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An Electric Mandate

The EU procedure for harmonising cross-border network codes for electricity

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Abstract

The research question addressed in this report is why the EU procedure for developing network codes for electricity was enacted in its particular form. Passed by the EU in 2009, European organisations partly outside of the formal EU structure were given a mandate to make rules that would apply across the EU. This was puzzling given the observed resistance on part of the member states to let go of national control over energy issues. Drawing on institutionalist perspectives, the analysis shows that the procedure would not have been passed without support from and compromise among the Commission, European Parliament and the member states in Council; that parts of the procedure imitated existing practices within related policy areas; that horizontal and vertical specialization within the nation-states along with a Commission actively promoting transnational cooperation changed the feedback mechanisms, which changed the direction of European energy market regulation; and finally, that the new actors played an active role vis-à-vis EU bodies as the latter were legislating on the procedure.

Key Words

EU, electricity, third energy market package, cross-border, grid, network codes, energy, harmonisation, regulation, TSO, EU energy policy, internal energy market, liberalisation, transnational cooperation

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Acronyms and abbreviations

ACER	Agency for the Cooperation of Energy Regulators
BoR	Board of Regulators
CEER	Council of European Energy Regulators
DG	Directorate-General
DG TREN	Directorate-General for Transport and Energy
ENTSO-E	European Network of Transmission System Operators for Electricity
EP	European Parliament
ERGEG	European Regulators Group for Electricity and Gas
ETSO	European Transmission System Operators
EU	European Union
NC	Network Code
TSO	Transmission System Operator
UCPTE	Union for the Coordination of Production and Transmission of Electricity
UCTE	Union for the Coordination of Transmission of Electricity
UNIPEDE	Union of Producers and Distributors of Electricity

Acknowledgements

This FNI report draws heavily on a thesis qualifying for a Master of Arts in Political Science at the University of Oslo (Jevnaker 2012). The main changes are found in Chapter 6, where the results have been given more attention. Other changes undertaken are mainly cosmetic.

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Mistakes and inaccuracies remain my responsibility.

1 A novel procedure

1.1 Introduction

In 2009, the European Union (EU) formally passed a third package of legislative acts aimed at creating a single European energy market for electricity and gas, respectively. Since the initial launch of the internal energy market in 1988, two packages had already been enacted, but an internal energy market remained a vision rather than becoming reality. Member states were concerned with national sovereignty, and restricted the delegation of regulatory power to the EU in matters of energy (Buchan 2010; Eikeland 2004). Traditionally, energy had been particularly receptive to such concerns because of the strategic importance for national economies (Buchan 2010). Moreover, high costs of constructing infrastructure for the production and transport of electricity and gas, respectively, had facilitated close ties between national governments and their respective energy sectors (Mayntz & Scharpf 1995: 13-14; Nowak 2010: 27). As a result, only limited regulatory power had been delegated to the EU, and the EU-level laws that passed Council muster were heavily watered-down (Eikeland 2004).

The existence of different rules across the member states for technical and market issues regarding the physical cross-border 'transport' of electricity acted as a barrier to market integration. In several instances, these rules had the effect of protecting national markets, and obstructing a level playing ground, and suboptimal practices had been identified (Commission 2007a: 48; 2007b, 2007e; de Nooij 2011; Eberlein 2003). As a result, growth in the level of cross-border flows was slow, representing 10.7 per cent of total electricity consumption in Continental Europe in 2004, up from 8-9 per cent in 2000 (Commission 2005: 5).[1] Harmonising rules, then, could facilitate cross-border trade, and aid the integration of national (or regional) electricity markets. While voluntary negotiations aimed at agreement on common rules had been attempted within the electricity sector (Eberlein 2003; Eberlein & Grande 2005), progress was slow, and little achieved (Commission 2007f). Harmonisation could have been imposed from a supranational level, but given the lack of delegation to the EU in energy matters, the 'regulatory gap' applied equally to cross-border electricity transmission issues (Buijs, Bekaert & Belmans 2010).

On this background, then, it is astonishing that a procedure that laid down a decision-making process that was to result in a set of common – harmonised – EU-level rules was included in the third package, and moreover that it had remained largely intact from proposal to law. These rules were termed 'network codes', and would cover the technical and market issues for cross-border electricity exchange that were mentioned

[1] UCTE zone.
[2] In early discussions, network codes were often referred to as technical and marked codes

in the previous paragraph.[2] Despite member states' reluctance to delegate power, this procedure meant that a clear mandate had been given to make legislation at the European level, legislation that moreover would apply to cross-border electricity transmission. This is the puzzle that this report strives to solve.

In the following, a brief introduction to electricity transmission is offered, before moving on to describing this change of a procedural rule more in detail. This is then seen in light of previous research on institutional change within the EU in general, and in light of previous research on EU energy market reform in particular. Further, the meaning of the change is elaborated on, before a research question is formulated, and an approach for answering this is presented. An alternative approach to studying this will also be given attention. Finally, the structure for the remainder of the report is noted.

1.1.1 Brief introduction to electricity transmission

Electricity is bound to its infrastructure, and transported over networks. In Europe, there is no single electricity network, but rather 27 national networks constructed in various ways at different points of time (Pollak, Schubert & Slominski 2010: 25). These networks are transmission networks – high-voltage power grids for transmitting bulk electricity. A 'special' feature of electricity is the need for instantaneous balance between production and consumption at all times. This has two reasons, one of which is related to that which is transmitted, and the other to the system through which it is transported: First, electricity must be used the same instant that it is produced, because storing electricity at the present does not represent a viable economic option, and second, deviance from this balance could cause the electricity system to collapse, with ensuing power outages (blackouts). System operation is the activity seeking to retain such a constant balance.

In Europe, this task is usually carried out by Transmission System Operators (TSO), although other options are possible. A TSO is an enterprise with monopoly on transmission in the area covered by its network. Monopoly rights are allotted to the TSO due to the high costs of infrastructure for transporting bulk electricity, which makes it unprofitable to have competing sets of networks. This has been referred to as constituting a 'natural monopoly' (Mosca 2008; Samuelson 1948). Moreover, the costs incurred by a TSO are socialised: Users of the network – producers/suppliers of electricity as well as some large industrial consumers – pay fees for access to and use of the network. To avoid abuse, TSOs are heavily regulated by the state, but ownership could be public or private. Historically, TSOs were integrated with companies producing electricity, but have over time become increasingly

[2] In early discussions, network codes were often referred to as technical and marked codes or standards. They were also referred to as grid codes.

independent entities in Europe (ENTSO-E undated-c; UCTE 2009). Most European countries have a single national TSO.

National systems are linked together through interconnectors. These are transmission networks operated jointly by the TSOs at each end: The respective TSOs at each side of the border coordinate this between them.[3] Internally, the individual national networks are relatively well-connected, whereas the degree of connection between these national markets is substantially lower. This represents a physical barrier to cross-border electricity flows (Meeus, Purchala & Belmans 2005: 29). The background for this is that interconnections between the national systems were not initially created for the purposes of extensive cross-border electricity flows (Zeit 2006b). The network codes given attention in this report regard the coordination of TSO on interconnectors, because the purpose and goal of the procedure is to establish a common set of rules for cross-border electricity exchange. Thus, while not affecting the amount of physical capacity on interconnectors per se, it might affect the use of this capacity. Thus, these codes could influence cross-border network operation as well as cross-border trade across borders.

1.1.2 New associations engaging within a new procedure

Beyond the procedure for developing common cross-border network codes for electricity ('the NC procedure'), the two pan-European associations – European Network of Transmission System Operators for Electricity (ENTSO-E) and the Agency for Cooperation of Energy Regulators (ACER) – were established with the third package.[4] ENTSO-E was a single, comprehensive EU-level association for TSO cooperation, whereas ACER was a European regulatory agency. A regulatory agency, or regulator, can be defined as a body separate from its sector ministry that carries out public tasks (Christensen & Lægreid 2006a).

These two bodies would moreover carry out central tasks within the NC procedure. Network codes would be drafted by the TSOs acting within ENTSO-E. Network codes would apply generally for the transmission of electricity across national borders within Europe, and they could be made legally binding. Moreover, the TSOs were to draft network codes in accordance with non-binding framework guidelines created by the national energy regulators through ACER. Framework guidelines, moreover, would be based on priorities laid down in the procedure. The NC procedure was part of the Electricity Regulation, which made these tasks mandatory. Failure to deliver a particular network code within a specified timeframes would be sanctioned in the sense that this would

[3] Many national electricity systems are part of a synchronous zone (Continental Europe, the Nordic countries, and the UK are examples of such zones), within which balance also must be retained, thus requiring cross-border coordination among the TSOs within a zone.
[4] ENTSO-E through Regulation (EC) No 714/2009, and ACER through Regulation (EC) No 713/2009. These regulations will be referred to as the Electricity Regulation and the ACER Regulation, respectively. ENTSO-E was established by the TSOs in December 2008, before the third package entered into force in 2011 (ENTSO-E 2011b).

then be transferred to ACER, or eventually the European Commission.[5] Similarly, for ACER, failure to deliver a specific framework guideline on time would mean that the Commission would write it on their behalf.

1.1.3 Previous research on institutional changes within the EU

Formally changing a procedure is an institutional change. This has been studied for the EU in general as well as pertaining to the EU energy market reform in particular. Located within the literature of the former, Kelemen and Tarrant (2011) find interests to be the decisive factor, claiming that the level of distributional conflict among the member states is decisive for the direction of institutional change: A high distributional conflict will result in a compromise on a network, whereas a lower conflict makes a compromise on establishing an agency more likely. In a similar vein, Héritier (2001) finds support for such bargaining processes where actors' preferences are influenced by distributional effects, but that simultaneous negotiation on multiple issues allows for package deals or issue-linkages (Héritier 2001: 61). On a related note, Dehousse (2008) argues that the establishment of European regulatory agencies reflects an agreement among multiple actors to delegate, yet as a least common denominator, such agencies remain relatively weak.

To this, Thatcher (2011) adds the vested interests of national regulators. He claims that the shape of institutional design in terms of the power allotted to such agencies is a function of differences in pre-existing arrangements. While a self-interested Commission might support such agencies, the existence of networks of national regulators have represented a barrier to this kind of institutional change due to concerns of the latter with their individual influence.

Pierre and Peters (2009), however, indicate that such transnational networks can indeed be replaced with EU-level agencies. In a case study of institutional change, they find that this is best explained by an agencification trend, which means that the establishment of agencies in related EU policy-areas created a functional pressure for a similar step (Pierre & Peters 2009: 351). Establishment of EU agencies has become an important part of the European executive order (Egeberg & Curtin 2008). Generally, such a trend has also been reported by Egeberg (2006a, 2006b); and Martens (2006). However, Pierre and Peters (2009) also find that this trend was reinforced by interests: A Commission interested in expanding its regulatory scope, as well as industry's demand for legal uniformity across Europe (Pierre & Peters 2009: 351-352). Finally, McNamara (2001) draws attention to normative changes, and shows how rules had to be adapted according to the dominant norms in order to legitimise an organisation and its policies.

Thus, previous research on institutional change in Europe has found this to result from different factors, including self-interested actors like the

[5] The latter if ACER too would fail to draft a network code on time.

Commission and the member states; the pre-existing institutions already in place among actors (e.g. national regulators or businesses) and the perceptions of these; and trends in terms of institutional shape (notably an agentification trend).

Previous research on EU energy market regulation has noted that the presence of a threat of intervention by the Commission gave rise to the Florence Forum (an informal biannual gathering of various actors within the electricity sector) and kept the deliberations going (Eberlein 2003). Referred to as a "shadow of hierarchy" within the governance literature on the EU, such a threat has been expected to affect the influence the behaviour of actors engaging in negotiations (Börzel 2010: 194-197). However, while the Commission's shadow might have contributed to the establishment of the Florence Forum, consistent with the argument made by Héritier and Eckert (2008) that self-regulation through transnational networks is more likely to emerge under a shadow of hierarchy, for resolving differences in negotiations this shadow arguably lacked credibility due to the well-known resistance among the member states to more ambitious energy market legislation, and because the Commission's power could only initiate legal proceedings against individual transgressors of competition law.

Research on the European energy and climate policy has also looked at developments through the lenses of integration theory, comparing the extent of decision-power transferred to the supranational level for the two policy areas (Wettestad, Eikeland & Nilsson 2012). Regarding the relationship between these two, Pollak et al. (2010) see climate change as a major driver for developments in internal energy market policy, whereas Hildingsson, Stripple, and Jordan (2012) claim the opposite by regarding the internal energy market as an important driver for renewable policy.

Moving to previous research on the third legislative package, attention has been given to research has focused on ownership unbundling, which was regarded as an important issue in the Electricity and Gas Directives, respectively. This was proposed as becoming mandatory, yet the Commission's proposal was watered out following controversy among the member states (Eikeland 2011a, 2011b). Scholars have also looked at the establishment and role of ACER as a new EU-regulator, regarding it as rather weak (Böttger 2010; Hancher & Hauteclocque 2010). The analysis by Böttger (2010) corresponds to the above mentioned findings in Dehousse (2008). Finally, it has been pointed out that the effects of the third package's institutional changes, pertaining to cross-border electricity regulation, remains to be seen, as this will reflect still evolving practice (Eckert 2011; Hancher & Hauteclocque 2010).

Some researchers have given attention to the NC procedure (Eckert 2011; Hancher & Hauteclocque 2010; Hauteclocque & Talus 2011; Squicciarini, Cervigni, Perekhodtsev & Poletti 2010). While some regard it as an incremental change that represents little modification to the de facto status quo of TSO self-regulation (Hauteclocque & Talus 2011),

others note that the new procedure could indicate a "a radical departure from the bottom-up approach of the regional process" (Squicciarini et al. 2010: 15). While the two latter contributions give more attention to the NC procedure, this is part of another, larger research objective. To this author's knowledge, then, no systematic study has previously been undertaken of this procedure.

1.1.4 The research question

It is surprising that the member states would allow such centralisation at the European level given the mentioned reluctance to delegate power to the European level. In this report, then, the main undertaking will be to explain *why the procedure for developing network codes was enacted in its particular form*. This consequently represents the research question of this report. As the practical implementation of the third package is a relatively recent process – in some cases incomplete – this remains outside the scope of this study.[6] Moreover, while a similar Regulation equally part of the third package was passed for the related gas sector, this will not be studied due to concerns for limited time and resources.

