

1st Supervisor:

Dr. Ivo Hernandez
Westfälische Wilhelms-Universität Münster
Institut für Politikwissenschaft
Scharnhorststraße 100
48151 Münster
Email: ihern_01@uni-muenster.de

2nd Supervisor:

Dr. Maarten J. Arentsen
University of Twente
Centre for Studies in Technology and
Sustainable Development
P.O. Box 217, 7500 AE Enschede, NL
Email: m.j.arentsen@utwente.nl

Bachelor Thesis

The thorny path towards electricity market liberalization in the European Union: The 2nd electricity directive from 2003, market circumstances and diverging political priorities in the case of the French and German Energy Policy (2003-2007).

Marius Spinner
Public Administration European Studies (BSK)
Student Number Twente: s1372955
Student Number Münster: 364 249
Email: marius-spinner@gmx.de

Table of Contents

Declaration of Authorship.....	IV
List of Abbreviations.....	V
List of Figures.....	VI
1 Introduction.....	1
1.1 Overall research topic	1
1.2 Research question and hypothesis.....	3
1.3 Relevance / state of the art.....	4
1.4 Methodology and research design.....	5
2 Peculiar characteristics of the electricity sector in theory.....	8
2.1 Constituent parts of the electricity sector	8
2.2 Physical characteristics.....	8
2.3 Specific market design.....	9
3 Liberalization theory of the electricity market in the EU	11
3.1 Historical overview of the liberalization process in the EU.....	12
3.2 Economic reasons for market liberalization.....	13
3.3 Economic reasons against market liberalization.....	14
4 The current status quo situation of the European electricity markets.....	16
4.1 The overall situation in the EU	16
4.2 The French electricity sector	18
4.3 The German electricity sector	20
5 The 2 nd electricity directive from 2003.....	24
5.1 Content and objectives	24
5.1.1 Transmission system operators.....	24
5.1.2 Unbundling	24
5.1.3 Regulation.....	25

5.2	Assessment of the directives impact regarding French and German performance	25
5.2.1	Implementation problems.....	26
5.2.2	Governments creating national champions	28
6	Conclusion	33
6.1	Inherent characteristics of electricity and the electricity sector	33
6.2	Diverging national energy priorities and interests.....	33
6.3	Internal and external validity of the findings	35
7	Bibliography.....	IV

Declaration of Authorship

I, Marius Spinner, certify that the work presented here is, to the best of my knowledge and belief, original and the result of my own investigations, except as acknowledged, and has not been submitted, either in part or whole, for a degree at this or any other University.

Münster, January 25, 2013.

List of Abbreviations

DGIP	Directorate General for Internal Policies
EC	European Commission
ECSC	European Coal and Steel Community
EdF	Electricité de France
EIM	European Internal Market
EU	European Union
EURATOM	European Atomic Energy Community
GdF	Gaz de France
RWE	Rheinisch-Westfälisches Elektrizitätswerk AG
SEA	Single European Act
TPA	Third Party Access
TSO	Transmission System Operator

List of Figures

Figure 1: Main steps in electricity reform	12
Figure 2: Shares of Primary Energy sources in total electricity generation 2007	17
Figure 3: Market participants and concentration in electricity sector.....	18
Figure 4: IEA Energy Statistics: Electricity Generation by fuel: France.	19
Figure 5: IEA Energy Statistics: Electricity Generation by fuel: Germany.....	21
Figure 6: Generation capacity of major companies compared with the demand in 2004....	30

1 Introduction

1.1 Overall research topic

“For far too long we have been in a situation where, in a haphazard and random way, energy needs and energy priorities are simply determined in each country according to its needs, but without any sense of the collective power we could have in Europe if we were prepared to pool our energy and our resources”

These words of Tony Blair, at that time (2005) UK prime minister and EU council president, illustrate the contradiction in which the European Union's (EU) energy policy is caught since the first attempts of cooperation in the late 1980s. On the one hand, energy policy was at the heart of the first steps of European Integration after the Second World War: Coal and steel were the objects of the founding of the first community (ECSC) in 1951 and EURATOM six years later made the way for a European nuclear energy market. The entire forthcoming integration process relies on the harmonization of these two major energy sources of that time (Fischer 2011). But on the other hand, the EU nowadays is still far away from a real common energy policy. The member states give national energy supply security interests precedence and conduct their national policies through bilateral agreements without supranational coordination (Geden & Dröge 2010). Compared to the considerable harmonization progress of other European internal market (EIM) related areas, energy policy can be seen as “an orphan of the integration process” (Duffield & Birchfield 2011:2).

These facts especially reflect the situation within the European electricity sector. More than ten years after the first electricity directive from 1996 gave the first impetus towards a liberalization process within the EU, the Directorate General of Competition published an electricity sector inquiry¹ which shows that a truly competitive internal market for electricity has not yet evolved (European Commission [EC] 2007). Whereas the internal market is a truly success story of European integration in sectors such as telecommunication, financial services and transport², even elementary preconditions for such a similar integration in the electricity sector are not yet achieved: the full liberalization and harmonization of the prevailing industry structure.

¹ DG Competition Report on Energy Sector Inquiry (2007):
http://ec.europa.eu/competition/sectors/energy/inquiry/full_report_part1.pdf, processing request 06.11.2012

² http://ec.europa.eu/internal_market/top_layer/services/index_en.htm, processing request 06.11.2012

Over the past, electricity markets mostly have been organized in a state-monopolistic way (Dratwa et al 2010). With the adoption of the first electricity directive in 1996³, the European Commission was aimed to start a liberalization and harmonization process of national energy policy in order to establish an internal market for electricity. However, this approach failed because of the reluctance of some member states, and consequently, the directives just listed some watered-down options for the member states to choose with no significant effects (Eikeland 2011). Because of the directive's unsatisfactory nature (Buchan 2011), the Commission came up with the second package in 2003⁴. Theoretically, the 2003 directive should have ensured a complete liberalization of the electricity market by 2007 due to its allegedly more effective policy instruments (Fischer 2010, Geden & Dröge 2010, Dehousse 2007). This liberalization is the *conditio sine qua non* for a functioning internal market. But despite this 2nd directive, today's situation in the EU is still characterized by a high concentration of few electricity utilities with little competition combined with a high level of state intervention (Green 2006). The Commission confirms in its 2007 energy sector inquiry "serious competition problems" which lead to the situation that "consumers and business are losing out because of inefficient and expensive gas and electricity markets" (EC 2006).

This thesis is built up in the following way. This chapter introduces the underlying research question and research design and gives an short overview of the state of the art regarding electricity policy in the EU. Chapter two gives an overview of the specific characteristic of the electricity sector for the purpose of understanding its functioning. In chapter three, a short overview of the electricity liberalization process in the EU and its theoretical meanings is given. Here, the basic terminology and a theoretical framework will be constructed. The term of *liberalization* and its economic implications will be explored. Chapter four analyses the current situation of the electricity markets in Europe as well as in France and Germany, with a special focus on physical and economic aspects and market situation in these two countries. Chapter five provides the analysis of the second electricity directive from 2003. Thereby, the thesis will examine the politically intended and the real outcome of the directive regarding the French and German position.

³ Directive 1996/92/EC concerning common rules for the internal market in electricity

⁴ Directive 2003/54/EC concerning common rules for the internal market in electricity and repealing Directive 96/92/EC

1.2 Research question and hypothesis

According to the outline of the problem described above, this thesis wants to explain why the 2nd electricity directive has not shown any effects regarding the liberalization of national electricity markets. The fact that all previous efforts of market harmonization and liberalization have failed since the first steps in the late 1980s (Padgett 1992) runs counter to the awareness of both the European institutions as well as national governments for a need to act collectively if a future sustainable energy supply shall be secured⁵.

Consequently, the main research question is: *Why has the 2nd electricity directive from 2003 not made any significant contributions towards the liberalization of the electricity sector and, consequently, towards the creation of an internal market for electricity?*

Sub-questions are:

- a) Why is the liberalization and harmonization of the European electricity market more difficult to undertake than in other industry sectors such as telecommunication?
- b) Which role do member states, notably France and Germany, play regarding the liberalization process intended by the EC? What are their interests?

For the purpose of responding to these questions, this thesis focuses on the analysis of French and German energy policies in the context of the 2nd electricity directive, notably in the period from 2003 to 2007. This happens because of various reasons: First, the 2nd directive was seen by the European Commission as an important and perhaps last necessary step for establishing the intended level of market competition and consumer satisfaction after the previous failures. Second, France and Germany are the two biggest economies and, accordingly, the main electricity consumers in the EU in 2009.⁶ Thus, the two countries have always been the “clear protagonists” (Eising & Jabko 2001:742) in European energy policy without whose consent nothing is going to happen as we will see later on. Focusing on the positions of both governments might bring clear findings regarding the research question. Third, the period from 2003 to 2007 constitutes the period of implementation of the directive into national legislation, until the Commission launched its 2007 sector inquiry. This implementation period decides about success or failure of a policy package and shows how effective and politically accepted a policy will be.

⁵ Even beneficiaries of the current non-competitive market situation like energy companies and associations call for action:

http://www.ewea.org/index.php?id=60&no_cache=1&tx_ttnews%5Btt_news%5D=1897&tx_ttnews%5BbackPid%5D=1&cHash=0b550597c46c93304b6bb0775ab5d34c, processing request 07.10.2012

⁶ European Energy Portal: <http://www.energy.eu/stats/energy-electricity-consumption.html>, processing request 12.10.12

Taking the research questions into consideration, I furthermore developed two hypotheses in order to structure and facilitate the empirical analysis. I assume that the electricity directive from 2003 has not driven to significantly more market activities and intra-sector competition because of two reasons. The hypotheses are:

H1: Traditional peculiarities and features of market circumstances and the historical evolution of electricity market designs are hindering a fully liberalized market to emerge.

H2: Diverging national energy priorities as well as domestic political and economical interests constitute barriers preventing member states from cooperating on a European level.

1.3 Relevance / state of the art

The liberalization of the electricity market is part of a broader process towards a common European energy policy and energy market⁷ and therefore a highly important policy field within the Union. As the President of the EC, José Manuel Barroso, pointed out in his opening speech for the External Energy Conference in 2006, “energy is back at the heart of European Integration where it began [...] and where it belongs.”⁸ Furthermore, the topic of electricity market liberalization holds many scientifically highly important and interesting investigation objects because of various reasons. First, bearing in mind the future challenges related to energy subjects, the electricity market and its organizational design play a crucial role in the future shaping of the relations between member states. Within this field, various national systems of electricity production and distribution come together and, consequently, have to be harmonized (Domanico 2008, Serrallés 2006). Second, the electricity sector differs clearly in comparison with other sectors such as telecommunication because of its peculiar characteristics as we will see later on (Domanico 2008). Third, the electricity market liberation process was initiated and is still driven forward mainly by the European Commission (von Danwitz 2006). The relation and demeanor of the member states seeing the Commission’s “intrusion” in a high politics⁹ area is of high interest for political science. Last, a well coordinated and stringent common energy (and electricity) policy is getting more and more important since most of the 27 member states are highly dependent on energy imports. Since the world’s fossil fuel resources are steadily declining, a global competition for resources has begun (Röller,

⁷ <http://www.euractiv.com/energy/eu-electricity-market-liberalisa-linksdossier-188447>, processing request 05.11.2012

⁸ http://europa.eu/rapid/press-release_SPEECH-06-711_en.htm, processing request 05.11.2012

⁹ Referring to Kenneth Waltz’ structural realism and his assumptions to states and the international system. According to him, states have a clearly defined preference order. They pursue firstly the target of securing high politics interests (security, independence, survival) and then, subsequently, all other so-called low politics.

