment needs important industries like coal, shipbuilding, or aviation were either nationalised or put under a special control of the central state. Especially most of the service industries were from then on coordinated and provided on central government level. The French legal concept of the “*Service Public*”, which was associated with continuity, equality, solidarity, and cohesion⁵⁹, now also became identified with large-scale public enterprises like the electricity provider EDF (*Electricité de France*). This “public institution” (“*établissement public*”) was created by a law in 1946 that nationalised and merged privately owned electricity companies.

Considering the importance of electric energy for the economy centralisation and nationalisation of this sector was considered necessary – and backed by a broad consensus – to avoid power blackouts and guarantee a security of supply particularly in rural regions. Prior to the creation of EDF the electricity industry was made up of more than 200 small generators and more than 1.100 enterprises active in transmission and distribution that were difficult to coordinate. Especially the private companies were accused of concentrating only on the most profitable areas, abusing their temporal local or regional monopolies for excessive prices, and investing only insufficiently in infrastructure.⁶⁰

The nationalisation gave EDF a factual monopoly in the field of generation and distribution (with a market share exceeding 90%) as well as a legal monopoly in transmission. The EDF as a public company had been under comprehensive control of the central government, which

⁵⁸ See Brandt: Liberalisation, privatisation and regulation in the German electricity sector, p. 8 and Heilemann/Hillemann: Liberalisierung der Strom- und Gasmärkte, p. 29-57, p. 47/48.

⁵⁹ See Peter Becker: Europäische Daseinsvorsorge. Die Politik der EU zwischen Wettbewerb und Gemeinwohlverpflichtung. SWP-Studie, Berlin 2005, p. 19.

⁶⁰ See Christoph I. Barmeyer: Zwischen Staat und Markt. Das französische Großunternehmen EDF, in: Dokumente 2(2006), p. 17-27, p. 17-18 and Pierre Bauby: Deregulierung und Privatisierung in öffentlichen Unternehmen in Frankreich: das Beispiel der Elektrizitätswirtschaft, in: Leo Kißler, René Lasserre, Marie-Hélène Pautrat (ed.): Öffentlicher Dienst und Personalmanagement. Zur Verwaltungsreform in Deutschland und Frankreich, Frankfurt/New York 2006, p. 39-54, p. 43-45.

was responsible for authorising electricity tariffs or investment programmes. The respective commitments between *EDF* and the state were defined in several contracts, which guaranteed low consumer prices but also facilitated large scale infrastructure investments like the French ambitious nuclear power programme that was launched in 1973-74 as a consequence of the fear of energy dependency and partly as a result of the post-war desire to develop leadership in every industrial field. Today in France about 75% of the total production is generated by nuclear power plants, making France the world's second largest nuclear power producer.⁶¹

4.4.2 EDF – Privatising a “Service Public” utility

When the French parliament adopted legislation to (partly) privatise the national electricity utility *EDF* on 29 June 2004 with a majority vote of the ruling UMP, this brought a preliminary end to a long time of struggles in the parliament, which had to deal with about 1.500 amendments from the opposition socialist and communist parties, as well as on the streets. The fierce protest by the employees, trade unions and parts of the French public⁶² began when the plan of the conservative government was announced in summer 2002 that *EDF* was going to have its status as state-owned utility changed, in advance of the opening up its capital to private investors.⁶³ The protest actions included rallies in 70 cities, power blackouts all over the country as well as targeted power cuts to the French federation of employers and the private homes of senior government ministers amongst others.⁶⁴

To understand the massive criticism on the privatisation plan one has to consider on the one hand the status of *EDF* as a national utility of the “Service Public” supplying electricity on the basis of equalitarian principles, contributing to welfare and social cohesion. According to several public opinion polls in France, *EDF* is one of the most respectable enterprises, which is virtually present even in the most remote region of the country.⁶⁵ On the other hand when *EDF* was founded, the trade unions played a significant role in working out the corporate charta, thereby asserting various social innovations such as a guarantee of job security, equal employment of men and women, compensation in case of invalidity, and a company pension scheme. The biggest bonus though has been the social-benefits council CCAS (*Caisse*

⁶¹ See Harald Eiß: Die Ordnung des Elektrizitätsmarktes in der Europäischen Gemeinschaft, München 1990, p. 252 ff and Lionel Cauret: Energy Services in France, in: John H. Chesshire (Ed.): From Electricity Supply to Energy Services: Prospects for active Energy Services in the EU. Report Prepared for the European Commission - Directorate General Energy and Transport - and Union of the Electricity Industry – EURELECTRIC, June 2000, Chapter 2, p. 2,
URL: <http://www.eurelectric.org/Download/Download.aspx?DocumentFileID=5982>.

⁶² Opinion polls suggested that the French “no” in the referendum in 2005 partly resulted from the apprehension that the proposed European Constitution Treaty might have resulted in a dismantling of French public services and lead to a broad sell off of state companies. See EDF Gadonneix: Politics Won’t Impact Privatization, Dow Jones Newswires, 3 June 2005.