This represented a change of the electricity market regulation in Europe. Regulation is here defined as the "sustained and focused control exercised by a public agency over activities that are valued by a community" (Selznick 1985: 363) for the purpose of correcting for market failure (Majone 1996). Within the NC procedure, however, an association consisting of regulated enterprises with national monopoly on transmission networks, ENTSO-E, would partake in the making of rules that would apply to cross-border transmission. Nonetheless, this work would build on framework guidelines and the priorities set by the EU in the Electricity Regulation, as well as monitored by ACER and the Commission. Notably, non-compliance would be subject to sanctions.

A common approach to changes in EU legislation is through integration theory. Integration theories seek to explain the transfer of decision-making power from the national to the European level (Schimmelfennig & Rittberger 2006). Such theories have also been utilised for studying incremental integration as a result of 'normal' policy-making, i.e. through directives, regulations and decisions (Hix & Høyland 2011). However, integration theory does "not tell us what specific rules and policies emerge, or what organisational form supranational governance will acquire" (Stone Sweet & Sandholtz 1998: 16). For this purpose, integration theory is too general, as it concentrates on the conditions influencing when decision-making competence is transferred to the EU level, and not on the specific manner of how legislation passed within the EU system looks like. As a result, middle-range theories rather than grand theories are more adequate for addressing the research objective in this

[6] In October 2011, 6 months after the deadline for transposing the third package, it was reported that infringement procedures were being considered against 18 member states that had failed to implement this legislation completely and/or correctly (EurActiv 2011).

report. Nevertheless, as the former offers a complementary account to the latter by explaining phenomena at a lower level of abstraction (Rosamond 2010: 108), the relation between the NC procedure and integration of energy policy will be discussed in Chapter 6.

The NC procedure was a formal change of a procedural rule, and as such represents a case of institutional change. Therefore, an institutional approach will be taken.

1.2 An institutional approach

As indicated in the presentation of previous research on institutional change – a tip of the iceberg – there is a large body of research that subscribes to the statement that "institutions matter": Institutions are considered important causal factor in accounting for the content and output of public policies. There are several perspectives on institutional change and institutional design, and differences exist as to which causal factors are utilised for explanatory purposes. This will be discussed in Chapter 2, suffice here to briefly state that the perspectives to be applied in this report are the following: A power-oriented perspective that looks into the interests of those actors supporting a change; a sociological perspective tracing the origins of the particular shape and form of the outcome; and a historical perspective that addresses the role of sequencing of events and the effect of initial choices on later developments. While these perspectives have differing understandings of institutions as well as of institutional change, they all include a formal change of a formal rule.

Moreover, a process-approach will be taken in order to identify the presence and impact of these causal factors in the steps leading up to the EU's formal decision on the procedure for developing cross-border network codes in 2009. A further elaboration on the advantages of such process-tracing is found in Chapter 3.

1.2.1 Defining the outcome to be explained

The phenomenon to be explained in this report is the institutional change and the shape of this change. The change was a formal change of a procedural rule. Why did it end up looking like it did? What factors influenced its institutional design? As such, the primary object of interest is the specific shape and form of the procedure. A procedure is a rule for how to make a rule. In general, rules "prescribe appropriate behaviour in particular settings and thus are collective attributes" (Stone Sweet, Fligstein & Sandholtz 2001: 6). Moreover, rules vary along three dimensions: Prescriptions of behaviour range from broad to specific ('precision'); from the informal to the codified ('formality'); and finally, the extent to which transgressions give rise to sanctioning, ranging from the voluntary to the compulsory ('authority') (Stone Sweet et al. 2001: 6-7).

Procedures represent a particular type of rule because these rule "determine how actors and organisations make all other rules" (Stone Sweet et al. 2001: 6). This entails that procedures describe what tasks are to be carried out by which actors, and how the latter are to relate to one another. The level of precision in such a description can be general or detailed. Moreover, the formality with which this information is contained spans from informal standards to codification in a legal document. Finally, while the actual influence of a procedure is an empirical question, its formal influence on the decision-making process is a function of its bindingness, ranging from voluntary to compulsory. A feature pertaining to the latter is whether or not deviation from prescribed behaviour is linked to sanctions – a link that equally may vary along the three dimensions.

As such, a procedure formalises the roles and tasks of actors involves in a decision-making process on making specific rules, in this case common cross-border network codes. A procedure can describe which (type of) actors are to be involved in the making of a given set of rules, as well as how and where these rules are to be constructed and/or revised. A procedure can describe the relationship between actors, for instance through regulating voting rules and assigning veto power to specific actors at various stages of the process of making rules. Table 1 summarises the dimensions on the dependent variable.

Features of rules and procedures	Precision (broad-specific) Formality (more-less) Authority (voluntary-compulsory)

Table 1: Dimensions on the outcome of interest.

1.3 Outline of the report

In this chapter, the topic and the research question were presented. The topic of Chapter 2 is the theoretical framework, and three neo-institutional perspectives are presented in depth. Instead of regarding institutions as sources for stability *only*, the presentation will focus on explaining institutional change. Moreover, the different understandings of factors bringing about institutional change are seen in relation to the possibility for institutional design. Moreover, theoretical expectations to the case are derived, before concepts are operationalized. In Chapter 3, the method used for collecting relevant data is presented. Through process-tracing, factors expected to have caused the change of the procedural rule will be identified, which also provides an opportunity for tracing the link connecting the expected explanatory factor to the enacted NC procedure. In Chapter 4, the empirical development over time is presented, starting with the situation prior to liberalisation of the energy sector, followed by a presentation of the development from the 1990s including the first and the second legislative packages, and until the formal decision on the Third Package in 2009. In Chapter 5, the empirical

data is analysed first separately from each perspective, before a comprehensive analysis is undertaken. Chapter 6 concludes the report. In that final chapter, the main findings are presented, and methodological implications are evaluated. Implications for further development of EU energy market regulation are drawn, and the question is raised as to the effect on the pace towards the internal energy market. Further, implications for theory and aspects for future research are indicated. Attached in the annex is the list of organisational affiliation of informants and the interview guide.

2 Theory

As stated in Chapter 1, this report aims to explain why the procedure for developing common cross-border network codes for electricity (NC procedure) was enacted in its particular form. As a change of a procedural rule, this represents a case of institutional change. In the following, attention will be given to using multiple perspectives in a complementary way, before each perspective is presented more in detail. Expectations as to why the NC procedure was enacted in its particular form will be offered, along with operationalization. While there are stabilising aspects to institutions, in this chapter the emphasis is on the factors of change.

2.1 A complementary approach

A formal decision on a new procedure – indeed the case here – represents a case of formal institutional change. Therefore, perspectives will be drawn from neo-institutionalism, a stream of thought inquiring into the effect of institutions on outcomes. As noted by Hall and Taylor (1996) as well as Peters (2005), neo-institutionalism is a diverse theoretical group, which thereby offers the opportunity for a complementary approach (Ostrom 1990). The case for a complementary approach is further strengthened because different neo-institutional perspectives have different theoretical underpinnings, and explain different aspects of institutional design (Hall & Taylor 1996; Tallberg 2010). Institutional design refers to "the process whereby institutions are created or emerge with a specific set of properties" (Tallberg 2010: 634). Moreover, Chapter 1 showed that expectations from different neo-institutional perspectives have been confirmed in previous research. With a purpose of explaining why an institutional change occurred as well as the ensuing institutional design, then, a complementary approach will be utilised in this report – drawing on different perspectives in order to explain as much as possible of this particular outcome. Thus, the purpose of utilising multiple perspectives is not to test theory, which would require a cross-case approach rather than a single-outcome study.

Inspired by previous categorisations (Hall & Taylor 1996; Tallberg 2010), the three perspectives that will be utilised are power-oriented, sociological, and historical institutionalisms. These perspectives with their respective expectations approach institutional change from different angles: Power-oriented institutionalism draws attention to the role of power and interests; historical institutionalism points to the importance of initial choice followed by path-dependent developments; and sociological institutionalism underlines the role played by legitimate models and their subsequent imitation. These perspectives will be utilised separately and in combination in order to explain the outcome.

As highlighted by Roness (2009), different strategies for the usage of several perspectives exist. This report makes use the strategy of complementing, where different theoretical perspectives are utilised in order to explain as much as possible of the case at hand (Roness 2009: 3).

The purpose of using several theories is that the sum of these parts will give a more complete picture of the truth – a picture that might be less fit for generalising (Roness 2009: 7-8). This resembles the domain approach (Tallberg 2010), where different utilised perspectives explain different parts of a phenomenon, thus complementing one another. While the complementary strategy has no absolute requirement that perspectives should not overlap – in the sense that they should explain different parts – the domain approach has a stronger demand for such a clarification, thus resembling another strategy presented by Roness (2009) namely that of *contrasting*. A contrast-strategy seeks to find the best perspective among several utilised and thus competing ones, and the purpose is thus to test the theories with the aim of generalising the findings. As competitors, delineating the 'borders' among the perspectives becomes important (Roness 2009: 3, 9-10).

As already noted, the strategy of complementary perspectives will be used in this report, because of the shape of the research question, which seeks to understand why the EU passed this particular procedure. It can be useful to approach a phenomenon from different angles in order to get a more complete explanation. Nevertheless, indicating the 'domain' of the perspectives might still be relevant, because it facilitates understanding which particular factor caused a particular part of this phenomenon. Therefore, separate analyses will be carried out before integrating these to a comprehensive explanation. The integrated analysis has the potential to offer a deeper explanation of why this procedure was enacted by the EU than as seen from separate perspectives seen in isolation. Thus noted, the different perspectives will be presented in the following.

2.2 Power-oriented institutionalism

This perspective regards the interests of actors and their respective relative power as the main factors influencing an institutional outcome, in this case the formal decision on the NC procedure in its particular form.

2.2.1 Logic of consequences

Within this perspective, interests are seen as reflecting concerns for distribution. Actors are regarded as particularly concerned with the relative distribution of power, which follows from the basic axiom of self-interest. Distributive implications can be defined as consequences for an actor's share of something, normally the share of material goods, but it could also be immaterial goods like formal influence or role/task allocation. Moreover, interests are seen as *exogenous* to institutions (Aspinwall & Schneider 2000: 7), in the sense that they are causally prior to these.

Behaviour occurs according to the logic of consequences, where actors evaluate alternatives in terms of expected outcomes (March & Olsen 1989: 23). It should be noted that rationality is bounded as actors do not possess complete information regarding outcomes, and as such the

expected distributive outcomes become the relevant factor. Nevertheless, actors are seen as instrumental, because their behaviour stem from consistently ordered preferences that are deducted from given interests (Hall & Taylor 1996: 944). Striving to realise their interests, then, "institutional actors seek policy outcomes that correspond as closely as possible to their preferences" (Rosamond 2010: 110). Finally, action is strategic, as actors choose the course of action that is optimal *given* the course of action that other actors are expected to choose (Hall & Taylor 1996: 945).

2.2.2 Plastic institutions chosen by the dominant coalition

As within the 'rational choice institutionalism' of Hall and Taylor (1996), institutions remain in place due to the benefit offered to the affected actors. Self-interested actors will try to shape institutions to their advantage, with the more powerful actors more able to attain such an outcome. Regarded as a rational tool for realising interests, institutions are established and endure as long as they are supported by the strongest coalition of actors (Hall & Taylor 1996: 945; Tallberg 2010: 634). Within European politics, some nation-states are more powerful than others, yet no single actor is powerful enough to push through changes. In a situation in which no actor is hegemonic, change can be brought if one or more actors change their position, thus tipping the winning coalition (see e.g. Eikeland 2011b).

Thus, institutions are seen as plastic, because they change relatively quickly in accordance with changing coalitions. History is seen as effective in the sense that interests of the powerful actors are seen as reflected by the institutional framework (Tallberg 2010: 636). Existing institutions, then, can be regarded as a snapshot of current power relations. In an institutional setting, the decision-rules will reflect this distribution of power, because the more powerful actors might be favoured by the decision-rules: Institutions "safeguard and advance, rather than challenge and circumscribe the interests of the dominant parties" (Tallberg 2010: 636).

As a result, institutional stability as well as change is the product of actors' preferences. The preference of an actor towards institutional reform is a function of the expected distributive gains this actor can get from changing an institution as compared to the status quo. If the gains yielded to an actor under the existing arrangements are greater than those expected following change, this actor would defend the status quo, and oppose change. Opposite, if the expected gains from a potential alternative are greater than the ones yielded by the status quo, the actor will support change. It thus matters whether an actor has a vested interest in changing or maintaining the status quo.

Change, moreover, is a "conscious process" (Peters 2005: 62), because it results from an active choice by actors to support a formal change. When negotiating, everything is 'up for debate', and changes are subject to the support of the required majority. With an instrumental view of

institutions, moreover, preferences could be expected to be adjusted according to experiences in the sense that a failure of an institution to fulfil its function will cause actors to change their stance towards this tool (Peters 2005: 62). Thus, institutional change is a matter of choice, subject to the support of a majority representing the 'winning' coalition. Actors instrumentally choose the institutions they want based on an evaluation of gains and losses.

2.2.3 Applying this framework to the EU

For the purpose of this report, the relevant actors are those with formal and substantial influence on EU decision-making. In the EU legislative processes, the main organisations are the Commission, the European Parliament and the Council.[7] Consulted, yet without a formal role in decision-making, are private or subnational organisations (e.g. national regulators, TSOs, businesses), which therefore are left outside the scope. Here, actors are organisations that for analytical purposes are treated as unitary (internal divisions are regarded as being solved internally, with the organisation behaving as a single actor externally). An exception from this is made for the Council, where, given the power of national governments, will be treated as an arena rather than as a single actor. This is a pragmatic and empirically reasoned choice.

The influence of the Commission and EP depends on the extent of power that is delegated to the supranational level – or retained nationally. Until the Lisbon Treaty, energy was a policy area where the distribution of competence was implicitly shared between the EU and the member states.[8] Shared competence implies that member states and the EU have the competence to make and adopt legislation, and that competence remains with the member states until exercised by the EU (Hix & Høyland 2011: 6). With powers being implied rather than explicitly given, there was a need to refer to formal competence. In the past, "policy-makers borrowed legal competence from the economic and environmental parts of the treaties to justify proposing and passing energy measures" (Buchan 2010: 360). With this dynamic inherent pertaining to issues of shared competence, this could be expected to give the member states a leverage vis-à-vis the Commission and Parliament, because it is relatively easy to reject proposed legislation on grounds of lacking a basis in the treaties.

[7] Other organizations with a formal role here (e.g. the Committee of Regions) are left outside this inquiry due to their smaller role and influence, a choice reasoned to a large extent due to the necessary delineation of this study.