Delgado & Friederiszick 2001). If the EU wants to maintain its high level of competitiveness and prosperity within the ongoing process of globalization and worldwide economic integration, it is decisive to know whether the 27 countries will (and can) conduct a common energy strategy or whether they carry on muddling along on their own. Electricity market integration can be a decisive first step towards a possible win-win situation for all stakeholder.

Since 1996, when the first electricity liberalization directive came out, numerous articles but very few books (except Buchan 2009) have been published which are dealing explicitly with the process of electricity market liberalization in the 21st century. Most scholars put their emphasis on historical analysis of the past years or energy policy in general. Matlár (1997) constitutes surely the standard book dealing with European Energy Policy with a special focus on the late 1980s and helps therefore to set out the historical basis of the European energy integration. Pollack, Schubert & Slominski (2010) as well as Fischer (2011) give a general overview on European Energy policy. But as the most other literature, they are not really suitable to examine the more recent events like the 2nd electricity directive and the 2007 inquiry report. An exception is Buchan (2009), which deals inter alia with contents and consequences of the newest Commission's initiatives and helps to clarify concepts narrowly linked with liberalization processes. Concerning journal articles, Serrallés (2006) points out the challenges and difficulties of an European-wide energy integration process. Green (2006) focuses on the negative implications of mergers and horizontally integrated energy utilities. Domanico (2007 and 2008) goes to the similar direction by focusing on effects of high concentration within the energy market with a special view on the electricity market. Von Danwitz (2006) and Heidenhausen (2007) are more or less the most appropriate and hitting journal articles dealing with the political and juridical side of the electricity market reform in the EU where the latter puts a special emphasis on a comparison of four national electricity markets.

1.4 Methodology and research design

As a research method, this thesis will use a literature review and in-depth analysis of articles published by commentators on the EU policy-making process and official EU documents combined with a qualitative case study. As Vennesson (2008) puts it, "a case study is a research strategy based on the in-depth empirical investigation of one, or a small number, of phenomena in order to explore the configuration of each case, and to elucidate features of a larger class of (similar) phenomena, by developing and evaluating theoretical explanations" (Vennesson 2008: 226, see also Gerring 2004.). At this point, it is important to underline that a decisive factor is to define precisely the unit of study and to narrow

down its scope of analysis. With France and Germany, I selected two similar cases¹⁰ which “facilitates the *ceteris paribus* rule and reduces the number of disturbing variables to be kept under control” (Donatella & Keating 2008: 214). Furthermore, the period of time of the analysis is limited from 2003 (when the electricity directive came into force) to 2007 (when the EC published its sector inquiry).

As Punch points out, “the basic idea is that one case (or perhaps a small number of cases) will be studied in detail [...]. (T)he general objective is to develop as full an understanding of that case as possible” (Punch 1998: 150). In other words, a case study has the function and objective to give a “very intensive understanding of the events and practices of one person, group or organization” (Cunningham 1997: 402). If we want to understand properly the difficulties and problems of liberalizing the electricity sector, it seems adequate to apply such a case study in order to get deeper level of knowledge. Moreover, analyzing and comparing two different cases of national systems allows drawing a wider range of conclusions which are not bound on national borders and which can give more generally valid results. The outcomes of the case study will help whether to verify or to falsify the previously developed hypothesis through generalization in terms of theoretical sampling (Silverman 2005). Critics might say at this point that a generalization is not possible because the findings merely depend on a single case (Silverman 2005, Flyvberg 2011) and the required level of representative evidences cannot be given. But as Becker puts it, “sampling is a major problem for any kind of research. We can’t study every case of whatever we’re interested in, nor should we want to.” (Becker 1998). Consequently, one can assume that generalizability is present in the existence of *any* case. According to Silverman (2005) and Peräkylä (2004), it does not matter where we begin our research since the basic structures of social order are to be found anywhere. “Look at *any* case and you will find the same order” (Silverman 2005:134). Or as King puts it, “case studies allow more room for the researcher’s subjective and arbitrary judgment than other methods (King, Keohane & Verba 1994). This point goes hand in hand with the second critical point besides the problem of generalization: the measurement of data. Whereas standardized quantitative research allows a systematical empirical investigation and numerical form of description by applying statistical or mathematical techniques, qualitative research generates in-depth information on a small range of cases and hypotheses on the subject (King et al. 1994). The decisive point is to explain the way of proceeding: “Providing that you have done and can

¹⁰ The term of similar cases refers to varying preference in research design, which consist not only in the number of cases, but also “on the right balance of similarities/differences among them” (Donatella & Keating 2008:214). In *most-similar systems* design one compares similar cases, whereas in *most-different systems* design, one compares dissimilar ones. (*Dis*-)Similar systems can be for example similar countries, organizations etc.

demonstrate a research design driven by those priorities, nobody should have cause for complaint” (Silverman 2005:136).

2 Peculiar characteristics of the electricity sector in theory

Before having a closer look to the European Electricity market and its constraints to a competition-oriented arrangement, it is indispensable to examine the general design of the sector *in theory* in order to find out its natural characteristics and to understand why the electricity sector differs from other industries.

First of all, it is to mention that the electricity sector is a comparatively complex one (Schmidt 1998). This complexity and singularity can be explained on the basis of three categories: constituent parts of the sector, physical characteristics and the specific market design.

2.1 Constituent parts of the electricity sector

The electricity sector consists of three different sections: 1) generation of electricity from different energy sources such as coal, mineral oil or renewable sources, 2) transport, which includes transmission and distribution through networks, power supply systems and electricity grids and 3) supply and retail activities. Between these sections, market structures vary regarding ownership structures, market access and regulation. Transmission and distribution, for example, are likely to remain organized in a monopolistic way due to their grid-boundedness (von Danwitz 2006, Joskow 2008) whereas generation and supply and retail are mainly affected by liberalization processes¹¹.

2.2 Physical characteristics

Electricity is a so-called secondary energy form which is produced by transforming primary energy sources like mineral oil, natural gas or solar power through electricity power plants (Pollack, Schubert & Slominski 2010). Due to its physical and natural characteristics, electricity as a commodity differs significantly from other goods. Firstly, electricity cannot be stored in substantial quantities over a longer period of time and therefore has no shelf life (Serrallés 2006). Demand and supply must “match at all times in order to avoid blackouts or even the collapse of the entire system” (Heidenhausen 2007: 4). Thus, a reliable electricity supply has to deal with very different levels of demand with short periods of high and rather longer terms of moderate demand. Matching demand and supply and the need for a flexible managing system in very inflexible infrastructure systems hold high economic inefficiencies which renders running electricity markets highly

¹¹ Transmission and distribution of electricity requires an enormous network of infrastructure throughout the whole country including inter alia (high voltage) power supply lines, transformers and pipelines. Because of this high capital-intensity, duplicating the whole infrastructure is economically (and geographically) not efficient. New market entrants have to be able to use the existing grids from market incumbents which is only possible in a liberalized market design.

unattractive and expensive without state coordination and public money. Secondly, electricity is network bound which is the reason for the naturally monopolistic structure of transmission and distribution (Fn 12). Contrarily to other industry sectors, electricity cannot be easily transported by trucks or in container, a fact which places additional requirements on the management of electricity. A good explanation for this is given by Green (2006): “In most markets, the possibility of storage, substitution to alternative products, and the threat of entry can give some protection to consumers, even if there may be few sellers in the short term. Electricity cannot be stored, it has no substitute in many of its uses, and it is produced in capital-intensive power stations with long planning and construction times. The normal protections therefore fail to apply. At peak times, the margin of spare capacity on most electric systems will generally be less than the size of the largest generating company. This means that the largest company will be ‘pivotal’ at those times, for demand cannot be met without using some of its plants.” (p.2535)

2.3 Specific market design

These two characteristics, dealing with security of supply and commodity complexity and determining inseparably the electricity sector (Domanico 2007, Serralles 2006), lead automatically to a market design which is characterized by two attributes. First, the European energy sector has always been consisted of publicly or privately owned monopolies in most countries¹² from the post-war period up until now. Due to the high political importance, the high economic inconsistency and the imperfect demand and supply scheme, energy production, transport and commercialization have always been provided by national authorities (Dehousse 2007, Serralles 2007). This exclusion of market-based competition has been justified by labeling the structure of the energy sectors as so-called “natural monopolies”. In natural monopolies, the market entry is generally very difficult due to the high volume capital that is required to establish a significant market position. Companies being already established in the market become quickly a dominant position and hard to drive out (Dehousse 2007). Furthermore, it has been argued that, on grounds of the high costs of duplicating infrastructure, the supply from just one supply and transmission company is macro-economically and, consequently, for the consumer, the most cost-efficient alternative (Dratwa 2010). By controlling the electricity industry and establishing a monopolistic market structure, governments could achieve a multiple set of

¹² Exceptions are the Scandinavian countries and England.

goals like “national security (in terms of securing a reliable and constant supply of energy), consumer protection and the promotion of the competitiveness of national industry”¹³.

The second point comes closely along with natural monopolies and is called vertical foreclosure or vertical integration. Vertically integrated utilities can be seen as the heritage of the monopolistic organization from the post-war period in the 1950s until the late 1980s. Electricity utilities, being at the heart of the domestic economic infrastructure, had been put up after World War II with significant state aid. By the time and through the emergence of a neo-liberal economic perspective, those utilities have been denationalized, but by keeping the size, privileges and the public money with which they were built up. Using this tremendous competitive advantage, such vertical integrated utilities could become dominant operators being simultaneously in charge of production, distribution and sale of energy in customer business (Geden & Dröge 2010). By reason of this control of the wholesale activity within the market, in particular regarding the ownership of grids and transmission networks, those global players can easily foreclose “the availability of crucial inputs or assets to potential rivals” (Buchan 2011: 29). Moreover, by raising costs and preventing new entrants from getting access to transport infrastructure, vertical integrated utilities can abuse their dominant position (ibid: 31). As Eikeland (2011) says, “vertically integrated operators of the networks were suspect of favoring access to their own affiliates. Operation and investment decisions had been made on the basis of own supply interests. Vertical integration of generation / import and supply activities had reduced incentives to trade on wholesale markets and thus a lack of liquidity in these markets, in turn an entry barrier” (Eikeland 2011: 22). Due to their overall activities and high market power in all segments of the electricity sector, market incumbents subsequently are in a quasi-monopolistic market structure we have today.

Taking these considerations into account, one can understand the specific and inherently anti-competitive design and the very unique and non-comparable properties of electricity as a good (Padgett 1992, Serrallés 2006) regarding the European energy sectors and the difficulties coming along with the transition from highly regulated state-owned integrated monopolies to a competition-oriented market design (Domanico 2007). Characteristics of electricity as a physical good difficult to handle on the one hand and market incumbents with high economic and political weight on the other hand are complicating the restructuring process intended by the 2nd electricity directive.