⁶³ EDF eventually became a limited-liability company in November 2004.

⁶⁴ Nicola Clark: Privatization plan angers EDF unions: France seeks €11 billion for 30% of power utility, in: International Herald Tribune, November 25, 2004,

URL: www.iht.com/articles/2004/11/25/edf_ed3_0.php.

⁶⁵ See Barmeyer: Zwischen Staat und Markt, p. 19-20.

centrale d'activites sociales), which is funded by one percent of *EDF's* revenue each year. It provides *EDF* workers with free health care and owns amongst others more than 200 holiday resorts and 150 restaurants. Its annual budget (which has been 530 Million Euro in 2005) is not controlled by *EDF's* management but by the trade union CGT (*Confédération générale du travail*). If the company is listed on the stock market and thus inevitably stronger committed to market principles and shareholder value, *EDF* employees and trade unions feared that investors would soon abandon those privileges.⁶⁶

The French government's decision to privatise *EDF* – supported by the company's management – can eventually be attributed to the overall liberalisation of the European electricity market. The French government had been hesitant to transpose the first EU electricity directive into French law and exceeded the liberalisation deadline by a year, giving the state and *EDF* the opportunity to monitor the development in the other European markets. In a first stage the law, which entered into force on 10 February 2000, opened a share of only about 30% of the market to competition – the lowest level laid down by the directive.⁶⁷ Critics stated that the French reform “aimed at making the electricity market contestable rather than at introducing effective competition.”⁶⁸ Nevertheless, even this small step towards full liberalisation ended the monopoly of *EDF* in the French electricity market. As a consequence the company lost market share in the segment opened to competition in the aftermath: After slightly over a year *EDF* had lost 5% of its clients, in 2003 this number had risen to 25% in the segment of the industrial power market, which had been opened to competition.⁶⁹

For the monopolist *EDF* and the French government by watching the efforts on the European level to liberalise the electricity sector, it was obvious that a market opening would lead to the loss of shares. To guarantee its economic financial survival and to become competitive, *EDF* pursued two complementary long-term business strategies. First, in 1998 the company's structure was modernised in order to increase productivity to the level of a private enterprise while at the same time maintaining social responsibility and regional integration. Second, the *EDF* management started an aggressive expansion into other European and world-wide markets in order to strengthen its role as electricity exporter and regain market shares it was losing on the French market. Alongside utilities in Brazil, Argentina, and Spain (amongst others), *EDF* bought 45% of the shares of the German *EnBW AG* and entered the British market by taking over *London Electricity* in 1998. This internationalisation strategy sparked

⁶⁶ See John Carreyrou: At French Utility, Union Wages War To Guard Perks, in: *The Wall Street Journal*, 5 May 2005 and Heimo Fischer: Ein Symbol wankt. Der französische Energieriese EdF soll privatisiert werden – doch es gibt noch viel zu tun, in: *Die Zeit*, 43/2002, URL: http://www.zeit.de/2002/43/Ein_Symbol_wankt.

⁶⁷ All non-household customers in France had been eligible to chose their suppliers from July 2004, representing 68% of the total market. The market for private consumers was not opened before July 1, 2007. See European Commission: France - Internal Market Fact Sheet, Brussels, January 2007, URL: http://ec.europa.eu/energy/energy_policy/doc/factsheets/market/market_fr_en.pdf.

⁶⁸ Dominique Finon: Reforms in the French power system: from weak contestability to effective competition?, in: *Energy Policy* 10/2001, p. 755-768, p. 756.

⁶⁹ See Helen Avati: EDF ruffles EU feathers, in: *Petroleum Economist*, 7/2001), p. 7-8, p. 7 and “Electricite de France loses 20-25% of Customers to Open Market”, in: *Transmission & Distribution World*, May 14, 2003, URL: http://tdworld.com/news/power_electricite_de_france/.

complaints by several European electricity companies as well as their corresponding governments because of the uneven market opening, which gave *EDF* in their view an unfair advantage over their competitors who were still shut out from the French market.⁷⁰ To finance foreign acquisitions and to reduce the debt burden (of about 22 billion Euro in 2002) already weighing on the company, the French government with support of the *EDF* management decided to partly privatise the electricity utility and raise funds through a capital increase. The law that paved the way for privatisation obligated the French state to maintain at least 70% of the company's capital.⁷¹

In a bid to appease the unions, the government announced that it would only sell 15% of the shares – preferentially to current and retired *EDF* employers – and pledged to maintain long-time control of the utility that will remain a centrepiece of its industrial policy.⁷² Furthermore, the French government prior to the sale signed a public service agreement with *EDF*, which substantiated the utility's public electricity duties. These had been separated from the rest of the company in 2000 just like the operation of the transmission system, which was legally unbundled and today is run by the subsidiary RTE (*Gestionnaire du Réseau de Transport d'Électricité*). *EDF* ensured in this contract an identical transmission price for all French citizens (even overseas), constant prices for all private households over the next five years, and a prohibition of electricity cuts for recipients of housing benefits during winter months. *EDF* further agreed to invest 40 billion Euro in infrastructure projects until 2010.⁷³

In November 2005, 12.7% of the company's shares were sold in a public offer, raising a total of 6.35 billion Euro for *EDF*. The sale of shares to *EDF* employees raised an additional 1 billion Euro. *EDF* employees now own 1.9% of the electricity utility, while private and institutional investors hold a combined interest of 10.8%.