[8] An explicit and comprehensive treaty basis for EU-level competencies on energy only came into force with the Lisbon Treaty (Pollak et al. 2010: 109). Energy remains an area of *shared competence* (EU 2008: article 4.2; Hix & Høyland 2011: 6) – with some important exceptions pertaining to e.g. energy mix (EU 2008: article 194.2).

Expected preferences of the relevant actors

Actors evaluate options in light of their distributive terms, and, drawing on Kelemen and Tarrant (2011), the following preferences can be identified: In general, the *Commission* has a general preference for more integration and supranational solutions, as well as an institutional self-interest in expanding its own powers (Kelemen & Tarrant 2011: 927). While its first preference is delegation to itself, a second-best would be the delegation to an EU-level agency or an EU-level network (Héritier & Lehmkuhl 2011: 56; Kelemen & Tarrant 2011: 927). With regard to network code development, then, the Commission's first preference would be to do this itself, with a second-best option being an EU-level body mandated with this task.

In a similar vein to the Commission, the *European Parliament* (EP) is also seen as preferring integration and supranationalism. EP is also seen as in possession of an institutional self-interest: Increasing its power vis-à-vis the Commission, and especially the Council. EP's strategy here is to increase its oversight powers of comitology, i.e. "oversight power with respect to EU executive bodies that implement EU directives" (Kelemen & Tarrant 2011: 928). Being more receptive to diffuse interests, EP has promoted transparency and accountability in comitology and in general (Kelemen & Tarrant 2011: 928). Parliament's first preference, then, would be delegating the task of developing network codes to an EU-level body, with an oversight role given to Parliament itself (e.g. within comitology). A second preference would be a general mechanism of regulatory oversight carried out by an EU-level actor independent of national governments and of the Commission.

Member states within the Council will seek to institutionalise cooperation in order to reduce transaction costs, among others by enhancing credible commitment. However, the shape of this institutionalisation is affected by concerns for distributive terms: In cases of *high distributional conflict*, member states are less likely to delegate power to the supranational level (as desired by the Commission and EP), but when they do, it is expected that they delegate tasks to loose and horizontal networks (Héritier & Lehmkuhl 2011: 56; Kelemen & Tarrant 2011: 930). This is because member states have an interest in retaining control over policy areas with distributive implications. In cases of *low distributional conflict*, on the other hand, member states expect potential losses to be small, and are expected to enter into a compromise with the Commission and Parliament to establish an independent EU-level agency. The agency, moreover, is given authority to make regulatory decisions applying for the entire EU, yet national representatives are represented within this agency, usually by national regulators (Kelemen & Tarrant 2011: 931). Member states thus have two preferences, which are conditional. If network code development is characterised by the need for a European solution, yet at the same time by a high distributional conflict, member states will opt for a network. In a similar vein, if the distributional conflict is low, member states will accept a formal EU body mandated with this task.

Under the co-decision procedure, then, in order to have been enacted, it is expected that the procedure for network code development would have had the support of the Commission as well as majorities within Council as well as Parliament. It is expected that the Commission had received a mandate by the member states to table a formal proposal on this. The mandate of ENTSO-E and ACER within the procedure for developing network codes is expected to have been perceived by member states as of low distributional conflict by member states, with Commission and Parliament supporting this as their respective second-bests.

Distributional conflict is operationalized as high if member states state that a proposed measure will intervene with national governments decision-power over their respective energy sectors; and low if they state that it does not affect these national arrangements. *A mandate given to the Commission by member states* is operationalized as official statements from the Council calling for legislative proposals. An *interest* is operationalized as position towards a formal proposal for institutional change, with preferences divided between supportive and opposed. For the Commission, support is operationalized as initiation of a legislative proposal, whereas for Parliament and the Council this is operationalized as a majority voting in favour on this piece of legislation, respectively.

2.3 Historical institutionalism

The variant of historical institutionalism applied here differs somewhat from other understandings of this approach. While other scholars have drawn elements from the sociological or rational power-oriented perspectives (Hall & Taylor 1996; Peters 2005), an intermediate approach resembling that of Aspinwall and Schneider (2000) is utilised. It resembles the power-oriented perspective in its definition of institutions as formal rules, procedures and organisations, yet is distinct in its placement of actors and their respective interest in a temporal context, which has implications for the possibilities for institutional design. Specific for this perspective, then, is the view that "institutions emerge and are embedded in concrete temporal processes" (Thelen 1999: 371).

2.3.1 Path-dependent institutions

The relative stability of institutions over time has brought scholars to regard institutions as path-dependent. This means that pre-existing institutions have been seen as pushing subsequent developments in a certain direction (Hall & Taylor 1996: 941); channelling and constraining change (Pierson 2004: 133); constraining the range of possible alternatives (Rosamond 2010: 111); or constraining change (Thelen 1999: 387). According to Pierson (2000), *studying* path-dependency requires actually identifying a path-dependent development. Here, the separate stages of this path-dependency must be identified, explaining *why* and *how* subsequent developments remained on this path. Moreover, this development must be placed on a temporal dimension in the sense that it must be analysed "in the context of other processes of historical change" (Pierson 2000: 80).

Critical junctures and positive feedback

Changes in the direction of a path can be traced back to critical junctures. Critical junctures have been understood as "relatively short periods of time during which there is a substantially heightened probability that agents' choices will affect the outcome of interest" (Capoccia & Kelemen 2007: 348), or as a "period of significant change" (Collier & Collier 1991: 29). Moreover, a critical juncture has been seen as occurring in a situation where "the structural (that is, economic, cultural, ideological, organisational) influences on political action are significantly relaxed for a relatively short period" (Capoccia & Kelemen 2007: 343). At a time of "institutional fluidity" (Capoccia & Kelemen 2007: 354), then, an initial choice can be taken by influential actors utilising a "window of opportunity" (Kingdon 2003).

Because of the difficulty of operationalizing a situation of institutional fluidity, or of significant change, the approach to critical junctures in this report will be to define these in terms of their consequences: A critical juncture generates positive feedback (Pierson 2004: 51, footnote 26). Positive feedback effects flow back to institutions, and subsequently reproduce and maintain them (Pierson 2004; Thelen 1999). This is the mechanism through which path-dependency arises, because positive feedback effects keep institutions on a particular path: Positive feedback reinforces the initial choice, and increases the distance to other initially available options (Capoccia & Kelemen 2007: 341; Pierson 2000: 74-75): "once a response is adopted, it may generate self-reinforcing dynamics that put politics on a distinctive long-term path" (Pierson 2000: 82). Over time, alternative courses of action that were possible earlier become less likely to be taken later on. The reason is that reinforcement entails more than mere maintenance, because the former strengthens a tendency, whereas the latter only retains it.

Without these mechanisms of reproduction, institutions would not endure, as the latter are "embedded in a context that is constantly changing" (Thelen 1999: 396). Institutional stability is not automatic, but dependent on reproduction. Positive feedback does not, however, mean that institutions are 'locked in' for all time (Pierson 2004: 52). On the contrary, institutional stability is intertwined with institutional change: As positive feedback reinforces the existing institution, incremental changes occur *within* a given path (Pierson 2004: 52). This has been referred to as "bounded change" (Pierson 2000: 76), and change occurs in path-dependent ways.

Critical junctures create new mechanisms of positive feedback. If *different* feedback effects are identified, as compared to those found at an earlier period, a critical juncture is understood as having taken place in-between. In other words, changes in positive feedback signal that a critical juncture has occurred. Understanding the stability of institutions, then, is a criterion for understanding change (Thelen 1999: 399). By definition, then, a critical juncture can only be identified after it has occurred, by tracing consequences back to their origins, to its initial

constitutive step: Behaviour by actors situated in temporal context of larger macro-structural processes. This differs from a functionalist approach, because the juncture is not defined in light of its consequence on the outcome to be explained. Stability is explained by "the origins rather than the functions of the various pieces" (Thelen 1999: 382). A critical juncture triggers new and other feedback effects, and this increases the probability that the outcome to be explained will ensue – on this new path, it is more likely to occur than on the previous path (Capoccia & Kelemen 2007).

With causal importance given to critical junctures, this perspective allows for the possibility that cause and effect can be separated by a long period of time, because the effects of early institutional choices can be long-term (Peters 2005: 71; Rosamond 2010: 111). This opens for the possibility that institutions can develop in ways that were neither foreseen nor desired by the actors who made the initial choice, and for whom the outcome might represent an unintended consequence (Hall & Taylor 1996: 938; Rosamond 2010: 111). Consequently, history is not necessarily effective in producing functional and optimal institutions – institutions can be dysfunctional (Peters 2005: 79). Path-dependency structures the behaviour of organisations, thus limiting the scope for agency. The historical perspective thus differs from the power-oriented perspective's view of institutional outcomes as reflecting the logic of consequences.

Positive feedback 1: Coordination effects

Feedback effects can be divided into two broad groups, the first being coordination effects. Actors adjusting to institutions concomitantly reaffirm and uphold them (Thelen 1999: 392). Further specification is offered by Banchoff (2002), who notes that institutions give rise to actor constellations that have vested interests in the survival of this institution (Banchoff 2002: 5-6). Given actors' limited resources, moreover, invested resources reduce the amount of resources available for backing reform efforts (Banchoff 2002: 3).[9] Invested resources could also contain sunk cost, i.e. start-up costs of adjusting to an institution, implying that switching in itself would entail additional costs. Thus, coordination effects represent increasing returns, and give rise to institutional stability: Organisations with vested interests and invested resources in institutions will defend these.

Positive feedback 2: Distribution effects

The second group of feedback effects consists of distributional effects of institutions, where institutions are not neutral, but rather have effects on

[9] Banchoff includes a third factor, which relates to the effect of equating a practice with the definition of a policy-area, thus limiting the scope for change (Banchoff 2002: 5). While certainly compatible with historical institutionalism, this represents a more sociological vein, and is therefore not included in this more power-oriented application of the historical perspective.

the relative power relationship between groups: Institutions "reflect, and also reproduce and magnify, particular patterns of power distribution in politics" (Thelen 1999: 394). By structuring political conflict between groups, in which some are privileged and others not, institutions thus structure outcomes (Hall & Taylor 1996: 937-938). Moreover, "institutions distribute power unevenly across social groups" (Hall & Taylor 1996: 941), and over time these asymmetries can exclude or empower groups, with the possibility of the latter groups being able to institutionalise their upper hand by changing "the rules of the game…to enhance their power (Pierson 2004: 36). The result is institutions that can be seen as "enduring legacies of political struggles" (Thelen 1999: 388). This becomes self-reinforcing as powerful actors that over time change the 'rules of the game' to their benefit give rise to more asymmetry in relative power. Whereas coordination effects pertain to the interests of actors in relation to existing arrangements, distribution effects influence relative power. Thus, actors and their interests are endogenous to institutions (Thelen 1999: 375), because the constellations of actors as well as their interests are influenced by path-dependency.

2.3.2 Contextual change

The second key theoretical step when analysing from a historical perspective is to place this path-dependent development in a greater historical context (Pierson 2000: 80). This is because path-dependency does not happen in a vacuum: "Where the context is changing, those who are invested in particular institutions re-evaluate their interests in light of these changes" (Thelen 1999: 396). Thus, contextual changes can affect the mechanism of positive feedback to the effect to strengthen or weaken these. While a crisis could shake the system, shifting developments to another path (Peters 2005), reform within related fields could also trigger changes for the context of a path-dependent institution (Thelen 1999: 396).

Moreover, the impact of contextual changes depends on when in a path-dependent sequence this occurs. The order, in which events happen, matters for subsequent developments because the relative timing can affect the interaction among them (Pierson 2004: 68-71). However, because a sequence "is *given* by the way in which social interactions unfold in time, rather than being something that someone *selects*" (Pierson 2004: 62, emphasis in original), the scope for agency is reduced: The order of events cannot necessarily be controlled by actors, yet it influences their behaviour. As a result, outcomes are also affected (Thelen 1999: 388).

Thus, while historical institutionalism has been described as less able to explain change (Peters 2005: 79), this report regards the influence of existing institutions as providing insight into change via the effects that feedback mechanisms have on actors and their interests. Because an outcome is the result of critical junctures, actors that took the initial decision did not necessarily have this in mind when negotiating. Moreover, the temporal separation between cause and effect entails that

the latter is not fully controllable by actors, in particular due to the feedback effects reinforcing the initially (and perhaps unintentionally) chosen path. Thus, institutional change is not fully controlled by actors, but rather subject to a path-dependent sequence of events resulting from a critical juncture.

2.3.3 Applying this framework to the EU

Because feedback mechanisms are specific to a given institution (Thelen 1999: 397), understanding change "requires an analysis of the *particular* mechanisms through which previous patterns were sustained and reproduced" (Thelen 1999: 399, emphasis added). This calls for an eclectic approach for studying "who has vested interests in particular institutions and what sustains these investments over time" (Thelen 1999: 398). A broader conception of actors may be required, because relevant actors are those directly affected by the institutional reform (these will also have vested interests) as well as those making decisions on institutional change and design, respectively.

Expectations from the historical perspective

From the historical perspective, resistance to change is expected. As a second expectation, however, change occurs according to the path set by an initial decision. This rests on the following sub-expectations: 1) The initial decision was taken by actors that were influential *at that point of time*; 2) this decision triggered positive feedback effects, 3) positive feedback effects caused path-dependency; 4) path-dependency eventually led to the adoption of the NC procedure in its particular form. Additionally, it is expected that larger historical processes affected the context that path-dependency took place in.

An initial decision is operationalized as a single or relatively small set of decisions made by the EU. These could be informal agreements or formal legislation. *Actors influential during the critical juncture* are those that held formal and informal power within EU legislative process at the time that the initial decision was taken. While a critical juncture is defined through the identification of different positive feedback effects during a previous period of time; *positive feedback* is operationalized as consisting of coordination and distribution effects. Coordination effects are vested interests (stated support of existing institutions by stakeholder organisations and major EU bodies) and invested resources (amount of time, personnel and money used on existing institutions by stakeholders and major EU bodies); while distribution effects are formal and informal influence of some interests/stakeholder organizations/major EU bodies at the expense of others. Stakeholder actors are sub-national organisations (regulators, producers, transmitters of electricity) that participate in institutions pertaining to cross-border coordination on electricity. Major EU bodies are the Commission, EP and Council. *Path-dependency* is operationalized as incremental changes increasing the probability that the NC procedure would be enacted. *Larger historical processes* are

operationalized as other reforms undertaken within the electricity sector in Europe.