¹³ <http://www.dundee.ac.uk/cepmlp/journal/html/vol4/article4-9.html>, processing request 31.01.2013

3 Liberalization theory of the electricity market in the EU

As we see in Europe, but as well in other countries such as Australia, Chile and Argentina, electricity market liberalization is part of a broader trend towards industry liberalization and, at the same time, the withdrawal of the state's control over important industry sectors (Jamash & Pollit 2005). But since the electricity sector is a specific one compared to most other sectors because of its natural characteristics, one has to consider liberalization theory of electricity markets differently to ordinary liberalization theories (Joskow 2008).

The term *liberalization* generally refers to the “abolition of rights of monopolies, rights which accord [...] energy suppliers protection against competition” (von Danwitz 2006: 423). The overall objective of liberalization of the electricity market is “to create new institutional arrangements that provide long-term benefits to society and to ensure that an appropriate share of these benefits are conveyed to consumers through prices that reflect the efficient economic cost of supplying electricity and service quality attributes that reflect consumer valuations” (Joskow 2008: 11). According to Serrallés (2006), three economic conditions must be achieved as a “prerequisite” to a competitive (and therefore liberalized) market in order to achieve a successful transformation from a highly regulated monopolistic to a transparent and competitive market: free consumer choice, third party access (TPA) and unbundling (p. 2545).

Consumer choice means that consumers must be able to freely choose their electric energy supplier after having compared prices and services of competing electricity supply companies.

Third party access (TPA) means that a free and competitive market has to guarantee unimpeded access to transmission and distribution networks for companies which do not own them, which is notably important regarding infrastructure, grids and other power supply lines. Electricity companies have to be able, consequently, to use already existing high-, medium- and low-voltage networks that are owned or controlled by other companies in order to distribute electricity to consumers (Kotlowski 2007). Otherwise, competition in the electricity market would not be possible due to the physical characteristics and the natural market design within the sector as mentioned above. Without TPA, natural monopolists could easily abuse their dominant position.

Unbundling of networks means that transmission and distribution networks have to be separated from the generation and retail business of vertically integrated utilities. Unbundling of networks is a necessary condition for granting TPA. By granting unbundled access, new market entrants are offered access to the infrastructure of the incumbent by a third authority or company.

Important at this point is to mention that liberalizing the electricity sector means a twofold process: First, liberalization has to rely on *wholesale markets*¹⁴ in order to establish a general need for competition by encouraging innovation and investments. Second, liberalization has to allow consumers to choose freely their power supplier which takes into account their personal needs and demand structure by enabling competition in *retail markets*¹⁵ (Joskow 2008). In other words, in a theoretical fully liberalized electricity market, the opening of the market structure allows other companies to gain access to the markets which results in a wider array of service products, whereas in a monopolistic (or oligopolistic) structure just a very few electricity companies are established in the market which limit considerably the consumer's freedom of choice and consequently raise prices artificially. Table 1 outlines the essential measures for transforming a monopolistic, state-owned electricity sector into a competitive and privately-owned industry.

Table 1. Main Steps in Electricity Reform

Restructuring	Vertical unbundling of generation, transmission, distribution, and retail supply activities
	Horizontal splitting of generation and retail supply
Competition and Markets	Wholesale market and retail competition
	Allowing new entry into generation and retail supply
Regulation	Establishing an independent regulator
	Provision of third-party network access
	Incentive regulation of transmission and distribution networks
Ownership	Allowing new private actors
	Privatising the existing publicly owned businesses

Figure 1: Main steps in electricity reform (Jamassb & Pollit 2005: 13)

3.1 Historical overview of the liberalization process in the EU

Up until the late 1980s, electricity markets in the EU remained in an unmodified monopolistic market structure as they have been since the post-world war II area (Serrallés 2006). In 1987, when the Single European Act (SEA) came into effect, the EC started a process of liberalization and fight against monopolies (Buchan 2009). Since the mid-1990s, the EC has been pushing electricity markets to be opened up, liberalized and harmonized. The focus on electricity and gas in energy politics can be explained by the fact that markets for oil and coal already seemed to meet a sufficient level of openness. This new impetus after a rather long period of stagnation regarding competition policies is a result of the increase of competences for the EC through the SEA (Fischer 2011) as well as the “growing influence of neo-liberal economic ideologies [...] best expressed by Thatcherism in UK and

¹⁴ A wholesale market is a market where energy producer offer their output to retailer and not directly to the final consumer.

¹⁵ Retail markets connect electricity retailer with the end-use customer.

Reagonomics in the USA” (Serrallés 2006: 2544). Both natural and national monopolies were declared being “incompatible with a single market” (ibid: 20). A first decisive step towards a liberalized electricity market was made in 1996 with the adoption of the first electricity directive 96/92/EC, committing the member states to start a deregulation process of their electricity sectors. The directive’s central point was to promote the idea of non-discriminatory TPA to networks and grids. Additionally, generation would be deregulated allowing better market access for new entrants (Strauss-Kahn & Traca 2004) and member states were obliged to unbundle their industry structure. The directive, coming into play after 5 years of negotiating, was subject of extensive criticism, notably by the electricity industry as well as member states such as France and Germany in the first row¹⁶ not agreeing with Brussels restructuring their industries.

Due to its lack of effectiveness and not binding nature,¹⁷ the 1996 directive was replaced by the 2nd electricity from 2003 (see Chapter 5). This so-called “acceleration” directive was developed at the Lisbon summit in 2000, when EU leaders passed the Lisbon Strategy for competitiveness and economic growth. Energy policy was an integral part of the Lisbon Strategy (Fischer 2011). Implemented in 2003, the 2nd directive for electricity has been replaced by the 3rd directive 2009/72/EC in 2009.

3.2 Economic reasons for market liberalization

If we want to assess the liberalization process of the electricity industry in the EU, we have to consider both positive and negative effects of market liberalization in theory in order to understand hidden political and economic agendas and motivations.

As Jamasb and Pollit (2005) point out, theory suggests that “competition and the profit motive result in internal (production) and external (market) efficiency and that the benefits are passed on to customers and the economy in the form of lower prices and costs” (p. 12). Consequently, the main argument of liberalization proponents is “efficiency improvement and cost saving” (ibid: 16). Furthermore, liberalization within the EU can lead to a greater price convergence across countries which constitutes an important factor in European-wide market activities by avoiding market distortions through different price levels.¹⁸ Another important effect is the increase of security of supply since a better cross-border trade and

¹⁶ In contrast, the directive was more or less irrelevant for the Scandinavian countries and England which had already opened their electricity market through national legislation (Buchan 2009).

¹⁷ The directive, for example, admitted member states the choice of three different TPA-modes which permitted the incumbents to keep out competitors. The French ‘single-buyer’-model and the German ‘negotiated TPA’ proofed to be something like a farce, theoretically opening the market to 100% but preventing foreign producers from accessing to the market (Buchan 2009).

¹⁸ A greater convergence of electricity prices constitutes a so-called level playing field. In other words, notably companies which are subjected to European-wide competition can enjoy equal market conditions regarding price levels.

interconnections between countries would reinforce “flexibility and solidarity among member states” by providing a better allocation of available resources (Strauss-Kahn & Taca 2004: 5189). According to Joskow (2008), “electricity sector performance, in terms of operating costs, physical network losses, generator availability, theft of service, availability of service, investment, price levels and structures, service quality and other performance variables, can be expected to improve significantly compared to either the typical state-owned or private regulated vertically integrated monopoly” (p. 14).

3.3 Economic reasons against market liberalization

Despite its economic and political advantages, liberalization of essential industry sectors is not an undisputed concept. Domanico (2007) points out two possible risks coming from liberalization respectively the fact that liberalization has allowed an “unprecedented level of mergers and acquisitions” (p.5071): exercising unilateral market power and future collusion. Firstly, exercising market power, notably by electricity generators, means that competition problems can arise “when the electricity actors are big players or dominant in one specific area” (ibid). Due to a liberalized economic system, undertaking convergent mergers of already big utilities can “guarantee to one electricity producer the control of one of most important energy sources for the production of electricity in the next years (ibid). In other words, the liberalization process allows vertically integrated utilities to use their market power in order to acquire smaller companies without state control; a contradicting effect to the actually intended “more competition through liberalization”-paradigm. Secondly, collusion is a direct result of the domination of few electricity producers within the European market as they are “able to monitor each other facilitating collusion” (Domanico 2007: 5072). In a market with few actors, they are likely to divide their territory establishing non-aggression pacts regarding hostile takeovers or unwanted competition. Furthermore, these big players would be able to manipulate electricity prices in order to impede market access to new actors. Another important point is that the European energy landscape is characterized by different policy approaches regarding energy which vary from member states to member states (Serrallés 2006, Buchan 2012). A liberalization process of this unequal and patchy sector can generate a “geographically uneven playing field where competition will continue to be dominated by regionally entrenched ‘national’ energy companies” (ibid: 2550). Furthermore, electricity liberalization has to be considered differently to other liberalization processes due to its public service-function. This social obligation has to guarantee a “basic and level of access to electricity” (ibid.). The risk here is that the (neo-liberal) seek for market efficiency and higher level of competition can lead to a decrease of the public service-performance.

To sum up, ventures such as electricity market liberalization constitute a “ground-breaking change to the whole energy sector” (von Danwitz 2006: 424) having direct effects on both the domestic industry as well the private households in terms of reliability of supply and price development. Consequently, risks and challenges are narrowly linked to this process which needs to be handled adequately. A negative example of what can happen if liberalization reforms are incompletely or incorrectly implemented is the electricity crisis in California 2000 / 2001.¹⁹

¹⁹ In 2000 and 2001, the state of California suffered from multiple electricity blackouts due to management mistakes and market manipulations related to competition-enhancing and deregulating measures since 1996. Energy prices rose by 800% and thousands of customers were affected. For more information see Joskow (2008) and Newberry (2002)

4 The current status quo situation of the European electricity markets

The opening of national electricity market structures is decisive for the level of competition in the EU electricity markets as a whole (Hölzer 2007). If national markets are under strict national surveillance and obey state-centered logics, competition and liberalization cannot be established in the EU. The convergence of national markets is essential for a functioning European-wide market (ibid). It is therefore important to look at the status quo situation of both national (in this thesis the French and German) electricity markets being a precondition for harmonizing the market in a European dimension. Furthermore, analyzing national electricity markets allows drawing lessons about national political priorities which, in return, determine the future arrangement of the electricity sector in Europe. Hence, analyzing the current situation of the electricity sectors in Europe in general and France and Germany in particular can help us to find out why the 2nd directive does not make any progress towards a liberalized market.

4.1 The overall situation in the EU

Demand for electricity has grown steadily in the EU in the past years and will continue to grow annually by 3 % between now and 2020 (EC 2000). In absence of new emerging technologies and the improbability of a nuclear power renaissance in Europe, this growth will have to be satisfied by the current primary energy sources and their mixes in the member states²⁰. For understanding national electricity market policies, it is hence important to have a look at national energy mixes²¹ which have therefore a direct link to their electricity sector and determine national policy priorities: “Member states form their preferences on the basis of their national situations and then defend their [...] regimes at the EU level” (Eising und Jabko 2001: 743). Yet at a first sight, it gets obvious that energy mixes in the EU differ significantly (Geden & Dröge 2010). As Figure 2 illustrates, the European energy map is rather diverse which can be exemplified on the basis of few cases.