5. Comparison and conclusion

Even though the liberalisation of national electricity markets is still work in progress, EU policy has already lead to significant changes in the Member States' electricity regulation and an increase in competition in markets previously dominated by state enterprises. The four case studies of Germany, France, the United Kingdom, and Sweden show that with regard to state-ownership in electricity utilities there is no standard approach to a changing economic environment.

⁷⁰ See Avati: *EDF ruffles EU feathers*, p. 7-8.

⁷¹ See Bauby: *Deregulierungen und Privatisierungen in öffentlichen Dienstleistungsunternehmen in Frankreich*, p. 47-48 and Alfred Frisch: *Die französische Elektrizitätswirtschaft wird international : Teilprivatisierung auf Umwegen*, in: *Dokumente*, 1/2002, p. 78-82, p. 80-82.

⁷² See „*EDF to be partially privatized. Initial offer expected to produce 7 billion*”, in: *International Herald Tribune*, 25 October 2005, URL: <http://www.iht.com/articles/2005/10/24business/edf.php>.

⁷³ See Barmeyer: *Zwischen Staat und Markt*, p. 24-25 and *EDF: Kapitalerhöhung und Vertrag zur Grundversorgung*. *Communique des Premiers ministres*. 24 October 2005, URL: http://www.botschaft-frankreich.de/article.php3?id_article=1089&var_recherche=EDF.

In the United Kingdom, which had been a pioneer in the liberalisation of the electricity sector and served as an example for the policies at EU level, the privatisation of the formerly state-owned monopolist went hand in hand with the market opening in the electricity sector. Besides budgetary reasons and the aim of the conservative government to promote “popular capitalism”, the objectives of the privatisations have been to free the industry from government interference and to increase productive and allocative efficiency in this sector to the benefit of the consumers. Sweden, in contrast, which also started liberalising its electricity market early without the incentive from the European Union, confined itself to a mere legal privatisation while retaining full ownership control of the dominant company in the Swedish electricity market.

Both, the United Kingdom and Sweden opted for transfer of the transmission network to a new independent company when designing their national electricity liberalisation policy. The separation of network operation from generation and supply activities in these Member States serves today as a prototype for the European Commission, which is demanding ownership unbundling of transmission networks in its third package of legislative proposals concerning the common rules of a internal market for electricity.

In the federal system of Germany, the different level of government pursued diverse privatisation policies with regard to electricity utilities (and also to other state-owned enterprises). The federal government had divested its remaining shares in electricity companies already during the 1980s in course of a (relatively modest) privatisation programme, yet without altering the regulatory structure of the German electricity sector. The federal states and the municipalities, on the other hand, remained inactive in this respect until the mid-1990s. The start of the liberalisation process initiated at EU level may have fostered the increasing number of privatisations in the German electricity sector. However, the primary driving force, which explains the retreat of the state, has been the disastrous situation of the public budgets forcing federal states and municipalities to generate extra revenue through the sale of state-owned assets in the electricity industry to the private sector.

In France, which had been one of the Member States most reluctant in implementing the EU’s liberalisation policy for the electricity market, the conservative government had to overcome fierce domestic protest when it partially privatised the former monopolist *EDF* which enjoyed special status as a national utility of the “*Service Public*”. Privatisation became indispensable to finance the internationalisation strategy of the company that was losing shares in its liberalised home market.

Summing up, even though there is a strong interdependence between the liberalisation of the electricity markets and the privatisation of its utilities, the four cases did not reveal similar patterns or a specific step sequence. In the United Kingdom the divestitures of the state-owned electricity utilities have been part of a larger privatisation programme and were accompanied by a liberalisation policy in order to avoid mistakes that had been made in the privatisation of other utilities. The market opening of the Swedish electricity sector in con-

trast did not entail the (material) privatisation of the dominant company Vattenfall. Privatisations that took place on the local distribution level had already started years before the liberalisation of the electricity market became an issue.

In Germany, where – similar to Sweden – the electricity sector is characterised by a coexistence of private, public, and mixed-economy companies, privatisations initiated especially by the federal government already took place before the market was opened to competition. Nevertheless, the liberalisation of the sector seems to have facilitated the decision to divest state-owned utilities – a step, which became almost inevitable due to budgetary reasons for many municipalities. The French case shows a strong interdependence between European electricity market liberalisation and the subsequent privatisation of formerly state-owned monopolists.

Considering that a competitive market environment seemed to have alleviated privatisations, further divestitures of state-owned assets in electricity companies can be expected – especially in times of fiscal stress.