2.4 Sociological institutionalism

2.4.1 Logic of appropriateness

The third perspective regards the shape, or design, of institutions as the direct result of concerns for legitimacy. Sociological institutionalism addresses the adoption of "specific sets of institutional forms, procedures or symbols" (Hall & Taylor 1996: 947) head-on. It traces the origins of a given institution's particular shape back to its normative and ideational roots (Tallberg 2010: 635). A norm is a moral guideline for expected social behaviour, and is closely related to legitimacy. Legitimacy, moreover, will shape institutions.

This perspective has a broader understanding of institutions, seen as including "formal rules, procedures and norms, but [also] the symbol systems, cognitive scripts, and moral templates that provides the 'frames of meaning' guiding human action" (Hall & Taylor 1996: 947). This report utilises a combination of a normative and a cognitive understanding of institutions, although most emphasis is placed on the cognitive aspect rather than the normative. The reason is that legitimacy is seen as an imperative, something taken for granted, rather than something one 'ought to' comply with. When the term 'appropriate' is utilised, it is in this meaning.

As within the historical perspective, interests and 'actors' are seen as endogenous (Aspinwall & Schneider 2000: 7), but the influence of institutions is much more fundamental: Not only do they affect interests within a given situation, but moreover have an impact on actors' understanding of this situation. As distinct from the previous perspective, then, "action is tightly bound up with interpretation" (Hall & Taylor 1996: 948), meaning that the response to a situation is guided by how the situation is interpreted. Institutions shape behaviour by offering normative templates for action or interpretation: "Institutions as systems of meaning do convey a sense of how their members should behave" (Peters 2005: 118). Hence, behaviour is guided by ideational templates, rather than rationally chosen. As a result, this perspective admits less scope for agency as compared to power-oriented institutionalism, because actors behave according to factors outside their control.

Legitimacy is constitutive to institutions: Institutional design is directly shaped by a 'logic of appropriateness', rather than by a logic of consequences (March & Olsen 1989: 23). Institutional shape is seen as an end in itself, rather than a tool for realising interests. This legitimacy is moreover found in the organisational field, a term that refers to "those organisations that, in the aggregate, constitute a recognised area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organisations that produce similar services or products" (DiMaggio & Powell 1983: 148). An organisational field

can thus be compared to a sector or an industry. An organisation will adapt to that which is considered legitimate within its organisational field (Peters 2005: 107), thus spreading a practice across this organisational field (Hall & Taylor 1996: 947).

2.4.2 Institutional legitimacy and diffusion

The institutions themselves are seen as stable and stabilising. Once in place and perceived of as legitimate, institutions will be maintained and reproduced through action.[10] However, institutional change is also possible. Drawing on Selznick (1957), DiMaggio and Powell (1983) see this as resulting from concerns for legitimacy: Institutional change happens as new practices are adopted because they are perceived as enhancing legitimacy. New practices have normative aspects, and are thus not neutral. Legitimacy can thus give rise to stability as well as change. Due to the necessary delineation of scope, this report will not focus on the initial appearance of practices. Suffice to note here that this might be result from a demand-driven or functional process, where an institutional design develops in response to a specific problem (Scott 2008: 104). This can proceed as a self-reinforcing process of increasing adoption rates and legitimacy, respectively. Once perceived as legitimate, this spurs further adoption, which enhances the legitimacy of a practice. Practices are adopted by organisations because they are considered the appropriate way of doing things (Finnemore 1993: 575; Tolbert & Zucker 1983: 26), thereby enhancing legitimacy (Hall & Taylor 1996: 949).[11] Whereas initial appearance might be demand-driven or functional, subsequent adoption is supply-driven.

This supply-side argument entails that changes in institutional design follow from the *diffusion* of a solution that offers a 'one size fits all'-practice to a variety of problems in different contexts (Scott 2008: 104). Diffusion is a "socially mediated spread of some practice within a population" (Strang & Meyer 1993: 487). The perception of legitimacy driving diffusion, however, is no individual evaluation, but rather reflects the view of the collective, in this case the organisational field. Thus, organisations change the institutional design according to collective conceptions of legitimacy (Tallberg 2010: 635). In this report, the imitation of pre-legitimised practices will be studied.

2.4.3 Carriers and mimesis

Carriers are vehicles that 'transport' practices, and the type of carrier can influence institutional change. In the following, two types of carriers are presented: Symbolic and relational systems, respectively (Scott 2008: 70, 140).[12] *Symbolic systems* emphasise the interpretation of a practice.

[10] For a more detailed theoretical account of such a process, see Berger and Luckmann (1967).
[11] Such a solution-driven development could also be actively propagated by prior adopters (Finnemore 1993).
[12] Scott presents two further carriers not treated here (routines and artefacts).

Categorisation influences interpretation because the way things or ideas are understood is affected by how they are distinguished from one another. Referred to as decontextualization or theorisation, this entails a process where some elements are emphasised and crystallised at the expense of others, thus removing a practice from its initial context to a more general level of abstraction through interpretation (Strang & Meyer 1993: 492). Moreover, the message conveyed from this abstract level is that "similar practices can be adopted by all members of a theoretically defined population, with similar effects" (Strang & Meyer 1993: 496). This facilitates diffusion because theorised practices at a higher level of abstraction are able to 'travel'. It should be noted that it is not the practice itself that spreads, but *its theorised version* (Strang & Meyer 1993: 499).

According to Strang and Meyer (1993: 500), theorisation and rationality are closely interrelated, with the former drawing on the latter in order to specify the reasons as to why a given practice or idea should be adopted: "why the potential adopter should attend to the behaviour of one population and not some other, what effects the practice will have, and why the practice is particularly applicable or needed given the adopter" (Strang & Meyer 1993: 500). Moreover, theorised practices are regarded as effective in achieving desired ends (Strang & Meyer 1993: 488), thus supporting the perception of legitimacy.[13] As a 'rationalised myth' (Christensen, Lægreid, Roness & Røvik 2004: 67), effectiveness might nonetheless be fictional (DiMaggio & Powell 1983). This illustrates how symbolic systems can aid diffusion by way of *framing*, because this particular way of presenting a practice – as effective – facilitates a particular interpretation or response: The practice is regarded as legitimate and adopted. A final aspect belonging to symbolic systems is *bricolage*, which entails creatively combining elements from different sources (Scott 2008: 140-142). Thus, legitimised templates for institutional design that are regarded as valid and applicable as solutions within different contexts are diffused.

Relational systems make out the second group of carriers, where practices are diffused via social relations. Here, the *shape* of the relationship between prior and potential adopter matters. This can be relations among "among individuals, groups, and organizations" (Scott 2008: 142) who are "members of a social system" (Rogers cited in Strang & Meyer 1993). Practices are more likely to be diffused between organisations that resemble on another in the sense that they are seen as having "common cultural ties" (Strang & Meyer 1993: 487), and thus as "falling into the same category" (Strang & Meyer 1993: 490). Such categories are collective social constructs that facilitate diffusion (Strang & Meyer 1993: 491). A group of such organisations constitutes an organisational field: Organisations adopt legitimised practices from within their own organisational field, imitating those that they perceive as similar, and as "more legitimate or successful" (DiMaggio & Powell 1983: 152). This is

[13] This differs from a more functionalist account in which changes would occur because they do in fact increase effectiveness and/or efficiency (Strang & Meyer 1993: 488).

particularly relevant in the face of uncertainty (DiMaggio & Powell 1983: 151), policy failure or dissatisfaction with the status quo (Börzel & Risse 2009: 12).

There are several ways that diffusion can occur, one of which is *mimesis* (DiMaggio & Powell 1983).[14] This entails a process in which a potential adapter imitates – copies – a prior adapter. Finnemore criticises this for describing the how, but not the why, of diffusion (Finnemore 1993: 592). Moreover, it is criticised for being "an unmediated process; it locates the impetus for imitative actions in the imitator" (Finnemore 1993: 592). However, if combined with the carriers from the relational and symbolic systems – common cultural ties and theorisation, respectively – mimesis is given more explanatory weight, and the impetus for imitation can be seen as existing within the organisational field rather than located within the individual organisation that imitates. This illustrates that imitation is heavily influenced by the logic of appropriateness, entailing a more cognitive aspect as well in the sense that the adoption of practices might reflect orthodoxy (Scott 2008: 51). As such, while it might be rational to learn from the experiences made by others (Strang & Meyer 1993: 489), imitation does not reflect a rational *choice*, but rather a cultural imperative.[15]

This has been characterised as *convergent change*, because it supports and strengthens practices already present within an organisational field (Scott 2008: 133). However, as practices travel, innovation can be introduced. Emphasising that practices can change as they are transmitted to other contexts, innovation can also occur as practices are 'translated' to a new context (Christensen et al. 2004: 85). How the 'end-user' makes use of a practice can also be innovative (Scott 2008: 133). Moreover, by imitating multiple practices simultaneously, thus combining different models in a bricolage, a new institutional design can appear. As a result, there is no necessary contradiction between imitation and innovation.

Consequently, different institutional arrangements are not just regarded as means to achieve an end, but seen as ends in themselves, because certain ways of doing things are regarded as more appropriate than others. Institutions will change when conceptions of legitimacy change. For institutional design, this entails that specific institutional features are realised because they are regarded as legitimate. Consequently, the possibility for individual organisations to actively change institutions is therefore limited, because changes in institutional design reflect collective perceptions of legitimacy diffusing through the organisational field.

[14] Other mechanisms mentioned are normative and coercive diffusion (DiMaggio & Powell 1983).
[15] Experiences would nonetheless be interpreted in a social context, and it is not given that the link between cause and effect is recognized by actors.

2.4.4 Applying this framework to the EU

Expectations from the sociological perspective

The procedure for developing network codes was enacted in its particular form because it was regarded legitimate. The particular contents of the procedure imitate theorised practices found and positively evaluated within the organisational field of those organisations making changes to the institutional shape of the procedure. Due to the Commission's role in drafting legislation, it is expected that its organisational field was of particular importance.

Uncertainty is operationalized as statements and references by organisations involved in making EU legislation that they are not sure as to what means could achieve the desired goals, or the provision of multiple viable alternatives. *Policy failure and dissatisfaction* are both operationalized as statements and references made by these organisations that the existing practices are illegitimate, insufficient, wrong or inappropriate etc. *Common cultural ties* are defined as existing within an organisational field. The *organisational field* of the unit (Directorate-General for Transport and Energy) within the Commission responsible for drafting the proposal is operationalized as other Commission units as well as other organisations within the energy sector. For Parliament, its field consists of Eurogroups – EU-level non-governmental organisations and business groups respectively – and transnational networks gathering national public actors. The organisational field of Council is national governments. A *legitimised theorised practice* is operationalized as statements and references that in generic terms describe the way other organisations within the same organisational field do things. Moreover, the practice is described by an organisation as applicable for itself.

2.5 Institutions and institutional change

In this chapter's final section, an elaboration of the relationship between institutions and institutional change within the three perspectives is offered. The perspectives have differing definitions of institutions, as well as different conception of how these can influence actors – and thereby affect outcomes. The power-oriented perspective tends to view institutions as formal rules that specify conditions for access to – and participation in – decision-making within formal organisations, thus regarding actors and their interests as exogenous to institutions. The historical perspective, while also defining institutions as formal rules and organisations, are more concerned with the positive feedback effects from initial choices that affect institutions and actors alike. The sociological perspective is different in that actors are considered less important, because the logic of appropriateness drives behaviour. Legitimacy, moreover, is seen as a collective construct rather than reflecting the view of an individual (actor). That which is considered legitimate is less of an individual view, and more one of collectives. Institutions, then, are perceived as consisting of "values and cognitive frames" (Peters 2005:

116) that could be informal or have been formalised in e.g. rules or organisational structure.

This has implications for the perspectives' respective understanding of institutional change. As the power-oriented perspective regards institutions as formal rules, institutional change is here explained by the rational behaviour of those actors with a formal say in the decision-making. If these actors have an interest in changing (or establishing) an institution, they will act instrumentally on this preference to change the institution, an outcome that will ensue subject to sufficient support among actors. The historical perspective, on the other hand, studies how an initial decision can constitute a critical juncture by triggering path-dependent institutional development, which eventually leads to an outcome. Thus, the causes of institutional change can have long roots. The final and sociological perspective explains institutional change by looking at how models perceived as legitimate are imitated. Thus, despite diverging – yet not entirely different – understandings of what an institution is and how it influences outcomes, all three perspectives allow for the possibility that institutional change can result in a formal rule or procedure.

What does this entail for the possibility of actors to engage in institutional design? The power-oriented perspective regards this as fairly high, limited only by the need for agreement, i.e. the need to make compromises. The historical perspective sees scope for agency in the initial design, but because this can develop in ways unanticipated and unintended outcomes by the actors, this entails a substantial limitation to the possibility for organisations to engage in institutional design. The sociological perspective does not really see scope for action, because organisations simply imitate more legitimate models, although unintended innovation can result from combinations.

In this chapter, a theoretical framework for analysing the observed change was presented. In the following chapter, the methodological implications of the theoretical framework will be discussed.

3 Method

The nature of the research question and of the theoretical framework – already presented in previous chapters – has implications for choice of research design (Gerring 2007: 71). The purpose of this chapter, then, is to present the method for how sources for data were located, and how data was collected and treated in order to answer the research question. At the end of the chapter, then, the foundation for making inferences from the data will be discussed by evaluating the validity and reliability of the research design (King, Keohane & Verba 1994).

3.1 Choice of method

Research question: Why was the procedure for developing common cross-border network codes enacted in its particular form?

As indicated by the research question, the research objective is to explain the change in a specific procedural rule. Causal factors were presented in the theory chapter. During the course of the empirical study, then, two things had to be clarified: 1) Are the assumed causal factors present? 2) Is there a causal relationship between these and the change of the procedural rule? The first question was addressed by means of the congruence method (pattern matching), a case study approach for comparing the consistence between the theoretical and the empirical world (George & Bennett 2005: 181). A case study approach is "a detailed examination of an aspect of a historical episode to develop or test historical explanations that may be generalizable to other events" (George & Bennett 2005: 5).

Pertaining to the congruence method in particular, this entailed looking for correspondence between the causal factors and the outcome of interest. Theoretically deduced expectations were presented in the previous chapter. As the outcome (the observed change) was already known, attention was drawn to theories explaining this change, with expectations formulated in rather deterministic terms: Given the presence of a factor, institutional change will ensue. Thus, the three perspectives offered complementary explanations as to why the change occurred, yet drew attention to different aspects pertaining to this change. This was treated more extensively in Chapter 2, suffice to note here that the purpose was to explain as much as possible of the matter at hand, and that in the case of contradictory findings that are mutually exclusive, this must be evaluated qualitatively.