²⁰ Across the EU, electricity is generated mainly by conventional thermal sources (54 %), nuclear (28 %), hydro (13 %) and wind (5 %) (http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Electricity_production_and_supply_statistics, processing request 13.11.2012)

²¹ The energy mix is the combination of different forms of energy used. Energy mixes vary from country to country.

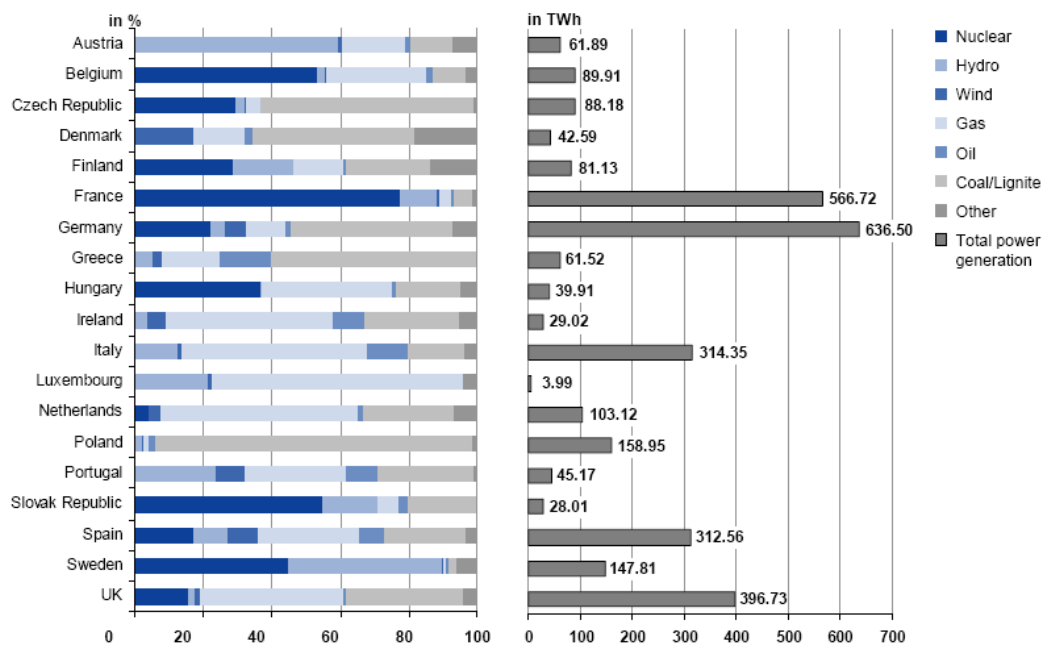


Figure 2: Shares of Primary Energy sources in total electricity generation 2007 (<http://rwecom.online-report.eu/factbook/en/marketdata/electricity/generation.html>, processing request 13.11.2012)

Coal, for example, is the main energy source in Poland (57 % of energy production), whereas in France, Italy or Lithuania coal does not even account for 10 % (Geden & Dröge 2010). The share of natural gas is three times higher in Italy and Hungary than in Poland or France. The most recent and striking example is the perception of nuclear energy in Germany and France: The German government has announced that all nuclear power plants will be phased out by 2022. In contrast, nuclear energy has got a share of 77,8 % of the French electricity production in 2003 (von Danwitz 2006). Thus, national energy mixes are very heterogeneous across the EU, which, consequently, “crucially determines many of the national (as well as EU-wide) trade-offs” (Röller et al. 2001:27) regarding energy and electricity policy priorities. Every different composition of the energy mix requires a different, adequate and coordinated national energy policy taking specific national conditions into account. Amongst others, this fact renders it difficult to find common European-wide positions; harmonizing a market which consists of 27 different sub-markets is far from being easy to do.

Besides the different energy sources, the performance and structure of national electricity markets are determining factors in relation to a European-wide development. It can be stated that tendencies towards market concentration exist in most national electricity markets due to their isolated performance and non-cooperation.²² Furthermore, in most EU countries “the three biggest market participants unify more than two third of the overall market share (ibid: 83, see Figure 3).

²² European cross-border trade in electricity rose merely by 1,7 % from 2000 to 2004 and remains at a very low level of 10,7 % of overall electricity consumption (Hölzer 2007). This sealing-off from other markets fosters the cosy position of the few market incumbents which do not have to fear foreign competition.

Number of market participants	Electricity Generation	Distribution and Transmission of electricity
≥ 6	UK, Nordic, PL	UK, Nordic, IT, CZ
3-6	AT, DE, BE, NL, LU, IT, ES, PT, CZ, SK, SI, HU	AT, DE, IE, NL, PT, ES, PL, SK
< 3	FR, GR, IE, CY, MT, EE, LT, LV	BE, FR, GR, LU, EE, LV, LT, CY, MT

Figure 3: Market participants and concentration in electricity sector (Hölzer 2007: 84)

Backing up this image, a study from the Directorate General for Internal Policies (DGIP) points out that only six power companies dominate the market of electricity generation in the EU: French EdF, German E.ON, Italian ENEL, Swedish Vattenfall, German RWE and French Gdf Suez (DGIP 2010). Furthermore, the study shows that “only 8 of 25 member states have only moderately concentrated national markets, 12 countries have very highly and 5 highly concentrated markets” (DGIP 2010: 23).

What we can see here is that high market concentration, the lack of competition and the non-progress of liberalization is a European-wide phenomenon which partly can be attributed to different national choices regarding the energy mix and subsequent energy policy priorities. It is difficult to harmonize a market if the relevant and affected goods vary significantly from one country to another. It is hard to explain German citizens, who have chosen a nuclear-free energy supply, that due to a liberalized electricity market it is probable that French nuclear-based electricity flows through their grids. For understanding underlying national motives for actions regarding electricity policies, it is crucial to keep in mind these specific national starting situations.

These differences are getting even clearer by examining the French and German electricity sector in a more detailed way.

4.2 The French electricity sector

In France, the history of the energy sector in general and the electricity sector in particular have always been characterized by a “strong intervention of the state” (Meritet 2007: 4768) which sometimes has led to a “black sheep” reference within the EU due to its specific energy model (ibid: 4767). The supply of electricity was nationalized shortly after World War II in 1946 in order to manage the re-industrialization and re-building process of the devastated country and since then has ever been controlled and managed by the single state-owned company, Electricité de France (EdF) (von Danwitz 2006). Thus, EdF represents a classical monopolistic and vertical integrated energy utility with very close links to the

French government and the industrial and social policy (Strauss-Kahn & Traca 2004). According to Strauss-Kahn & Taca (2004), the relationship between EdF and the government “was laid out by extensive four-year contracts setting goals, tariffs and debt levels, the state’s profit share, quality improvements, investments and export policies and public service obligations” (p.5189). In other words, EdF enjoyed a quite protected business environment with a quasi state-pledge against unintended competition. As Eising and Jabko (2001) put it, “the traditional view within EdF rested on the notion that its monopoly on the production, transportation, and distribution of electricity corresponded to a natural way of organizing the supply of electricity in a rational and economically efficient manner” (p.750). In the shadow of these privileges, EdF was able to expand massively by acquiring smaller regional electricity suppliers.²³ In 2001 for example, the company spent €4 billion for mergers and acquisitions (ibid). Subsequently, nowadays EdF market share in France is 90 %.

Energy supply plays a very different and role in France compared to other European countries. In France, energy supply has always been considered as a “public service” obligation of the state and therefore enjoyed a specific legal classification.²⁴ According to von Danwitz, the French public service concept of energy and electricity supply has even

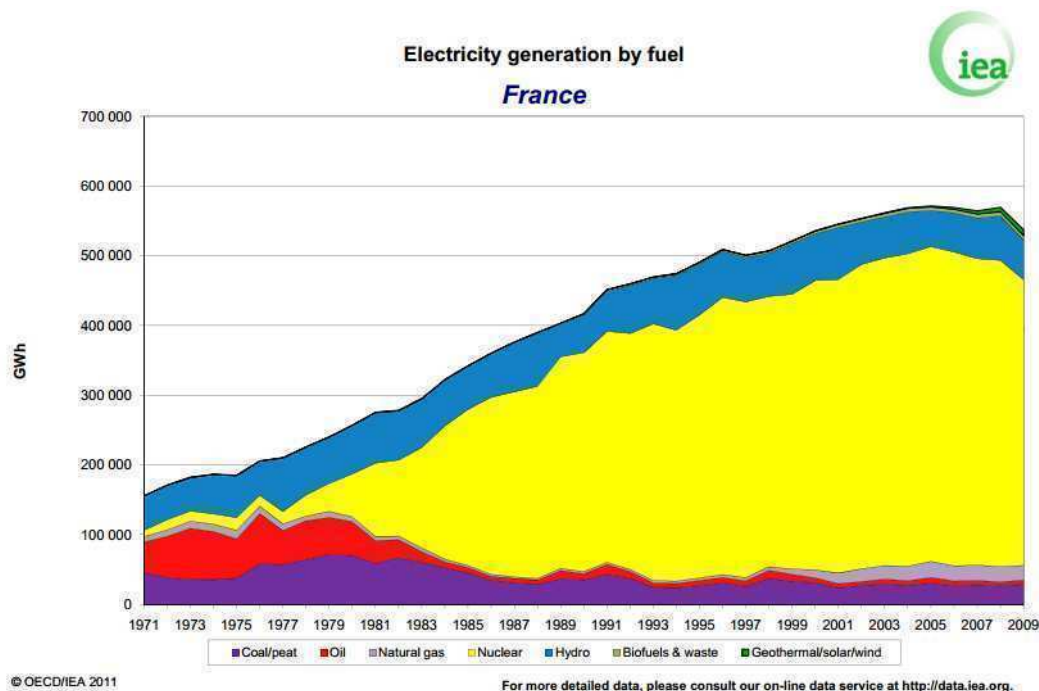


Figure 4: IEA Energy Statistics: Electricity Generation by fuel: France. (http://www.iea.org/stats/pdf_graphs/FRELEC.pdf), processing request 12.11.2012

²³ See Green (2006): 2539 for a listing of European-wide acquisitions by EdF.

²⁴ „The French concept of public service constitutes one of the most important core elements of French administrative law“(von Danwitz 2006:430). The public service concept, widely acknowledged by all political parties and stakeholders, pertains to the founding myths of the French republic. It means that some services must not be exposed to market mechanisms because they particularly are worth to be protected such as electricity, post, gas and water.

“become an element of French identity” (p. 430) which the French are eager to protect. This explains the reluctant French position on electricity market liberalization pushed forward by the EC since 1996.

Regarding French electricity production, nuclear power has a remarkable and unique standing compared to all other European countries (Meritet 2007). Electricity was mainly produced by nuclear power (78 %) in 2005, followed by thermal plants (11 %) and hydro power (10 %) (Barth 2008). Except of the latter, renewable energies merely play a minor role in the French electricity production; the same applies to the share of oil and coal due to the effects of the oil crisis in 1973. In the aftermath of the crisis, the so-called Messmer-Plan²⁵ was initiated with the objective to prioritize nuclear power in order to reduce dependency in fossil fuel imports (Barth 2008). In the 1990s, France became the “most nuclear-dependent country in the world with 57 reactors generating more than 75 % of its power” (Strauss-Kahn & Traca 2004: 5189).

France has very few available fossil resources. But despite the high share of imported fossil fuels in the primary energy mix, imports remain still on a rather low level (3-5 % of French national production) due to the high amount of nuclear and hydro electricity (Strauss-Kahn & Traca 2004).