Ascertaining congruence between the causal factors and the change of the procedural rule, however, would not have been sufficient, as it must be established whether there was a causal mechanism between these (Gerring 2007: 71). Process-tracing was utilised to address this concern, as this approach seeks to uncover the mechanism linking causal factors to outcomes (George & Bennett 2005: 206). Considering not only the presence of the specified causal factors and, fast-forwarding to the outcome, the change of a procedural rule, process-tracing also carefully analyses the steps in between. In this report, this was done by means of a

'detailed narrative' in which the course of events was presented (George & Bennett 2005: 210). This reduced the risk of spuriousness – a situation in which the assumed causal factor and the outcome are both actually caused by another factor not taken into account – as the narrative allowed for a consideration of potential factors not expected by the theories (George & Bennett 2005: 188).

Finally, an inquiry into whether or not a causal factor is a necessary (and/or sufficient) condition for the outcome was required (George & Bennett 2005: 185). Limited time and resources prevented the consideration of a wider, comparable set of cases for similar or different patterns. However, in-depth knowledge of the case – attained through careful analysis of the process – formed the basis for an analytical assessment of the probability of a situation in which either causal factors or the procedural rule would have looked differently (discussed in Chapter 5). Specifically, this posed the question of whether or not the outcome could have ensued *without the presence* of the assumed causal factor(s); and whether or not a different outcome could have occurred *despite the presence* of the assumed causal factor(s) (George & Bennett 2005: 189-190).

3.1.1 Choice of case and contribution to theory

This study was motivated by an interest in explaining an observed empirical change (Lijphart 1971: 692). With a research objective of revealing why the formal change in this particular case occurred, it was quite relevant to study the specific case (George & Bennett 2005: 83). As a case in the "everyday language" sense (Geddes 2003: 137), it was studied over time, thus increasing the number of observations. These relate to the situation prior to the change (before the initiation of the legislative process for a Third Energy Market Package), during (during the legislative process), as well as after the change (assessment of the outcome).

The selection of this case, then, is substantially reasoned rather than representatively sampled, and as such cannot yield a statistical generalisation. Nevertheless, every case study should have an interest beyond explaining the empirical phenomenon at hand (Gerring 2007: 20). The ambition should be to contribute to theory. In the absence of cross-case comparisons, however, even contingent generalisations, limited in scope to a subclass of phenomena under certain conditions (George & Bennett 2005: 75-76; Gerring 2007: 76) cannot be made. The reason for this is that a case study is usually not a sufficient basis for proving or discarding a perspective (whose expectations have been confirmed or rejected, respectively).

As a building block, however, a single case study can provide useful information for future research. Thus, lessons learned for studying institutional change is will be presented in Chapter 6. Despite not being able to be used as a basis for making contingent generalisations, separate case studies – that by themselves did not represent a sufficient basis for

making generalisations – can be tested on other, comparable cases within the same universe. Defined in analytical rather than statistical terms then, the universe is a function of the research question (George & Bennett 2005: 69; Yin 2009). This study focuses on the particular transformation occurring in the regulation of cross-border electricity exchanges, and is studied as a case of a change of a procedural rule. Moreover, applying theoretically derived expectations on a specific case can also help refine theory. Utilising different perspectives, scope conditions and nuance of these (in comparison to each other) can be identified (George & Bennett 2005: 115). Thus, the study can provide further specification of different streams of institutional theory.

3.2 Sources for data

The outcome to be explained is a change of a procedural rule – a formal legal change. Thus, data from official documents pertaining to the formal legislative process within the EU should be included. In order to study the unfolding process, data covering the span of this historical period (2005-2009 in particular) must be gathered. Such processes are well documented in public records, thus providing a viable source for data. Additionally, the interaction among affected parties, and their responses to events and steps of the process leading up to the final decision on the Electricity Regulation (as part of the third legislative package) will be studied. On the positions of actors, position papers and press releases can be utilised.

Relevant media coverage will be utilised for contextualisation, complemented by semi-structured interviews with elite informants that participated in or closely observed the process leading up to the 2009 decision. The latter will be invaluable for a more substantial insight to the process, including the less formal steps.

3.2.1 Qualitative document analysis

Written documents were assessed systematically through qualitative document analysis (Bowen 2009: 27). Documents utilised here were public records, position papers and newspaper articles were assembled "without a researcher's intervention" (Bowen 2009: 27), and the analytical task consists of "finding, selecting, appraising (making sense of), and synthesising data contained in documents" (Bowen 2009: 28).

Data from public records and documents

The Legislative Observatory – cross-checked with the PreLex database – was used to identify relevant documents pertaining to the legislative process, thus concentrating on public records from the major EU bodies (Commission, Parliament, Council), leaving out others, like ECOSOC, CoR, ECJ, national institutions (although including some member state

position papers submitted to the Council).[16] Older EU documents were retrieved from the Archive of European Integration.[17] Position papers were retrieved from the respective organisations' websites.

The advantage of using public records was that they thoroughly documented the process, from the legislative proposal (with an explanatory memorandum attached) presented by the Commission, to preparatory documents by *Coreper*; to minutes, declarations and press releases from EP and Council meetings, along with reports and legislation decided on. Drawbacks however included watered-down documents presenting a picture in which conflict of interest is often played down at the expense of consensus. Moreover, not everything is written down, and the selection of content to be recorded for publication might be subjected to negotiations (Council records in particular). However, comparing data from different sources (other documents, as well as other kinds of sources, like media and interviews) provided a check.

Data from media coverage

Additionally, relevant media coverage was used for contextualisation of above-mentioned official documents, providing information on coinciding events, processes, and linkages between these. Moreover, the electricity sector responses to the different steps in the legislative processes taking place within the EU were also found from this source in addition to through, or in the absence of, public records or position papers. Moreover, journalists often seek to portray issues in a (possibly exaggerated) conflict dimension, and thus provided a useful corrective to official documents.

Given temporal restrictions, the online news portal *EurActiv* was utilised, with some additional articles from other newspapers. This was a practical and pragmatic choice, with only minor implications for validity since this general source for data was not given as much weight as public documents and interviews. Relevant articles were located through search for key words, and available thematic dossiers on EU energy policy were also utilised. Articles related mainly to the period 2006-2008, thus providing contextualisation to the formal legislative process within the EU on the Third Energy Market Package.

3.2.2 Semi-structured interviews

Written sources were complemented by qualitative interviews. Elite informants were chosen as data would be needed from individuals that had participated in or closely observed the process leading to the outcome. Moreover, with public records in the EU often oriented towards

[16] Legislative Observatory is the European Parliament's database for monitoring the EU decision-making process: http://www.europarl.europa.eu/oeil. The Commission's PreLex database serves a similar purpose: http://ec.europa.eu/prelex/apcnet.cfm?CL=en
[17] The AEI is hosted by the University of Pittsburg, and found here: http://aei.pitt.edu/

attaining consensus, informants were seen as able to provide useful information on diverging views and interests.

Informants were selected on the basis of their organisational affiliation, notably, in terms of organisations having participated or closely followed the legal process within the EU. Snowball sampling was also utilised (Biernacki & Waldorf 1981: 141). Asking key informants to suggest further informants proved a useful approach for checking whether the interviews already conducted (or planned) were appropriate. Scholars within the field were also conferred on the matter. This is thus a controlled sample. With the need to talk to specific individuals, a randomised selection of informants was not a viable option.

Given limited time and resources, it was regarded most important to talk to representatives from the formal EU institutions (Commission, EP, Council), as well as from organisations of the kind that were given major roles in the procedure of developing network codes. The latter included TSOs, producers/suppliers and national regulators or, alternatively, their associations. Representatives from the Commission, a TSO, ETSO, Eurelectric and a representative from a national delegation were interviewed.[18] The informants had different relations to the course of events being studied in this report. Two had not followed the at the time unfolding process as closely, and as a consequence, provided less information on this. They did however provide insightful assessments of the outcome as well as on the nature of network codes (technical/political; cross-border/affecting national). The other three had however been centrally placed, all of which were still involved in related processes. This was positive in getting their assessment of the outcome as well as their preliminary experiences with the on-going development of network codes.

By interviewing informants with different organisational affiliations, different views could be compared. Therefore, a standard set of open-ended questions were utilised, with planned follow-up questions and probes. This allowed for standardisation – making comparison easier – with the needed flexibility that allowed for the insider's view. The interviews were conducted in English and Norwegian. Quotes were checked by the informants in order to reduce the possibility of misunderstandings as well as (where relevant) to avoid misrepresentative translation. The interview guide is found in the appendix.

[18] Requests to individuals represented (at the time) in Parliament were sent, but did not result in an interview. Interviewing representatives from the Council configurations having assembled at the time were moreover beyond the limits set by time and resources. Positions and processes of both institutions were fortunately available in public records. Due to limited time, no formal interview with a national regulator was conducted, yet the positions of their associations were well documented through position papers and press releases, as well as being well given much attention by other informants. Due to limited time and resources, other stakeholders were also not interviewed, notably traders, (large) consumers, power exchanges, environmental groups.

Informants' memory was a potential issue, with implications for validity and reliability (Andersen 2006). This was indicated by informants at a few occasions hesitating, remembering only roughly when a given step in the process had occurred. In general, however, informants were able to recall the course of events with impressive detail – less surprising, perhaps, as several were still working with matters tied to these developments, thus keeping the matter fresh in memory. Moreover, some of the informants had been working rather intensively on these issues at the time, which too could have been expected to have had a positive effect on their recollection. The temporal dimensions also made it less likely to suspect informants of withholding information – the questions mainly related to the period 2005-2008. Informants provided rather exhaustive replies to answers, and spoke rather openly on most aspects.

A recurrent issue in interviews, positive self-representation (Berry 2002: 680), might have occurred, but this is corrected through interviewing informants providing accounts from different perspectives, as well as by using data from other kinds of sources. Further, informants are not obliged to tell the truth (Andersen 2006; Berry 2002), and could also have had an interest in portraying the course of events in a particular way – especially as the actual process of making network codes is an on-going process. This, however, is not necessarily a disadvantage. On the contrary, getting perspectives that differ due to different interests provide useful insight. Moreover, this information can be compared to data provided by other informants as well as by other sources, such as public records and media coverage, thus strengthening validity.

As data would be gathered from individuals, the study was reported to the Norwegian Social Science Data Services (NSD), with accompanying ethical consider. Informants were contacted by e-mail in advance, and given a broad presentation of the project as including the purpose of conducting an interview. Also provided was a rough description of the interview (shape and content), and a note on how (long) the data would be stored and used. All informants were offered the possibility of anonymity, and no names were included in the transcribed documents.[19] Entailing a slight departure from the ideal of transparency, then, informants were referred to as representatives of their (former) organisation. Moreover, protected by anonymity, informants were able to talk more freely, and provided exhaustive answers to my questions.

Subject to informant's permission, the interviews were tape recorded. Additionally, notes were taking. One interview was not recorded, with the potential loss of detail being compensated for by the informant speaking rather freely on sensitive issues. Moreover, interviews were carried out within a relatively short time span, and transcribed afterwards. Finally, informants were given the option of reading through quotes intended for

[19] As some informants wished to remain anonymous, this treatment was applied to all informants in order to ensure equal treatment – also due to the fact that the group of people involved in these processes was limited, thus making it easier to identify those who wished to remain anonymous once others (who would be named) were eliminated.

use, which also helped reduce the potential for misunderstandings and inaccuracies, with positive implications for validity – despite the risk of informants withdrawing quotes.

3.3 Evaluation of the research design

Using multiple sources for data (interviews, documents, media) allowed for balancing potential biases, as well as by providing a stronger basis for making inferences, thus improving validity and reliability (Gerring 2007) Most attention was given to primary sources (public records) and interviews (with most weight given to first-hand accounts) in order to avoid bias in terms of interpretation often attached to secondary sources (George & Bennett 2005: 90). Moreover, all sources of data were approached seeking to trace the process, i.e. in search of collecting data of the various steps of the development occurring over time. Care was taken in comparing the 'story' of the process as told by one informant with that articulated by other informants, as well as reports from the media and the 'official version' described by public records. In case of contradictory accounts, this was evaluated on a case-by-case basis, with some aspects being subjected to further discussion in Chapter 5. To a large extent, the different sources rendered a similar story, thus enhancing validity and reliability.

Validity is important because it addresses the question of whether the data gathered can be used to say something about the research question: "Validity refers to measuring what we think we are measuring" (King et al. 1994: 25). The research design applied in this report required an assessment of internal validity as well as construct validity (Lund 2002: 104).

Internal validity refers to whether or not the inference of causality between the expected factors and the outcome of interest is valid (Lund 2002: 104). While different expectations from different streams within institutionalist theory were utilised, time and resources limited the use of further expectations, which consequently leaves some uncertainty related to the inferences made as regards internal validity. However, as mentioned earlier in this chapter, process-tracing by means of a narrative allowed for an inquiry as to whether or not the outcome was caused by the expected factors. Moreover, this could also capture omitted factors, i.e. those not expected by theory, and reduce the threat posed by spuriousness.

Construct validity refers to the operationalization of theoretical concepts to empirical indicators that can be measured (Lund 2002: 104). Operational indicators were presented in Chapter 2, and while different operationalizations could have been made from general terms the indicators seem to capture the theoretical concepts. For critical junctures in particular, the operationalization here differs from other uses, because it proceeds via the operational indicators for positive feedback. However, as stated in Chapter 2, defining a critical juncture as single or a set of decisions taken in a time where the institutional constraints are relaxed

(Capoccia & Kelemen 2007) or periods of major change (Collier & Collier 1991) is problematic because it cannot be taken for granted that this is the juncture that triggered new positive feedback. Although indirect, using changes in positive feedback to identify a critical juncture is a useful approach because it highlights and capitalises on the interrelationship between the two.

A study displays *reliability* to the extent that other researchers should be able to get the same results by using the same method (King et al. 1994: 25). Therefore, care was taken to describe the method for gathering and treating data utilised in this report. Where possible, moreover, data was gathered from sources like official records and media coverage available online, thus facilitating replication of the study. Replicating the social dynamics in an interview is more of a challenge, but the questions asked are available in the interview guide (see annex). The anonymity of informants is also a complicating factor, yet this trade-off was deemed necessary due to ethical considerations, and mitigated somewhat by referring to informants' organisational affiliation. As interpretation played a role in the handling of data in the research design applied in this report, absolute reliability is not possible. However, care was taken in separating the presentation of the empirical data from the analysis conducted on the basis thereof.