Both transmission and distribution are managed by the independent regulatory authority, CRE (Commission de Régulation de l'Electricité). According to this authority, the market is currently “actually concurrential” (Barth 2008: 14)

4.3 The German electricity sector

In contrast to France, there has never been a monopolistic structure within the German electricity sector (Brandt 2006). Instead, numerous power supply companies, partly private, partly state-owned, were active in Germany before the liberalization process. But, as von Danwitz (2006) points out, despite this rather open market structure, “there was no competitive energy market in Germany” due to “exclusive franchise contracts covering supply areas within their communities” (p. 427). Within these demarcation contracts, the German regulation authorities subjected all energy suppliers to “specific duties designed to safeguard the public interest, including, notably, a general duty to guarantee access and supply” (ibid) in return for granting them a territorial monopoly. Because of these narrow relations between the electricity supply companies and public bodies, those firms have great political and economic weight (Eising & Jabko 2001). A situation, which indeed can be

²⁵ Named after the Prime Minister Pierre Messmer (1972 – 74). The plan foresaw the installation of 13 GW nuclear power plants within two years and set the conditions for the current energy mix (Barth 2008).

compared to the French market organization except that on the right side of the Rhine there have been several companies segmenting the territory. In 1997, the starting point of the liberalization process, there had been eight such vertically integrated electricity utilities with a 79 % market share of electricity production. Today, there only remain four due to national mergers and takeovers: RWE, E.ON, EnBW and Vattenfall Europe with a total market share of 95, 6 % of electricity generation (Brandt 2006). They were, in contrast to EdF, not state-owned, but public bodies such as municipal governments hold participations²⁶.

The German energy and power mix for electricity generation is by far more diversified than in France. In 2004, nuclear power accounted for 27,5 % of the total electricity production, lignite for 26,1 %, hard coal for 22,8 %, natural gas for 10,2 %, oil for 1,6 %, hydropower for 4,5 % and wind power for 4,1 %. Consequently, Germany has got to maintain a broader political portfolio regarding energy policies than France for example. Germany needs to placate those different electricity sources throughout the country which in return needs a quite high level of political and economic coordination.

As well as most other European countries, Germany does not have sufficient resources to satisfy the electricity generation and consumption and is therefore highly dependent on

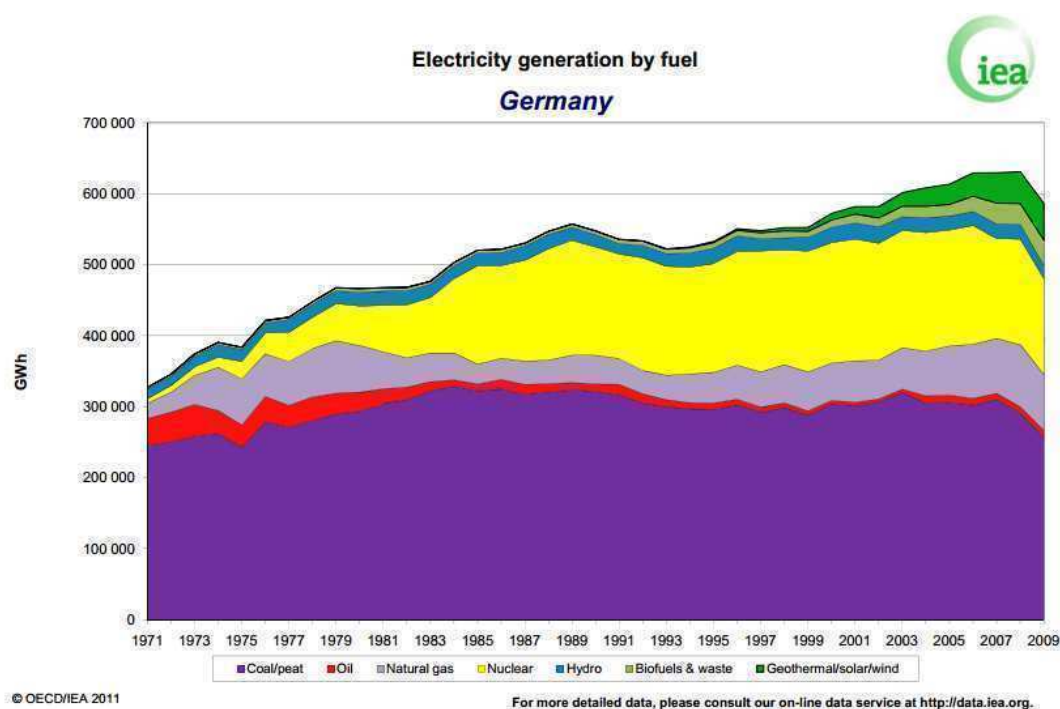


Figure 5: IEA Energy Statistics: Electricity Generation by fuel: Germany. (http://www.iea.org/stats/pdf_graphs/DEEELEC.pdf), processing request 13.11.2012

²⁶ RWE, for example, „relies on a one-third participation of municipal governments. The Free State of Bavaria holds a 2,5 % participation of E.ON [...] and the French state-owned enterprise EdF owns about 45 % of EnBW; Swedish Vattenfall, also state-owned, owns 89 % of Vattenfall Europe. “ (von Danwitz: 428).

imports of primary energy sources²⁷.

The responsible authorities for electricity are the Federal Network Agency (*Bundesnetzagentur*), supervisory authorities of the German Federal States (*Energieaufsichtsbehörden der Bundesländer*) and the Federal Cartel Office (von Danwitz 2006).

On the basis of the analysis in this chapter, we can see that the European electricity markets constitute a quite uneven playing field due to different national energy choices. According to Buchan (2012), those different political priorities are the result from “different natural endowments (sources of hydro or exposure to sun and wind), different levels of wealth (renewable currently cost more than fossil fuels), and different levels of clean energy ambitions [...] Because governments have different targets, they insist they need to have control over the subsidy schemes to meet these targets.” (p. 2). These different economic targets or needs are being in turn transposed in a political agenda varying from country to country. These varying energy priorities across the EU determining motives for political action make a common energy policy unlikely to emerge. France for example will seek maximum energy independency by continually promoting its nuclear program whereas Germany is looking to protect its coal industry and foster the development of renewable energy sources (Meritet 2007). 27 different energy mixes, 27 different national market structures and 27 different visions of the future shaping of the electricity market are making it harder to find common positions on how a liberalized and competitive market has to look like. Both the peculiarities of electricity as a good as well as different market designs constitute a considerable obstacle to a successful liberalization. In the EU as well as in Germany and France, the previously state-regulated market segmentation is the result of the specific commodity conditions in the electricity sector such as the non-storability and grid-boundedness of electricity. In France and Germany, central planning regimes have been developed after World War II in order to guarantee a reliable and stable energy supply. Building a functioning and capital-intensive electricity industry network out of nowhere was only possible through organization, assistance and sponsorship by the state. Due to these circumstances, state-owned companies shielded from competition have become vertical integrated utilities which are active in all sections of the electricity sector from generation to transmission to retail supply. These market characteristics remain up to now in spite of all liberalization attempts, even if the state’s control over the sector has been pushed back. As discussed above, France and Germany have two differently organized and structured electricity sectors which vary from a “fully nationalized, centralized” one in

²⁷ In 2004, Germany imported 61 % of the primary energy sources needed for electricity generation (Geden & Dröge 2010).

France to a “structure of regional, various monopolies” in Germany (von Danwitz 2006: 432). These differences are reducing the probability of finding a common position towards an harmonized European electricity sectors because reforms in that direction also mean profound transformation in the national sectors.

The first hypothesis, according to which traditional peculiarities, features of market circumstances and the historical evolution of electricity market designs are hindering a fully liberalized market to emerge, can therefore be verified. Serrallés (2006) backs up these findings: “The degree of autonomy that member states wield in their attempt to liberalize their own electric energy markets, and in doing so, structure the character of an European-wide IEM. Although the process is being guided by EU-wide principles, the different policy approaches undertaken by the member states seriously threaten to establish a geographically uneven playing field where competition will continue to be dominated by regionally entrenched ‘national’ energy companies” (p.2550).

5 The 2nd electricity directive from 2003

As we have seen above, market dominance of few electricity suppliers, a lack of competition and an inflexible infrastructure system are still prevailing in the current European electricity markets. The electricity directive from 1996 did not show the intended outcomes due to the peculiar constraints to competition in the electricity sectors we have seen above. This induced the EC to present new proposals for pushing forward the liberalization process and to “close the loopholes” (Heidenhausen 2007: 7) of the first directive tackling obstacles to a full liberalization. The result is the so-called “acceleration directive” from 2003, subsequently adopted by the European Parliament and the European Council in 2003, repealing the previous directive 96/92/EC. Member states are instructed to implement the provisions not later than July 2004. Similar to its predecessor, the 2nd directive established standards and rules in five areas: production / import, retail supply, transmission and distribution, regulation and unbundling (Thomas 2004). In this chapter, the thesis will analyze the content and effects of the 2nd regulation being relevant for the scope of this thesis.

5.1 Content and objectives

5.1.1 Transmission system operators

In order to guarantee that market players can use the networks of monopolists, it is indispensable to transfer the rights to manage these networks to independent network operators, so-called transmission system operators (TSO). Those TSOs subsequently were obligated to grant network access to new market entrants. Regarding the management of transmission and distribution (Art. 8–12), the member states’ room for maneuver was narrowed. Whereas the 1st directive provided two options for TPA (negotiated and regulated²⁸), the 2003 directive merely provides regulated TPA. Furthermore, prices and calculation methodologies have to be accepted by an independent regulation authority and cannot arbitrarily be set by the network owner.

5.1.2 Unbundling

In the case that transmission and distribution of electricity is done by vertical integrated utilities, Articles 13-15 provides that separate accounts (TSOs) have to be kept for their generation, transmission and distribution in order to avoid discrimination, distortion of

²⁸ Negotiated TPA means that the conditions and fees for network use between the network operator and the energy suppliers are to be negotiated. In a regulated TPA system, the conditions and fees are laid down by an autonomous regulation authority which signifies a loss of control for the network owning company and a advantage for new market actors.

competition and vertical foreclosure. This process of separating transmission and distribution from the other sector activities is known as *unbundling*. Within this 2nd directive, the unbundling provisions were strengthened compared to the 1st directive in the way that vertical integrated companies will have to separate *legally* their transmission and distribution activities; selling and networking activities must be carried out by legally separate companies (Thomas 2004). “Whereas the 1st directive only prescribed management unbundling and separate accounting, the 2nd directive demands actual legal unbundling” (Von Danwitz 2006: 440). The process of unbundling is currently being controversially discussed. According to Buchan (2009), this is the most “controversial reform proposal” because vertical integrated would have to choose either to “sell of (their) networks or put them under the management of separately owned ‘independent system operators’” (p.49).

5.1.3 Regulation

A new provision is written down in Articles 23: ‘Member states shall designate one or more competent bodies with the function of regulatory authorities’ which have to be independent in order to ensure ‘non-discrimination, effective competition and efficient functioning of the market’. Therefore, the regulator must be equipped with a minimum of competences so that they appropriately can undertake its activities, amongst other foremost regarding TPA, unbundling and interconnection management.