4 Developments in EU electricity policy

This chapter presents the course of events leading up to the outcome of interest – the formal decision on the procedure for network code development. Proceeding in chronological order, brief attention is first given to the state of affairs preceding liberalisation efforts, before moving on to outlining the development towards the first, second, and third energy market packages. The third and final package is given more extensive attention because the network code procedure was part of this package. A closer look will be taken at the Commission's proposal to this procedure, before presenting the subsequent steps of the legislative process through which amendments were made to the proposed procedure. Finally, the enacted procedure is described, along with brief note on the aftermath.

4.1 Pre-liberalisation

There is a long history of linking energy to the EU project, starting with the European Coal and Steel Community as well as the European Atomic Energy Community (Euratom). Nevertheless, little competence on energy issues was delegated to the supranational level. The electricity and gas sectors, respectively, were shielded from the application of general economic EU law that aimed to promote the free movement of goods and services (Wasenden 2008: 33). In post-war Europe, security of supply was a major concern (UCTE 2009). Sufficient and stable energy supply is of strategic importance for economic development, which along with high costs of necessary infrastructure and the need for instant usage brought about a treatment of electricity and gas as 'special'.[20]

Prior to liberalisation, the situation in Europe was one of more or less separate national electricity systems. Each national electricity sector was usually dominated by a vertically integrated company, and public ownership was widespread (Squicciarini et al. 2010: 1). Vertically integrated companies are companies whose activities include the entire value chain from production to transmission to customer supply, and such companies were predominant in the electricity sector. This often left customers without a choice as to which company they would get their electricity from, although companies often had 'public service' obligations.

The level of cross-border electricity exchanges was relatively low. It was conducted with the aim of improving energy supply, and cooperation among vertically integrated companies was focused "more on system security and on the efficient use of generation resources than on genuinely commercial objectives" (Squicciarini et al. 2010: 1). Thus, transnational cooperation was motivated by ensuring supply rather than by profit.

[20] As noted in Chapter 1, the economic unviability of storing electricity creates a need for constant and continuous balance between production and consumption.

Associations for such transnational coordination were established relatively early. In Continental Europe the *Union for the Coordination of Production and Transmission of Electricity* (UCPTE) was established in 1951 by France, West-Germany, Belgium, Switzerland, Luxembourg, Italy, Austria and the Netherlands. Over time UCPTE was extended to include other parts of Continental Europe. Engaged within this organisation were vertically integrated companies with production and transmission activities. This association dealt with issues of ensuring secure supply of electricity, which was regarded an important factor in rebuilding Europe after World War 2 (UCTE 2009: 11). In a similar vein, vertically integrated companies in the Nordic region had been cooperating within *Nordel* since 1963 (Nordel 2009: 4). Also representing the interests of vertically integrated companies were the *Union of Producers and Distributors of Electricity* (UNIPEDE) whose roots stretched back to 1925 (UCTE 2009: 8), and *Eurelectric*, founded as a Brussels-based lobby group in 1989 (Jabko 2006: 105)

Prior to liberalisation, energy supply was a public utility – like water supply – and competition was low (Wasenden 2008: 33).This, however, started changing during the course of the 1990s and onwards. An overview is offered in table 2. In parallel, the level of cross-border electricity flows increased, cf. figure 1.

	EU developments	**Cross-border electricity exchanged (TWh)**
1988	Commission launches internal energy market	138,6
1996	1st package: 1st Electricity Directive	221,7
1998	1st package: 1st Gas Directive; Florence Forum	232,7
1999	ETSO	257,6
2003	2nd package, ERGEG	344,1
2005	Hampton Court, Sector inquiry launched	393,1
2006	Commission green paper	383,2
2007	Commission communication on IEM, Sector inquiry final report, Spring Council meeting, Commission proposals for 3rd package	395,9
2008	Council reading, EP reading	376,4
2009	Decision on 3rd package	364,7

Table 2: Development of the internal energy market over time. Data on cross-border electricity from ENTSO-E (2010: 17).

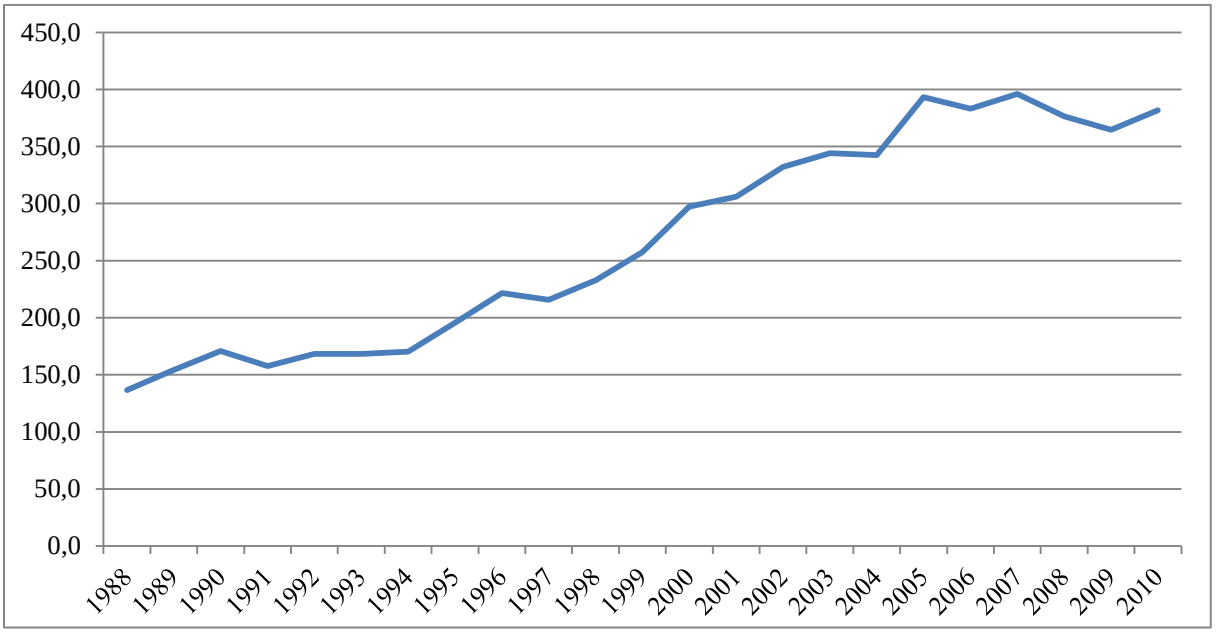

Figure 1: Growth in cross-border electricity exchange within Europe (in TWh). Data from ENTSO-E (2010: 17).

4.2 Dawning liberalisation efforts (1986-2004)

4.2.1 Early steps from above and below

Since the decision on the Single European Act in 1986, which launched a large initiative for general market integration in Europe, talks on energy market integration had taken place within the Council (Eikeland 2011a: 17). In 1988, the Commission proposed an internal energy market (EC 1988). The Commission used the momentum gained from the general single market initiative, as well as on the early experience with UK energy sector liberalisation; and was supported by the UK (McGowan 2011: 200). The oil crisis of the 1970s with the ensuing price hike has also been pointed out indirectly influencing energy market integration (Pollak et al. 2010: 78).

Route to the 1st legislative package

EU internal market policy thus formed a starting point for the thinking on an internal *energy* market. The Commission wanted to liberalise the electricity sector by deregulating and opening up markets and networks to competition (Pollak et al. 2010: 80). This included integration across borders. In terms of measures, the Commission tried to facilitate market integration and liberalisation via the single market principles, notably the free movement of goods (Buchan 2010: 360; Pollak et al. 2010: 79). This route via single-market powers was sought in part due to the lack of an

explicit treaty basis giving the EU competence to legislate on energy matters (Squicciarini et al. 2010: 1).[21]

Inspired by the successful use of competition law within other sectors like telecommunications and civil aviation (El-Agraa & McGowan 2001: 301), the Commission wanted to make use of the same strategy for energy. However, this was met by fierce opposition among the member states, and the outcome was that the legislative route would require unanimous consent by the Council as well as consulting the European Parliament (Eikeland 2011b: 249).

With a high bar for approval, the Commission's proposals were met by resistance by the member states (Pollak et al. 2010: 80), and were subsequently rejected or heavily watered-down. As a result, the Commission opted for a more bottom-up strategy, which entailed extensive negotiations with national representatives and experts within working groups. This, following additional negotiations between in particular the Commission and Council, brought about the first legislative package: In 1996, the EU passed an electricity directive, and two years later a gas directive followed (Eikeland 2004: 5; Wasenden 2008: 34).

1st package: Early deregulation and unbundling of accounts

The two major changes included in the first electricity directive were different varieties of third party access to transmission networks, and unbundling of accounts (Wasenden 2008: 34-35).[22] Moreover, a deadline for market opening – introducing competition – was set, from which point in time both producers and consumers of electricity could "negotiate purchases and sales of electric power" (Wasenden 2008: 34). Despite common goals, including removal of exclusive rights to produce and transmit electricity, the package did not bring about major changes. The provisions left a large scope for member states to decide measures in their own pace (Eikeland 2004: 6), and actual commitments were small (Eikeland 2011b: 249). Where agreement on measures was reached, several options were available. For instance, several options for third party access were available, spanning from negotiated or regulated third party access, to a single buyer model (Hauteclocque & Talus 2011: 2).

The first package represented "a compromise between countries that had started liberalisation and those that contemplated it as a very remote possibility" (Trillas 2010: 71). By the time the first package was passed, some countries had already taken liberalisation a step further: "the United Kingdom, Sweden and [EEA member] Norway had already liberalised

[21] With the Lisbon Treaty the competence of the EU to legislate on energy has been expanded, cf. article 194 (EU 2008).

[22] Third party access means that commercial actors without network ownership are provided with options for *access* to networks, thus enabling them to engage in cross-border electricity trade. Unbundling of accounts is a requirement for intra-organisational separation between network operation on the one hand, and the commercial market activities like producing and supplying electricity on the other hand.

their markets to an extent wider than that required by the [first Electricity] Directive" (Wasenden 2008: 34).

However, the first package contained provisions allowing for further inquiry of barriers to establishing an internal energy market (Eikeland 2004: 7). Thus, the Commission continued its work on identifying shortcomings (and their remedies). In conjunction with this, the Commission carried out benchmarking and evaluations of existing legislation and the implementation thereof. This included attention to "cross-border physical and tariff-based barriers to trade" (Eikeland 2004: 8).

Transmission system operators and transnational cooperation

In 1998, the Commission established the Florence Forum. This was part of its bottom-up strategy for fostering agreement on measures for energy market integration. The forum provided an arena on which representatives from the electricity sector could assemble (national regulators, national governments, TSOs, traders, utilities, large consumers and consumer associations, power exchanges as well as from the Commission itself) regularly for deliberations (Eikeland 2004: 8).[23]

In addition to meeting within the Florence Forum, companies managing electricity transmission (TSOs) also assembled within own *TSO-specific* organisations. In 1999, UCPTE was redefined as an association of TSOs, taking the name *Union for the Co-ordination of Transmission of Electricity* (UCTE) (UCTE 2009: 35). By 2009, it had 29 member TSOs from 24 countries (ENTSO-E undated-b), with approximately 8 people in the secretariat (ETSO interview). Cooperation within UCTE dealt primarily with the more technical issues, such as system operation (Commission 2007a: 52).[24] During this period, cooperation within UC(P)TE was deepened: In 1991, an agreement was reached on an operational handbook that laid down common principles for network operation. Subsequent revisions were undertaken during the 1990s (UCTE 2009: 34). Through negotiations, the UCTE TSOs agreed on and revised voluntary rules and recommendations (interviews ETSO, Commission). This work would continue in the early 2000s.

Nordel became a *TSO* organisation in 2000, following liberalisation efforts at the national level that involved unbundling of transmission and production (Nordel 2009: 4). Although limited in its geographical scope, the Nordic cooperation was rather extensive, focusing on the more technical system operation *as well as* market issues and infrastructure investment planning (ETSO interview). Compared to UCTE, cooperation within Nordel was less formal. This was in part due to the similarities in culture and language in these countries, yet even so, the style was more casual (ETSO interview).

[23] An equivalent forum for gas was established in 1999 in Madrid.
[24] I.e. transmission system operation or grid operation.

Other *regional* TSO associations existed, some of which were noted to be less substantial (UK and the Irish isle), and others that cooperated closely with UCTE, eventually becoming integrated into the synchronous UCTE zone (Eastern Europe and the Baltic countries).[25]

In 1999, following encouragements from the Commission on facilitating consultation (Buchan 2010: 366), the *European Transmission System Operators* (ETSO) was established with regional TSO organisations as its founding members,[26] becoming an association with direct TSO membership in 2001. At the time, ETSO had 32 member TSOs representing 15 EU countries as well as Norway and Switzerland. By 2009, 8 more TSOs had joined (ENTSO-E undated-a). ETSO's secretariat consisted of three people (ETSO interview). As a *European* organisation, ETSO had a wide geographic scope. Its scope in terms of cooperation, however, was more or less limited to market questions (ETSO interview), and it was described as a "typical lobbying organisation" that concentrated on monitoring EU legislation (Commission interview).

Summing up the 1990s

The 1990s witnessed the early steps taken by the EU to facilitate liberalisation of the European electricity sector. The tempo of this development varies across the member states. The Commission suggested a number of liberalisation measures to facilitate competition, but many of these did not pass through the Council due to lack of agreement among the member states. A first legislative package was enacted, but left member states with a large scope for action (or inaction). The Commission pursued two further strategies: It used the provisions contained in the first package that allowed for continued monitoring of developments and barriers to liberalisation; and it sought to address the electricity sector directly. The latter was done through the newly established Florence Forum, as well as by encouraging TSOs to cooperate on a European level through ETSO. Transnational cooperation, moreover, was evolving: The regional associations established among vertically integrated companies were redefined as associations of TSOs. With liberalisation developing at an uneven pace across Europe, members of these TSO associations were in some cases unbundled companies with transmission activities only, whereas others remained vertically integrated.