5.2 Assessment of the directives impact regarding French and German performance

Taking these provisions of the 2nd electricity directive into account, one might think that the days of national monopolistic structures and the exclusion of competition in the electricity market are a matter of the past. The 2nd directive, removing most of the failures of its predecessor, has been adopted by the European Commission and national governments which should be a clear sign that all relevant political stakeholders are in favor of the provisions leading to a more open and liberalized market. Measures as legal unbundling, regulated TPA and new competences referred to regulation authorities “should have been a blow to dominant (electricity market) incumbents and a spur to domestic rivals, while the phasing in of full cross-border competition should have brought foreign rivals into national markets and increased EU-wide integration” (Buchan 2009: 28). But nothing of that kind really has happened.

As the Commissioner responsible for energy, Günther Oettinger, pointed out in 2010, six years after the implementation deadline, “the full and correct implementation of the

energy rules has still not been achieved” (EC 2010). He is therefore fully in line with the European Commission’s sector inquiry into the European gas and electricity sector, published in 2007.²⁹ Despite the 2nd electricity directive, consumers continued to voice dissatisfaction, “allegedly experiencing higher tariff levels than before and discrimination in access to grids from vertically integrated companies” (Eikeland 2011: 21). Consequently, the European Commission launched a sector inquiry into the electricity sector in order to locate the remaining problems and barriers to free market performance. The report’s final outcome is that barriers to free competition remain despite the liberalization of the internal energy market. It concluded in identifying various areas “where competition is not functioning well and those areas which need to be addressed the most rapidly” (EC 2007a: 3). Taking the scope of this analysis into consideration, these areas are inter alia (1) market concentration and market power, (2) vertical foreclosure respectively inadequate unbundling of network and supply, and (3) lack of market integration which includes a lack of regulatory oversight for cross border issues (EC 2007a, EC 2007).

This chapter wants to find out why the 2nd directive has not shown the desired effects by focusing on the French and German position in order to verify or falsify the second hypothesis. Hereby, this chapter will mainly focus on these three problem areas identified by the sector inquiry.

5.2.1 Implementation problems

As Dehousse (2007) underlined, implementation of the agreed objectives “remains the most important and difficult part” of the process towards the creation of a common electricity market (p. 51). Although national governments have endorsed the 2nd directive in the European Council, they seem rather reluctant and skeptical in applying these provisions at home (Fischer 2011, Domanico 2007, Eising & Jabko 2001). This can be seen on the basis of the delay to a full implementation. In October 2004 for example, the Commission sent formal letters to 18 of 25 member states “warning them about their failure to comply with the requirements of the directive” (Thomas 2004: 13). Furthermore, by May 2005, ten member states still had not complied fully (ibid.). Moreover, in June 2009, the Commission initiated an infringement procedure against 25 member states that had not transposed the 2nd directive package properly (DGIP 2010).

Germany, for example, has always been “very hesitant with regard to European proposals for an internal European market”, political actors across parties “took a rather negative

²⁹ Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sector. SEC(2006)1724. See the report here: <http://ec.europa.eu/competition/sectors/energy/inquiry/index.html>, processing request 21.11.2012

stance” (Eising & Jabko 2001: 756). Additionally, the political-institutional structure in Germany with its numerous veto players³⁰ complicated the decision-making process at home. Powerful municipal actors, federal and regional states officials and private stakeholders even did not find a way to a common internal position regarding the implementation of the 2nd directive (ibid.). Municipal actors were afraid of being left behind with the progressing Europeanisation of electricity sectors whereas the federal government was put under pressure by the proposals of the European Commission and the European Council. Hence, the project of liberalizing the electricity market was caught in a self-blockade between two opponent political positions (both of them provided with a right of veto) with different visions and concepts of how the electricity sector has to be organized in Germany.

By mid-2005 for example, no central energy regulator had yet been established (Jamasb & Pollitt 2005). Consequently, charges for using grids and networks owned by third persons or companies “remained unchanged and are among the highest in Europe” (ibid: 24). But despite these facts and after a long way of negotiating between national actors and various modified proposals (Eising & Jabko 2001), one must admit that the German legislation³¹ *de jure* is now in full accordance with the provisions of the electricity directive. The regulation framework in terms of the 2nd directive therefore is almost complete.

In France, the situation is worse. France has always been reluctant when it was about privatizing state-owned companies or opening protected markets which, a fact which can be found again regarding the 2nd directive’s implementation (Heidenhausen 2007). Regarding the 1st directive from 1996, France exceeded the implementation deadline by one year in order to observe the further developments in the EU. This hesitant and skeptical position of policy-makers can be led back to the European-wide exceptional *public service* function of the electricity sector in France which can be illustrated by the public reactions. When the French government for example decided to privatize EdF in 2004 as part of the European liberalization process, a massive wave of criticism and protest by employees, trade unions and parts of the public splashed over the country.³²

The 2nd directive provisions had been transposed into French regulation by the law from August 2004. But this regulation is far from being sufficient to European standards (EC

³⁰ Referring to the federalist system in Germany with the Bundestag and the Bundesrat as two autonomous chambers as well as powerful regions and municipalities.

³¹ This notably can be led back to the German “Energy Act” (*Zweites Gesetz zur Neuregelung des Energiewirtschaftsrechts EnWG*), entering into force in 2005. The Energy Act thereby transposed the 2nd directive provisions into national law by a number of decrees.

³² The protests consisted of over “70 rallies, power blackouts all over the country as well as targeted power cuts to the French federation of employers and the private home of senior government ministers” (Heidenhausen 2007: 18).

2007b). However, the French law offers various loopholes for bypassing the directive provisions (ibid):

- The established regulation authority for example lacks of sufficient and necessary competences for supervising the electricity market.
- The unbundling provisions are not appropriate preventing market discrimination. The independence of transmission system and network operators is not guaranteed.
- Adopted measures remain highly unrecognized from network users as a lack of political communication.

Admittedly, France has opened up the electricity retail market to choice, but solely in a theoretical way and only respecting the very minimum requirements of the directive (Serrallés 2006). EdF, for example still owns and controls “the majority of generation as well as the transmission and distribution networks” (ibid: 2549). One can say that especially France lacks of consequent political will to implement and support the internal market directive due to the high public pressure and influence from formerly state-owned companies such as EdF: “The state’s reluctance [...] hampers the development of a transparent and non-discriminatory electricity market in France” (Serrallés 2006: 2549).

5.2.2 Governments creating national champions

Due to the liberalization process coupled with the decreasing direct influence of national governments over their electricity industry, the member states had to find another way for protecting their national markets. They did so by “creating or reinforcing their companies into ‘national champions’” (Dehousse 2007: 57) as a new trend in European energy politics. Creating national champions means that all incumbents in the energy sector try to maintain their dominant position by “exploiting their positions as former state-owned and vertically integrated monopolies” (Domanico 2007: 5067). The liberalization process has given them the chance to expand in both the national and European market. Consequently, the EU markets has seen an “unprecedented wave of cross-border mergers in electricity. [...] Over the last five years, the share of the top firms in the EU has risen from 49 % to 58 %. (Green 2006: 2533). Compared to other industry sector, a peculiar phenomenon is that national governments actively support their companies by providing a “favorable policy (and legal framework) towards mergers of national generation incumbents with other firms” (Domanico 2007: 5068). In order to be able competing internationally, national governments are supporting their energy companies for domestic mergers to national champions, often overruling the concerns of national competition and regulation authorities (Durand 2006).

A good example is illustrated by the "E.ON – Endesa saga" (Buchan 2011: 39) starting in 2005 when Gas Natural, Spain's largest gas supply company, launched a hostile takeover bid for Endesa, Spain's largest electricity producer. The Spanish government quickly gave its approval to this national merger overruling the Spanish competition tribunal. Few months later, the German electricity and gas company E.ON³³ launched a counter bid for Endesa. Falling under European law, the Commission also gave its approval "because of the lack of competitive overlap between E.ON and Endesa" (ibid.). The Spanish government, eager to keep Endesa in national hands, subsequently increased the competences of the national regulation authority for foreign takeover bids so that they could impose a "series of onerous conditions [such as] obligations to use Spanish coal, to maintain the Endesa brand and to retain Endesa assets in Spanish islands and enclaves for five years" (ibid.) which made it practically impossible for E.ON to maintain its course of action. Accordingly, E.ON withdrew its takeover bid for Endesa in 2007. The Spanish government successfully pushed back a foreign rival of its own energy companies against all economic logics.

As Buchan (2011) points out, "the Endesa affair highlighted the degree to which Spain had never really accepted the consequences of its relatively early move to energy liberalization and the lengths to which it was ready to go to keep Spanish companies Spanish. It also underscored important shortcomings in EU merger controls"³⁴ (p.39).

In France, mergers creating national champions do not happen very often because EDF already is the European champion of national champions controlling the whole domestic market. An exception is the "Gaz de France – Suez" takeover run in 2006 being similar to the E.ON-Endesa case. The proposal by GdF for a takeover of (the private owned) Suez was a defending reaction to the Italian company Enel trying to acquire Suez (Röller et al. 2001). Prime Minister Dominique de Villepin feared a loss of control if GdF was acquired by Enel and therefore was willing to reduce the state's share on GdF³⁵. Since GdF previously was state-owned by 80 %, it was necessary to adopt a new law for the purpose of the merger with the privately owned Suez. Subsequently, in September 2007, both companies agreed

³³ Ironically, E.ON as well stems from a political decision in 2002, when the Schröder government gave its approval to the merger between E.ON and Ruhrgas, Germany's largest gas company. Giving increased security of supply precedence over market competition, the German government equally overruled the national competition and antitrust authority (Röller et al. 2001).

³⁴ Buchan criticizes the so-called two-third rule laid down in the regulation 139/2004 on the control of concentration between undertakings. The two-third rule prescribes that if firms involved in a takeover action achieve more than two-third of their aggregate turnover within one and the same member state, the control and regulation are left to this member state and do not fall in the scope of community law (Domanico 2007). This, in return, facilitates the creation of national champions since the European Commission has no competences to prevent anti-competitive mergers.

³⁵ Le Monde: Dominique de Villepin a annoncé un projet de fusion entre Gaz de France et Suez (25.02.2006): http://www.lemonde.fr/economie/article/2006/02/25/de-villepin-annonce-le-projet-de-fusion-gdf-suez_745348_3234.html, processing request 28.11.2012.

on merger terms and accomplished the national merger excluding the Italian rival. France reduced its share on the newly created GdF-Suez company but still remains the largest shareholder with 35 % (Röller et al. 2001). The successful maneuver orchestrated by the French government was “effectively a partial nationalization of Suez” (Buchan 2011: 43).

What we can see here is that the 2nd electricity directive market has led to the denationalization of national monopolies on the one hand, but it did not lead to more competition and less concentration within the sector on the other hand: “There still exist different national and regional markets with the presence of incumbents as main actors in each electricity market” (Domanico 2007: 5067). As Dehousse (2007) points out, “the market’s structure is switching from national monopolies to a mainly private multi-

Member state	Demand (TWh)	Companies	National production company (TWh)	Concentration	Ratio (%)
Spain	260	Endesa	98	c1	38
		Iberdrola	66	c2	63
		Union Fenosa	26	c3	73
		Hidrocantabrica	15	c4	79
Portugal	51	Electricidade de Portugal	25	c1	49
France	477	EDF	429	c1	90
Belgium	88	Electrabel	76	c1	86
Germany	554	E.On	150	c1	27
		RWE	140	c2	52
		Vattenfall Europe	83	c3	67
		EnBW	55	c4	77
UK	390	British Energy	73	c1	19
		E.On UK	35	c2	28
		RWE	33	c3	36
		EDF Energy	25	c4	43
Austria	62	Verbund	30	c1	48
Scandinavia	379	Vattenfall	88	c1	23
		Fortum	54	c2	37
		Statkraft	34	c3	46
		E.On Nordic	33	c4	55
Italy	322	Enel	126	c1	39
		Edison	48	c2	54
		Edipower	25	c3	62
		Endesa Italia	21	c4	68

Figure 5: Generation capacity of major companies compared with the demand in 2004. Source: Domanico 2007: 5066.

energetic European oligopoly, with high market power” (p.58). In 2007, for example, the first three power firms have 60 % of the market share in 10 different countries (ibid.). Figure 6 illustrates this market situation in some of the EU15 member states helping to understand the high concentration level.

This phenomenon can be summarized under the competition versus security of supply trade-off (Röller et al. 2001). As the run for fossil fuel resources is increasing from day to day, resource buyers such as the European market stakeholder need a strong bargaining position. This fact might explain the promotion of strong companies, respectively national champions, with high market power (ibid.). Governments obviously prefer security of supply (i.e. fostering national champions) to free market competition (i.e. implementing the

2nd directive) even if it is not given that large national champions perform better than smaller or foreign ones (Domanico 2007). But as a matter of fact, governments were highly concerned about the effects of market competition on their national market performance in general and on their tremendous investments over the past decades in particular which can be seen in the case of French government officials and the management of EdF: “Faced with the prospect of high short-term costs, the hypothetical long-term welfare benefits of liberalization did not appear as sufficiently tangible for any of the successive French ministers to seriously envision a rapid demonopolization of French electricity supply” (Eising & Jabko 2001: 752).

As we have shown above, the 2nd electricity directive has not yet led to a competitive European market. It is rather the contrary. The liberalization process has led to “more cartelization and entrenched existing dominant positions where incumbents are either national and regional monopolists (Belgium, France) or part of a cozy oligopoly (Germany)” (Durand 2006: 2). Green (2006) even goes as far as he refers to an “industry”, rather to a “market” talking about the electricity sector in the EU.

The reason for that is that former state-owned energy companies could operate in the highly protected electricity market without any competition and with state protection and financing for decades, notably from the beginning of the electricity sector’s re-building after World War II until the first liberalization attempts in the late 1980s. By the reason of that, it was possible for them to invest in infrastructure largely below market price and consequently, to attain an enormous market dominance in the respective national market without having to compete with other market participants. When it was foreseeable that the 2nd directive from 2003 would lead to an effective liberalization and privatization process, the states saw their influence and control on energy and electricity supply jeopardized and reacted correspondingly. Instead of letting its companies compete freely and European-wide in order to establish a real common market, they preferred to foster national champions overruling votes of national competition and regulation authorities so that their national market became even more concentrated. A good example is Germany, where up to eight electricity supply companies split up the German market prior to the liberalization process whereas nowadays they solely are four. A negative vote by the German competition authority just was overruled by political decisions made by the government like in the case of the E.ON – Ruhrgas merger.

A central problem at this point is that the European Commission and other European authorities do not have any competences regulating national mergers according to the two-third rule (Fn. 36). Brussels solely can “stand helpless on the sidelines” (Buchan 2011: 41)

seeing the ideas of the 2nd electricity directive thwarted. The 2nd directive admittedly has led to a more liberalized European electricity market, but without giving competences and rights to European supranational competition and regulation authorities to control this process. The directive *in combination* with the two-third rule allows former state-owned and vertically integrated monopolies enhancing “barriers in order to maintain their position and to foreclose the entrance of more efficient market actors” (Domanico 2007: 5067).

Consequently, the second hypothesis according to which *diverging national energy priorities as well as domestic political and economical interests constitute barriers preventing member states from cooperating on a European level* therefore can be verified. Priority is being given to domestic political and economic interests to the detriment of the community’s interest.

6 Conclusion

Concluding, I will answer the research question *why the 2nd electricity directive from 2003 has not made any significant contributions towards the liberalization of the electricity sector, and, consequently, towards the creation of an internal market for electricity*. Afterwards, I will give some remarks about the limits and weaknesses of this thesis, especially regarding internal and external validity.

6.1 Inherent characteristics of electricity and the electricity sector

As we have seen in Chapter two and three, electricity as a commodity differs significantly from other industrially produced goods. Especially its physical and natural characteristics are to be mentioned here. As electricity cannot be stored in substantial quantities, demand and supply must match at all times throughout the whole country. Thus, its network or grid dependence is another peculiar characteristic making electricity difficult to manage and trade as it cannot be transported easily by companies that do not own the necessary infrastructure. Additionally, electricity is a politically and economically highly sensitive field representing the basis for all modern economic activities. These facts place considerable challenges to the electricity industry regarding a reliable and supply. The characteristics regarding commodity complexity and security of supply had led to a very specific market design in electricity sectors, the so-called natural monopolies. In natural monopolies, it is economically highly inefficient to duplicate existing network system (such as ports, train stations or power supply lines). As a consequence, the market entry for new actors is not that easy to do when they do not own such kind of infrastructure. After World War II, in most European countries state-owned energy monopolists were built up being simultaneously in charge of production, transmission and distribution and retail of electricity. This typical electricity market structure, where few big companies control the wholesale activity in a specified territory, therefore is inherently anti-competitive.

On the basis of the first hypothesis, I could identify the peculiar characteristics of electricity and the electricity sector as significant barriers to a more competitive and liberalized electricity market. Natural conditions of electricity, the resulting specific market design and the historical development of the industry constitute difficult problems to a full liberalization of the electricity sector in Europe..

6.2 Diverging national energy priorities and interests

In chapter four and five, this thesis focused on national status quo situations on electricity related issues, especially in France and Germany. As a striking point, it is to mention here that the European energy and electricity landscape is a very heterogeneous one. Figure 2

illustrated this fact on the basis of shares of primary energy sources in electricity generation. Whereas France's electricity generation relies on 77, 8 % on nuclear power, the Germans are about to phase out all nuclear power plants by 2022. These political choices determine crucially their positions on the European level since the national energy regimes are to be defended in Brussels by the member states (Eising & Jabko 2001). Consequently, it is hardly possible to establish an harmonized European-wide electricity market when the national sub-markets have little characteristics in common.

Moreover, what we can state after the analysis of the regulation's assessment is that national governments are playing a double game. On the European level and under the pressure of resource scarcity combined with the obvious ineffectiveness of 27 separated infrastructure systems, governments seem to be willing to cooperate in energy related issues. But on the other hand, when it comes to the implementation and effective realization at home, national interest such as the protection of the domestic electricity industry have priority. This specifically refers to the situation in France, where the electricity sector falls under the *public service* function, protecting it politically from unintended market competition. As a result, the formerly state-owned electricity company EdF controls an electricity market share up to 90 %. Furthermore, fostering national champions can be seen as a general trend in Europe (Green 2006). For the purpose of protecting the domestic energy industry, national governments support their companies to maintain their dominant position by providing a favorable legal framework regarding mergers and acquisitions. Good examples had been illustrated in this thesis on the basis of the E.ON – Endesa and the GdF – Suez takeover where politically motivated decisions prevented economically appropriate cross-border cooperation. Diverging national energy choices combined with governments being unwilling to cease protecting its industry are the reason why regulation instruments such as the 2nd directive do not have significant effects. Even if the provisions of the directive are *de jure* implemented into national legislation, it is another question if they *de facto* will be applied. Up until now, national governments seem to be caught in a national perspective regarding energy politics, giving priority to the security of supply paradigm over cooperation and competition.

In this thesis, I gave a twofold answer to the research question mentioned above. On the one hand, there are natural and physical characteristics of the electricity sector leading to a market design which is rather unsuitable for free competition in a liberalized market as intended by the 2nd directive. On the other hand, there are 27 different energy targets and 27 governments aiming at protecting their domestic interests. The 2nd directive, targeting to

reduce the room for manoeuvre for national governments by fostering the liberalization process, therefore has been implemented and applied in a insufficient manner.

6.3 Internal and external validity of the findings

In qualitative case studies, causal inference proving that there is a causal relation (and not only correlation) between cause (dependent variable) and effect (independent variable) cannot be easily drawn since they lack crucial elements such as pre- and post-test and the control group (Gerring 2007). Consequently, in my thesis I cannot surely rule out the possibility that there is a third (or fourth) variable respectively other alternative explanations for the ineffectiveness of the 2nd directive a part from the observed causes. In contrast, one has to suppose that there might be various other explanations for the blocked liberalization process but which, due to the limited scope of this thesis, cannot be analyzed. A qualitative case study rather focuses on understanding and gaining an in-depth understanding of the specific situation and its actors than on considering all possible variables.

In terms of external validity, the biggest point of criticism is that generalization of the findings is not possible because of the limited number of cases. This problem of representativeness generally applies to all case studies and as well comes across in this thesis. I cannot use the two cases of France and Germany and deduce the results to other countries. However, this is not the intention of this thesis. It was rather about gaining an in-depth insight in the political and economic game in energy politics, its underlying conditions and protagonists on the basis of two cases. If the outcome of this thesis can be used or transferred to other cases can be answered only by doing further research on this subject; due to the close similarity of electricity sectors in Europe it is not improbable.

7 Bibliography

- Barth, V. (2008). ALICE Electricity Sector Country Study: France. Oldenburg: Carl von Ossietzky Universität.
- Baumann, F., & Turek, J. (2008). Die europäische Energiepolitik im Vertrag von Lissabon. In W. Weidenfeld, *Lissabon in der Analyse. Der Reformvertrag der Europäischen Union* (pp. 157-169). Baden-Baden: Nomos.
- Becker, H. (1998). Writing for Social Scientists. Chicago: University of Chicago Press.
- Bieling, H.-J., & Lerch, M. (2006). Theorien der europäischen Integration. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Blum, S., & Schubert, K. (2009). Politikfeldanalyse. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Brandt, T. (2006). Liberalisation, privatisation and regulation in the German electricity sector. Düsseldorf: WSI.
- Buchan, D. (2009). Energy and Climate Change: Europe at the Crossroads. Oxford: Oxford University Press.
- Buchan, D. (2012, November). Europe's misshapen market: Why progress towards a single market is proving uneven. *Oxford Energy Comment*. Oxford.
- Cunningham, J. B. (1997). Case study principles for different types of cases. *Quality and Quantity Vol. 31*, pp. 401-423.
- Dehousse, F. (2007). Towards a real new energy policy for the European Union? The 2007 Challenge. *Studia diplomatica*, pp. 11-66.
- Della Porta, D. (2008). Comparative analysis: case-oriented versus variable-oriented research. In D. Della Porta, & M. Keating, *Approaches and Methodologies in the Social Sciences. A Pluralist Perspective* (pp. 198-222). Cambridge: Cambridge University Press.
- Directorate General for Internal Policies. (2010). EU Energy Markets in Gas and Electricity. State of Play of Implementation and Transposition. Brüssel: European Parliament.
- Domanico, F. (2007). Concentration in the European electricity industry: The internal market as solution? *Energy Policy 35*, pp. 5064-5076.