4.2.2 Strengthening EU legislation, deepening TSO cooperation

In 2001, the Commission called for further legislative action on the internal energy market. A benchmarking report showed that implementation of existing legislation was lacking in several member states,

[25] ENTSO-E has 6 regional predecessor organizations: UCTE (Continental Europe), Nordel (Nordic countries), BALTSO (Baltic countries), UKTSOA (UK TSOs), ATSOI (Ireland and Northern Ireland) and CENTREL (Eastern European countries). Since the mid-90s, UCPTE and CENTREL were synchronized (UCTE 2009: 35).
[26] ETSO was founded by ATSOI, UKTSOA, Nordel and UCTE.

but also pointed out that market concentration was increasing (Eikeland 2004: 8). The Commission wanted more detailed legislation, notably with common measures rather than leaving it to the member states to decide on measures for achieving common goals. The Commission wanted an EU Regulation that would apply directly, rather than be transposed by the member states. Additionally, the Commission wanted to revise the existing directives (Eikeland 2004: 8-9).

2nd package: Legal unbundling, regulatory oversight, cross-border networks

In 2003, the EU passed a second package. This amended the two directives on electricity and gas, respectively, each of which was complemented by a regulation on networks. The amended directives contained provisions on market opening within specified deadlines, and required legal unbundling of vertically integrated companies (separating production/supply tasks and network tasks into separate entities).[27] Moreover, having an independent energy regulator in each member state now became mandatory (Eikeland 2004: 9). While a lower limit was set for the power of national regulators, practices varied across the member states. A common feature in the member states was that national regulators were nationally oriented – sometimes by decree (Buchan 2010: 366-367). Most regulatory competence remained at the national level, causing a 'regulatory gap' at the European level (Eberlein & Grande 2005; Vasconcelos 2005). The amended directives entered into force in 2005.

The Electricity Regulation laid down the specific rules for cross-border electricity networks.[28] Moreover, guidelines were included, which were to be subjected to further deliberations within a regulatory committee. With the Electricity Regulation, regulated third party access became compulsory (Squicciarini et al. 2010: 4). Previously it had been one of three alternatives, cf. section 2.1, although small differences had been noted in practice between the three (Hauteclocque & Talus 2011: 4). Third party access was now not only regulated, but regulated in a particular way: Market-based methods should be the norm for congestion management on interconnectors. Roughly stated, this meant that capacity on – access to – cross-border networks should be allocated through auctions, where commercial actors wanting to engage in cross-border electricity trade would bid on the available capacity on a given interconnector. This would be subjected to further deliberations within the regulatory committee. The Regulation was however silent on how such methods *within* member states should look like (Squicciarini et al. 2010: 4). The requirement of market-based methods for allocating capacity on interconnectors had not been fulfilled as the Electricity Regulation entered into force in July 2004: More than half of the most congested

[27] E.g. by placing networks in a subsidiary to the company (Buchan 2010: 361).
[28] Regulation (EC) No 1228/2003 (EU 2003).

interconnectors did not meet this obligation (13 of 25, to be specific) (Meeus et al. 2005: 30).

Alongside the second package, the Commission established the European Regulators Group for Electricity and Gas (ERGEG). The Commission wanted to facilitate cooperation among national regulators in order to reach the goals stated in the directives. ERGEG was to cooperate closely with the regulatory committee laid down in the Electricity Regulation, although it was not supposed to interfere with the work of the committee (Commission 2003). ERGEG was to have an advisory role vis-à-vis the Commission (Pollak et al. 2010: 90), and vis-à-vis the regulatory committee (Sanden 2009: 206).

Developments in TSO cooperation and outlook

The contents of the Electricity Regulation had been shaped within the voluntary Florence Forum, where sector representatives had reached agreement (Hauteclocque & Talus 2011: 7). The Commission had identified impediments to market integration that were discussed within the forum. While diverging views remained as to concrete steps, a general consensus on a number of issues was established over time (Squicciarini et al. 2010: 3).

Cooperation also evolved within the transnational associations of transmission system operators (TSOs). Coordination within UCTE on system operation was enhanced in 2004 as its members signed an extensive agreement: The "Operation Handbook" was updated, expanded and connected to a separate agreement (the 'Multilateral Agreement') in which procedures for monitoring compliance with the operation standards were laid down (UCTE 2009: 42). The rules were quite detailed, and UCTE monitored its members by gathering data and conducting inspections. This work was rather structured and comprehensive, going very much into detail – hardly surprising, as it spanned a large area with different cultures and languages, yet the UCTE members emotionally dedicated to these rather slow-moving processes (ETSO interview). Although noncompliance could be sanctioned by fines (ETSO interview), the legal status of these outputs was unclear (Commission interview).

According to a former ETSO representative, during deliberations on the second package, the TSOs thought that, given their role in developing the market, they should have a special position. The idea of TSOs taking an active role together with national regulators on cross-border issues, however, was still an alien thought in Brussels, the same informant noted. At this point in time, the former ETSO representative added, the general outlook was of a national scope, yet amongst TSOs, internal discussions on these matters were picking up speed (ETSO interview).

TSOs from all over Europe discussed market issues within ETSO; Continental European TSOs cooperated on system operation within Continental European synchronous zone; and within the Nordic synchronous zone, the Nordic TSOs cooperated on operation, market and

infrastructure investments. Thus, whereas the Nordic TSOs could "talk about everything" when they met within the Nordel setting, continental European TSOs concentrated on *either* market issues *or* operation issues, depending on the whether they met within UCTE or ETSO (ETSO interview).

Summing up the early years of the new millennium

During the early years of the new millennium, new actors emerged following developments at the European and at the member state level. The establishment of energy regulators became mandatory according to EU law, although – with some exceptions – such agencies had already been in place in most countries. With liberalisation progressing at an uneven pace, transmission system operators were emerging as separate entities from the previous vertically integrated companies in many countries. Ownership unbundling was not mandatory according to EU law, as opposed to legal unbundling, but nevertheless developed in practice in a number of countries that went further than EU-mandated liberalisation, like the UK and the Scandinavian countries. In other member states, however, large electricity producers still had network ownership, although the networks were placed in a separate subsidiary company.

4.3 Prelude to the 3rd package (2005-2007)

This part will focus on the period of time leading up to the formal presentation of the Commission's proposals for a third package.

4.3.1 High prices and low competition

As the deadline for transposing the second package came and went, the Commission was satisfied with neither existing legislation nor the member states' implementation thereof (EurActiv 2006a; Zeit 2006a). Implementation deadlines had been missed by a number of member states. Moreover, since the initiation of energy market liberalisation, a series of mergers and acquisitions had occurred. National champions like EDF, Enel, EON, RWE, Vattenfall, Endessa and Electrabel were taking over companies in other countries (Meeus et al. 2005: 30). These 'seven brothers' (Thomas 2003) responded to deregulation by expanding in order to retain their market share, which had been made possible by the very same liberalisation process (Domanico 2007: 5067). The Commission was worried about increasing market concentration. Additionally, this coincided with a rapid increase of global energy prices, which triggered critique of the liberalisation project: Many saw this as not delivering on the promised results like lower energy prices, and questions on the compatibility of liberalisation with security of supply were raised (IEA 2005).

Responding to these developments, the Commission's DG TREN and DG COMP jointly launched a sector inquiry in 2005. The inquiry was to put electricity and gas markets under the spotlight, using reinvigorated

competition powers gained in 2003. The official motifs for the inquiry were concerns for increased ownership concentration, and the increased energy prices (Commission 2007e).

4.3.2 Early EU discussions

At a meeting of the European Council in October 2005, having assembled at Hampton Court, European member states agreed to launch a common energy policy for Europe, which the press reported as having been brought about following a UK change of position (EurActiv 2005). The member states called for a comprehensive approach in which energy and climate change issues should be integrated. Notably, one of the suggestions contained in this initiative – as forwarded by Tony Blair, British prime minister at the time – was "better interconnection between the EU's power grids in order to establish one single grid." Agreement was general, however, and did not cover any concrete steps (EurActiv 2005).

The follow-up to these signals from the member states was a green paper from the Commission in March 2006. Here, six priority areas were mentioned, one of which dealt with an internal energy market. This was seen as able of contributing to lower prices, security of supply and competition – with the latter postulated as being positive for the environment (Commission 2006b: 5).[29] Notably, it was pointed out that a "**European grid code** could encourage harmonised, or at least equivalent, grid access conditions" (Commission 2006b: 6, emphasis in original). Moreover, the Commission pointed to on-going work within CEER and ERGEG on such harmonisation, but evaluated this as proceeding too slowly.[30] Deliberating on potential measures, the Commission mentioned an option of a European energy regulator that could have the power to make decisions on common rules, possibly assisted by a formal network of TSOs (Commission 2006b: 6). Under reference to a blackout that had occurred in 2003, such a European TSO network could also contribute to enhanced cooperation on system security, including common standards (Commission 2006b: 8).

At this point in time, then, renewed calls for EU legislation within the energy sector were heard, and early discussions on European network codes, which could be created by an EU energy regulator together with TSOs, took place.

4.3.3 Interruptions in energy supply and calls for more cooperation

Following the EU enlargement in 2004, security of supply issues gained some salience. The new central and eastern European member states were

[29] The remaining five were security of supply, sustainable and diverse energy mix, climate change, technology innovation, and an external energy supply.
[30] The Council of European Energy Regulators (CEER) was established by national regulatory authorities in 2000, existing alongside ERGEG in the years 2003-2011, and alongside ACER since 2011.

concerned about their dependency on Russian energy supplies. Nevertheless, few advances in energy security were made by the EU at this point (Buchan 2010: 373). In 2006, however, attention was again drawn to security of supply. Coinciding with the Commission's work on the sector inquiry, interruptions in electricity and gas supplies occurred (EurActiv 2006b).

In January 2006, gas supplies to Europe were interfered with. Due to a disagreement on prices between Russian and Ukrainian energy companies, Russia cut off its gas supplies to Ukraine, thereby temporarily interrupting supply to EU countries (EurActiv 2006c). The gas crisis between Russia and Ukraine in 2006 put security of supply on the agenda (Norway's Mission to the EU interview). The Commission responded to the incident by calling for more coordination of member states' energy policies (EurActiv 2006c), whereas the Council at its subsequent Spring meeting called for better coordination mechanisms with which potential future incidents could be managed (Council 2006: 5).[31] Specifically, the Council drew attention to the need for better cooperation between TSOs and national regulators (Council 2006: 6).

In November 2006, a blackout caused interruptions in electricity supply within the continental European synchronous zone, affecting large parts of Europe.[32] Seen against the backdrop of a regional blackout originating in Italy in 2003, this convinced many about the concept of having a common set of binding network codes. The reason was that these events revealed the flaws in the arrangements for TSO coordination existing at the time: Due to the physical interconnectedness of national transmission networks, cooperating on the interface between them – i.e. between these national systems – was not enough (Commission interview). A Commission representative described the two blackouts as major factors for bringing about the establishment of ENTSO-E and the procedure for developing network codes. Moreover, these events "shifted the majority in favour of this kind of approach," noting that not everyone was convinced (Commission interview). The other informants, however, did not refer to these incidents. Previous research has noted that the Commission regarded the blackouts as poorly handled by existing cross-border cooperative arrangements, an interpretation not shared by the industry itself (van der Vleuten & Lagendijk 2010).

In parallel, cooperation was developing. In 2006, the Commission Decision of 9th of November amended the annex of the 2003 Electricity Regulation according to a comitology procedure laid down in the Regulation.[33] The annex contained guidelines on the management and

[31] At this meeting, the European Council also adopted an Action Plan for 2007-2009.
[32] A blackout can occur when the network is overloaded, thus causing a breakdown (Pollak et al. 2010: 25).
[33] When legislation is passed by the EU, particular requirements can be imposed on the Commission in its work in preparing this legislation for implementation. *Comitology* refers to a requirement that the Commission conduct its executive tasks together with a

allocation of available transfer capacity of interconnections between national systems (Commission 2006a). The new guidelines were based on work conducted within regional 'Mini-Fora' from 2004. Initiated by the Commission and the Council for European Energy Regulators (CEER) (later joined by ERGEG), these meetings gathered TSOs, stakeholders, power exchanges and member state governments for deliberations. With objectives and measures defined in wide terms, the results of this work were mixed, because a variety of practices were possible within the same framework (Squicciarini et al. 2010: 5-8).

With general agreement among the member states and the backing of a Commission very much concerned by the interruptions in supply, the EU stepped up its efforts for making a new energy market package, in which cooperative arrangements within the electricity sector would be subjected to evaluation. This was supported by the European Parliament, which in a response to the Commission's green paper called on the member states to delegate powers so as to enable national regulators to regulate on cross-border issues (EP 2006: amendment 86). Moreover, it called on the Commission *and* the member states to 'promote' TSO cooperation, adding that the need for a new formal TSO network – as suggested by the Commission in its green paper – should be carefully evaluated, given the plethora of existing TSO associations that could be further developed (EP 2006: amendments 87, 90).

4.3.4 EU discussions on measures and scope of a third package

Commission: An internal energy market needs deeper cooperation

By 2007, then, the EU was working on a third legislative package, and in January, the Commission released several Communications regarding this (Commission 2007c, 2007e, 2007h). Among these was the *Final report on the sector inquiry*, which indicated "serious shortcomings in the electricity and gas markets," with major barriers to competition (Commission 2007e).[34] The extent of competition and liberalisation was found insufficient. In another communication, *An energy policy for Europe*, the Commission pointed out that 'technical standards' essential for trade across borders were only slowly converging, and subsequently called for stronger measures in order to avoid blackouts: Standards for system operation should be developed by a EU-level TSO association, and be made legally binding by energy regulators (Commission 2007d: 8-9). Consequently, the message explicitly conveyed from the Commission to the European Council and Parliament was – among others – to speed up harmonisation of technical standards as well as establish a EU-level mechanism for cooperation among regulators to ensure a European

committee (here, different variants exist) consisting of national representatives (Bergström & Héritier 2007: 171).

[34] Identified shortcomings were "high levels of market concentration; vertical integration of supply, generation and infrastructure leading to a lack of equal access to, and insufficient investment in infrastructure; and, possible collusion between incumbent operators to share markets" (Commission 2007b).

outlook, with possibilities for review by the Commission in cross-border matters (Commission 2007d: 20) – referring to experiences with such arrangements within the telecommunication sector (Commission 2007d: 8).

Concomitantly, in a communication on the internal energy market, the Commission noted that the sector inquiry had given it "substantial insight" into the current state of affairs for liberalisation (Commission 2007h: 22). Under reference to shortcomings for competition like market concentration and increasing prices, the Commission underlined the need for more coordination at a European level. Here, the blackouts in 2003 and 2006 were singled out as indicators of the interdependency between member states in terms of security of supply. As a result, the Commission made a case for legally binding 'operational security rules' and improved TSO cooperation. It was also noted that competition could contribute to sustainability via a positive effect on energy efficiency as well as by facilitating market access for renewable energy production (Commission 2007h: 3-9).