- Domanico, F. (2008). Liberalisation of the European Electricity Industry: Internal Market or National Champions? Retrieved September 18, 2012, from Luiss Guido Carli University Rome: <http://www.worldenergy.org/documents/p001227.pdf>.
- Dratwa, F. A., Ebers, M., Pohl, A. K., Spiegel, B., & Strauch, G. (2010). *Energiewirtschaft in Europa*. Heidelberg: Springer.
- Duffield, J. S., & Birchfield, V. L. (2011). The Recent Upheaval in EU Energy Policy. In J. S. Duffield, & V. L. Birchfield, *Toward a Common European Union Energy Policy* (pp. 1-9). New York: Palgrave Macmillan.
- Durand, G. (2006). Gas and electricity in Europe: the elusive common interest. Retrieved September 18, 2012, from EPC Policy Brief: <http://www.esdp-course.ethz.ch/content/pubkms/detail.cfm?lng=en&id=16907>
- Eberlein, B. (2000). Regulierung und die Konstitution von Märkten in Europa. In R. Czada, *Die politische Konstitution von Märkten* (pp. 89-104). Wiesbaden: Westdeutscher Verlag.
- Eberlein, B. (2008). The Making of the European Energy Market: The Interplay of Governance and Government. *Journal of Public Policy*, pp. 73-92.
- Eikeland, P. O. (2011). EU Internal Energy Market Policy: Achievements and Hurdles. In J. S. Duffield, & V. L. Birchfield, *Toward a Common European Union Energy Policy* (pp. 13-40). New York: Palgrave Macmillan.
- Eising, R. (2000). Begrenzte Rationalität und regulatives Lernen in der EG: die Liberalisierung der Elektrizitätsversorgung. *Politische Vierteljahreszeitschrift*, (pp. 251-278).
- Eising, R. (2000). Liberalisierung und Europäisierung. Die regulative Reform der Elektrizitätsversorgung in Großbritannien, der Europäischen Gemeinschaft und der Bundesrepublik Deutschland. Opladen: Leske + Budrich.
- Eising, R., & Jabko, N. (2001). Moving Targets: National Interests and Electricity Liberalization in the European Union. *Comparative Political Studies*, (pp. 742-76).
- European Commission. (2000). Green Paper towards a European Strategy for the Security of Energy Supply. *COM (2000) 769 final*. Brussels.
- European Commission. (2006). Press Release. Inquiry pursuant to Article 17 into the European gas and electricity sectors (Final report). Retrieved September 18, 2012, from: http://europa.eu/rapid/press-release_IP-07-26_en.htm?locale=en. Brussels.

- European Commission. (2007). Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors. Brussels.
- European Commission. (2007a). Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors. *Communication COM(2006) 851 final*. Brussel.
- European Commission. (2007b). Prospects for the internal gas and electricity market. *Implementation report SEC(2006) 1709*. Brussels.
- European Commission. (2010). Benchmarking Report: Correct Implementation of EU Energy Law and Infrastructure Investment Top Priority. . *Press Release. IP/10/264*. Brussels.
- Fischer, S. (2008, April). Energieversorgungssicherheit: Was kann Europa leisten? *Gesellschaft-Wirtschaft-Politik*, (pp. 507-518).
- Fischer, S. (2009, Januar). Energie- und Klimapolitik im Vertrag von Lissabon: Legitimationserweiterung für wachsende Herausforderungen. *integration*, (pp. 50-62).
- Fischer, S. (2010, März). Internal and External Regionalisation of Energy Policies: The European Union's Market Governance Approach. Retrieved September 7, 2012, from Institut für Europäische Politik: http://www.iep-berlin.de/fileadmin/website/03_Forschung/Fischer2009_Regionalisation.pdf
- Fischer, S. (2011). Auf dem Weg zur gemeinsamen Energiepolitik. Baden-Baden: Nomos.
- Geden, O. (2008, April). Die Energie- und Klimapolitik der EU - zwischen Implementierung und strategischer Neuorientierung. *integration*, (pp. 353-364).
- Geden, O. (2010, August 3). Versorgungssicherheit auch ohne neue Gasleitungen. Retrieved September 5, 2012, from Frankfurter Allgemeine Online: <http://www.faz.net/frankfurter-allgemeine-zeitung/politik/fremde-federn-oliver-geden-versorgungssicherheit-auch-ohne-neue-gasleitungen-11026317.html>
- Geden, O., & Dröge, S. (2010, Mai). Integration der europäischen Energiemärkte. Notwendige Voraussetzungen für eine effektivere EU-Energieaußenpolitik. Retrieved September 7, 2012, from Stiftung Wissenschaft und Politik: http://www.swp-berlin.org/fileadmin/contents/products/studien/2010_S13_gdn_gde_ks.pdf
- Gerring, J. (2004). What is a Case Study and what is it good for? *American Political Science Review*, (pp. 341-354).

- Gerring, J. (2007). Case Study Research. Principles and Practices. New York: Cambridge University Press.
- Glachant, J.-M., & Lévêque, F. (2009). The electricity internal market in the European Union: what to do next? In J.-M. Glachant, & F. Lévêque, *Electricity Reform in Europe. Towards a Single Energy Market* (pp. 3-32). Cheltenham: Edward Elgar Publishing Limited.
- Green, R. (2006). Electricity liberalisation in Europe - how competitive will it be? *Energy Policy* 34, (pp. 2532-2541).
- Grimmel, A., & Jakobeit, C. (2009). Politische Theorien der Europäischen Integration. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Heidenhausen, M. (2007). Privatisations in Europe's liberalized electricity markets. The cases of the United Kingdom, Sweden, Germany and France. Berlin: Stiftung Wissenschaft und Politik.
- Holzer, V. L. (2007). Europäische und deutsche Energiepolitik. Baden-Baden: Nomos.
- Hrbek, R. (2011). Der Integrationsprozess und das Konzept 'differenzierte Integration'. In U. Diedrichs, *Europe reloaded. Differnetiation or fusion?* (pp. 78-110). Baden-Baden: Nomos.
- Jamasb, T., & Pollitt, M. (2005). Electricity Market Reform in the European Union. Review of Progress toward Liberlization and Integration. *Energy Journal* , (pp. 11-41).
- Johnston, A. (1999). The EC Energy Law 1999: Reciprocity and the Gas and Electricity Directives. Retrieved 10 23, 2012, from CEPMLP: <http://www.dundee.ac.uk/cepmlp/journal/html/vol4/article4-9.html>
- Joskow, P. L. (2008). Lessons learned from Electricity Market Liberalizatoion. *The Energy Journal*, (pp. 9-42).
- King, G., Keohane, R. O., & Verba, S. (1994). Designing Social Inquiry. Scientific Inference in Qualitative Research. Princeton: Princeton University Press.
- Kohler-Koch, B., Conzelmann, T., & Knodt, M. (2006). Europäische Integration - Europäisches Regieren. Hagen: Fernuniversität Fachbereich Kultur- und Sozialwissenschaften.
- Kotlowski, A. (2007). Third-party Acces Rights in the Energy Sector. A Competition Law Perspective. *Utilities Law Review*, (pp. 101-109).

- Lichtman, A. J., & French, V. (1978). *Historians and the living past. The theory and Practice of Historical Study*. Arlington: Harland Davidson.
- Matlár, J. H. (1997). *Energy Policy in the European Union*. London: Macmillan Press Ltd.
- Mayntz, R., & Scharpf, F. W. (1995). *Gesellschaftliche Selbstregulung und politische Steuerung*. Frankfurt/Main: Campus.
- Meritet, S. (2007). French perspectives in the emerging European Union energy policy. *Energy Policy*, (pp. 4767-4771).
- Mohr, M. (2011, Februar). Auf neuen Wegen zum EU-Energiemarkt? Ein energiepolitischer Paradigmenwechsel und seine Folgen. *integration*, (pp. 148-163).
- Newberry, D. M. (2002). *Liberalising Electricity Markets*. Cambridge: Department of Applied Economics, University of Cambridge.
- Notz, K. (2006, August). Energie für Europa. Im Spannungsfeld von Sicherheit, Wettbewerb und Nachhaltigkeit. Retrieved September 3, 2012, from CAP Aktuell: <http://www.cap.lmu.de/download/2006/CAP-Aktuell-2006-05.pdf>
- Padgett, S. (1992). The Single European Energy Market: The Politics of Realization. *Journal of Common Market Studies*, (pp. 53-75).
- Peräkylä, A. (2004). Reliability and validity in research based upon transcripts. In D. Silverman, *Qualitative research: Theory, Method and Practice* (pp. 282-303). London: Sage.
- Pollack, J., Schubert, S., & Slominski, P. (2010). *Die Energiepolitik der EU*. Wien: Facultas.
- Punch, K. (1998). *Introduction to Social Research: Quantitative and Qualitative Approaches*. London: Sage.
- Riemer, A. K. (2006). *Theorien Internationaler Beziehungen und neue methodische Ansätze*. Frankfurt/Main: Peter Lang Europäischer Verlag der Wissenschaften.
- Röller, L.-H., Delgado, J., & Friederiszick, H. W. (2001). *Energy: Choices for Europe*. Retrieved September 22, 2012, from ESMT White Paper: http://www.hks.harvard.edu/hepg/Papers/ESMT_White%20Paper%20Energy.pdf
- Scharpf, F. W. (1997). *Games Real Actors Play. Actor-Centered Institutionalism in Policy Research*. Colorado: Westview Press.
- Schmidt, S. K. (1998). *Liberalisierung in Europa. Die Rolle der Europäischen Kommission*. Frankfurt/Main: Campus.

- Schumann, D. (2005). Interessenvermittlung im europäischen Mehrebenensystem. Strategien großer Elektrizitätsunternehmen im Vergleich. Wiesbaden: Deutscher Universitätsverlag.
- Serrallés, R. J. (2006, November). Electric energy restructuring in the European Union: Integration, subsidiarity and the challenge of harmonization. *Energy Policy*, (pp. 2542-2551).
- Silverman, D. (2005). Doing Qualitative Research. London: Sage.
- Strauss-Kahn, V., & Traca, D. (2004). Deregulating Electricity Markets: The French Case. Singapur: INSEAD.
- Stubb, A. (1996, Juni). A Categorization of Differentiated Integration. *Journal of Common Market Studies*, (pp. 283-295).
- Vennesson, P. (2008). Case studies and process tracing. In D. Della Porta, & M. Keating, *Approaches and Methodologies in the Social Sciences. A Pluralist Perspective* (pp. 223-239). Cambridge: Cambridge University Press.
- von Danwitz, T. (2006). Regulation and Liberalization of the European Electricity Market - A German View. *Energy Law Journal*, (pp. 423-450).
- von Ondarza, N. (2012, September). Zwischen Integrationskern und Zerfaserung. Folgen und Chancen einer Strategie differenzierter Integration. Retrieved September 6, 2012, from Stiftung Wissenschaft und Politik: http://www.swp-berlin.org/fileadmin/contents/products/studien/2012_S20_orz.pdf
- Wiener, A., & Diez, T. (2004). European Integration Theory. Oxford: Oxford University Press.
- Yin, R. K. (2009). Case study research. Design and methods. London: Sage.
- Zürn, M. (1992). Interessen und Institutionen in der internationalen Politik. Opladen: Leske und Budrich.