The Commission emphasised the need for enhanced TSO cooperation, because electricity networks in Europe initially had been constructed as national networks rather than as a single European network. Subject to requests from the Commission or national regulators, TSOs should address the issue of interoperability between the respective (national) networks, among others by establishing common standards on technical issues pertaining to secure operation. Such cooperation could be an extension of existing TSO associations that would get a more formal role (Commission 2007h: 16-17).

In the Commission's opinion, then, more TSO cooperation would be needed to integrate the national networks, with the ultimate goal being a European network. Moreover, energy regulators at a national as well as at the European level should be strengthened, with different options described for the latter: A gradual development of existing arrangements; a strengthened ERGEG able of making binding decisions on closely delineated technical issues and 'mechanisms' pertaining to cross-border issues; or a new EU body (Commission 2007h: 14).

Council and EP: Extend existing practices, but respect national sovereignty

In March 2007, at a Council meeting where climate change was also given much attention, the member states expressed their support to the suggestions presented in the Commission's internal energy market communication, and concurred with the Commission on the need to set up a new EU-level cooperation mechanism for national regulators and TSOs, respectively. Regulators should cooperate on 'important' cross-border issues, whereas TSOs should deal with system operation and build on the cooperative arrangements already in place among TSOs. The Council also agreed that a better system for conducting and managing

cross-border electricity transfers was needed, mentioning 'technical standards' in this context (Council 2007a: 17).

In a report tabled by the European Parliament's Committee on Industry, Research and Energy (ITRE) support was expressed to the Commission's proposal of establishing an EU-level regulatory agency on cross-border issues, although the relevant national regulator alone should be responsible for issues pertaining *only* to the national market. Moreover, technical harmonisation of networks should be carried out (EP 2007b). These aspects were kept in the plenary resolution passed by the EP in July, with the addition of requesting the Commission to make a road map for the creation of a single EU electricity network (EP 2007a).

During the June Council meeting, a policy debate on the internal market was held, yet no further details are provided in official records (Council 2007c). Prior to the June Council meeting, however, the German presidency had sent out a query to member states to map their positions on, amongst others, new cooperative structures at the European level for national regulators and TSOs, respectively (Council 2007e). In their responses, most member states supported the need for better EU-level cooperation among regulators and TSOs, respectively.[35]

Summing up the period from 2005 until mid-2007

During this 'prelude' to the third package, existing legislation and practice were put under pressure by developments in the market: Higher energy prices, market concentration and interruptions in supply contributed to discussions on energy market reform within the EU. The member states, Commission and EP saw the need for more coordination within the European energy sector. Consequently, early scoping for a third package was carried out.

4.4 Making a 3rd package (2007-2009)

4.4.1 The package and the EU legislative process

Internal energy market issues were subject to co-decision, a decision-rule where the Commission tables proposals that needs to be passed by the Council *and* by the European Parliament (Buchan 2010: 363).[36] In its work on making the proposals for the third package, the Commission's Directorate-General for Transport and Energy (DG TREN) had consulted with 150 stakeholders, which provided input to an impact assessment accompanying the package (Pollak et al. 2010: 102). The TSOs had been successful in influencing the third package (Eurelectric interview). The stated objectives of the package, presented in September 2007, were

[35] Too many to be referred to individually here, these documents were located through a search for document number 9905/07 at http://www.consilium.europa.eu

[36] Co-decision largely corresponds to the *ordinary legislative procedure* introduced with the Lisbon Treaty.

"*consumer choice, fairer prices, cleaner energy and security of supply*" (Commission 2007c, emphasis in original).

Parallel to the work on a third energy market package, the EU also focused on climate change and sustainability. Consequently, negotiations on the third energy market package, and climate change and sustainability, to a large extent coincided. Thus, climate change and sustainability were taken into consideration in the third package (Norway's Mission to the EU interview). Moreover, deliberations on the Lisbon Treaty were also taking place – and in parallel, discussions on comitology, where the European Parliament would manage to increase its role (Guéguen 2011).

The proposed third package consisted of two directives and three regulations. With the exception of the regulation establishing an EU level energy regulator (the 'ACER Regulation'), the package would amend existing legislation.[37] The legislation on gas will not be treated here, and only a short note on the Electricity Directive is called for: The Commission proposed mandatory ownership unbundling, which would entail vertically integrated companies having to sell their networks. This idea was also put forward for the Gas Directive. Ownership unbundling raised controversy, with member states divided on the issue: While the UK supported the idea, Germany and France strongly opposed such a measure (Eikeland 2011a, 2011b).

Part of the package was also a proposal for an amended Electricity Regulation (Commission 2007f). Here, the procedure for developing network codes for electricity ('NC procedure') was introduced.[38] Such a procedure had not been part of the previous Electricity Regulation from 2003, which focused more on output than on process. The Electricity Regulation of 2009, on the other hand, would be more process-oriented as it was to codify not just the output that was to be achieved, but also the procedure through which to produce these outputs. This included listing tasks and responsibilities of the different parties to partake in the procedure as well as being specific on deadlines and the course of action in the case of non-compliance with these.

In the following, the various aspects of this procedure will be treated, from proposal to the formal decision making it EU law. The presentation will mainly concentrate on the developments for the Electricity Regulation, but attention will also be given to the ACER Regulation where the tasks and powers of ACER are relevant to the suggested procedure.

[37] Proposals tabled would amend the Directives on Electricity and Gas, respectively; and the Regulations on Electricity and Gas, respectively.
[38] This would amend Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity.

4.4.2 The Commission's proposal

Insufficient state of affairs

In its proposal, the Commission notably pointed out that, with an increasingly complex energy sector, existing cooperative arrangements were rendered as inefficient: In practice, unanimity among 27 regulators and over 30 TSOs was required. "It has led to a number of non-binding codes and efforts to reach agreement on common approaches through 'gradual convergence' but has not lead to real decisions on the difficult issues that now need to be taken" (Commission 2007f: 10).

The Commission underlined the technical challenge for electricity companies facing network codes that differed "enormously" across member states – sometimes even within the same country (Commission 2007a: 48). While acknowledging the existence of regional network codes in addition to the national ones, the Commission pointed out that these were recommendations (Commission 2007f: 14).[39] This also applied to non-binding guidelines that had been issued by national regulators cooperating within ERGEG (Commission 2007a: 47).

In accompanying documents to the proposed third package, the Commission credited the existing voluntary TSO associations with significant contributions to the internal market along with "efficiency and the safety of the networks" (Commission 2007a: 52; see also Commission 2007f: 13). There was a plethora of regional TSO organisations cooperating to a smaller or to a larger degree on many issues or on a more restricted set of issues. TSO cooperation revolved around the need to agree on the interface between systems understood to be more or less independent from one another. In terms of the energy spent on cooperation, TSOs "spent the time necessary towards that philosophy" (Commission interview).

Nevertheless, the Commission argued that if no steps were taken, the TSOs would remain more or less nationally oriented, with limited cross-border coordination. This, the Commission claimed, would give rise to "a higher probability of capacity crisis (which may ultimately lead to blackouts in the case of electricity) and in any event artificial congestion created at the borders" (Commission 2007a: 52). Notably, it was pointed out that the shortcomings of existing voluntary TSO cooperation had already been revealed: Reference was made to blackouts caused by too little coordination among TSOs on network operation, to insufficient investment in the infrastructure itself; and to the slow progress in TSO negotiations on harmonising network codes (Commission 2007f: 13-14).

[39] E.g. the UCTE operational handbook for security and reliability of the electricity transmission networks (Commission 2007f: 14).

Common network codes and a procedure for harmonizing

The Commission pointed out that an internal energy market had yet to materialise, and that attaining such a goal would require stronger measures. With this aim, a way of integrating national electricity markets – possibly via a regional route – would be to harmonise network codes (Commission 2007a: 48): integration needed "a coherent set of technical and market codes" (Commission 2007f: 14). The purpose of this was twofold: On the one hand, such codes would facilitate the functioning of the marked, and, on the other hand, of the transmission system (Norway's Mission to the EU interview).

According to the Commission, there were three main problems with the existing network codes: They were 1) non-comprehensive, as they did not cover all issues; 2) often incompatible with one another, and 3) often not legally binding or enforceable (Commission 2007f: 14). Moreover, the Commission argued that network codes had frequently been introduced by vertically integrated companies (Commission 2007a: 48).

As a result, the Commission proposed that the TSOs should strengthen their cooperation on network code development (Commission 2007f: 14). Network codes were described as "technically complicated," and as requiring efficient ways for making necessary revisions (Commission 2007f: 14). This was included in the proposal for an amended Electricity Regulation. Moreover, the procedure would describe how stakeholders were to interact when deciding on network codes, with the possibility to make codes legally binding. Moreover, the Commission envisaged itself – or national regulators – charging TSOs with the making of network codes. The development of network codes should be coordinated at the EU-level, carried out by a TSO association.

The proposal sought to build on existing cooperation as regards network codes (Commission 2007f: 14). This idea had been endorsed by the European Council in March 2007: The work of an 'ETSO+' should build on "*existing cooperation practices*" (Commission 2007a: 26, emphasis in original).[40] Nevertheless, while allowing for the option of building on previous associations like ETSO, and crediting regional initiatives on network operation and investment planning in particular as having had a positive effect on market integration; the Commission underlined the need for an organisation with a "central and permanent cooperation structure both in terms of organisation and practical tools for planning and operating the networks" (Commission 2007f: 15).

[40] The terminology in use at this point referred to "technical standards for network security" and "recommendations on precisely defined technical issues such as standards and operational rules" (Commission 2007a: 26). The term "grid codes" was also used.

A new European TSO organisation

In terms of organisational structure, the Commission suggested a new TSO organisation. The European Network of Transmission System Operators for Electricity (ENTSO-E) would be formally mandated at the EU level to carry out tasks like developing network codes (Commission 2007f: 15). Moreover, this development should be conducted "within a reasonable time" following a formal request by the Commission (Commission 2007f: 27). Finally, TSOs should cooperate on monitoring the implementation of such codes (Commission 2007f: 14).

Mandating ENTSO-E with the task of developing network codes was regarded a 'pragmatic' solution, given existing voluntary processes and the technical complexity of the matter (Commission 2007f: 14). The picture emerging from interviews was one of TSOs in possession of more expertise on which network codes could be based – especially regarding system operation, which is a core TSO task – than the national regulators, or the Commission, for that matter (despite having accumulated substantial knowledge on this in particular over the two last decades). Thus, the Commission openly stated that it needed to "rely more on TSO associations' competences" (Commission 2007a: 26). This expertise gave TSOs influence (Eurelectric interview).

ENTSO-E should, however, conduct its work in a transparent manner, and state its priorities as well as the network code specifications in an annual work programme "prepared in consultation with all stakeholders and the new Agency [ACER]" (Commission 2007f: 14). Similarly, from the initiation of the process of drafting any network code, stakeholders should be consulted (Commission 2007f: 15).[41]

Advisory input from national regulators

In the Commission's proposal, regulators were given an advisory role in the development of network codes. In a proposal for a separate regulation tabled by the Commission, a EU-level regulatory agency was to be established (Commission 2007g). The Agency for the Cooperation of Energy Regulators (ACER, also referred to as the Agency) was to replace the existing ERGEG. Acting through ACER, national regulators were to provide advisory input to the Commission as well as to ENTSO-E on network codes: The Commission would consult with ACER before "inviting" ENTSO-E to draft network codes. Moreover, ACER could give an opinion on these *if* it considered the codes as failing to meet certain objectives ("ensure non-discrimination, effective competition and the efficient functioning of the market"), or in the case that ENTSO-E either did not develop network codes "within a reasonable time", or its constitutive TSO members failed to implement these (Commission 2007f: art. 2e).

[41] Explicitly mentioned were producers, suppliers, customers and distribution system operators (Commission 2007f: 15).

Part of the Commission's proposal, then, was regulatory oversight of the content of and of the compliance with such codes – including, the authority to enforce and/or adopt network codes if the TSOs were not able to do so themselves. Depending on the matter at hand, national regulators, ACER, and/or the Commission would conduct monitoring and enforcement tasks (Commission 2007f: 14). ACER would monitor the work of ENTSO-E, including the consultation processes (Commission 2007f: 15). Thus, a "general advisory role" was envisaged for the ACER (Commission 2007a: 50), both in relation to TSOs and towards the Commission.

Regarding regulatory oversight, the Commission had considered several alternatives: The possibility of conducting such regulatory tasks itself (rejected due to requirements for expertise and resource usage), or creating a separate structure resembling the System of European Central Banks, the Network of Competition Authorities, or the European Economic Interest Grouping. The alternatives were however rejected on the grounds of lacking a legal basis (Commission 2007a: 49-50), or due to not meeting "the objectives the Commission wants to achieve" (Commission 2007a: 50). Consequently, the Commission concluded that a regulatory agency was called for (Commission 2007a: 50).

In creating ACER, organisational features as well as location came into play: A Commission representative noted that the same person who had written the early draft of what would eventually become the ACER Regulation[42] had been inspired by the European Railway Agency – initially, this person had more or less "put in place the railway agency". This also had a practical reason: Within the Commission, the energy sector was still organised in a Directorate-General together with the transport sector, and consequently, bureaucrats working on energy and bureaucrats working on transport were colleagues working within the same building.

Network codes as EU hard law

Network codes could be made legally binding through comitology. In the case that TSOs within ENTSO-E were to fail to develop network codes, this could also be done through a comitology procedure initiated by the Commission (Commission 2007f: 14).

On this matter, a Commission representative stated that they had looked at the results achieved within the telecom sector as a rough indicator of what could be attained through comitology, without providing any details as to how this should be organised for the electricity sector. However, it was pointed out that the Commission had suggested "quite traditional comitology" in the original proposal (Commission interview). In terms of the legislative output – network codes that could be made legally binding through comitology – this was compared to legislation within the aviation

[42] Regulation (EC) No 713/2009 (Commission 2007g).

sector (airport safety) as well as the railway sector (Commission interview).

Eager for a higher pace towards an internal energy market, then, the Commission had presented a proposal for a new pan-European TSO organisation that would draft network codes. These codes could be made legally binding across the EU. National regulators were to provide advisory input to the network codes through ACER, an EU level agency, and producers/suppliers would be consulted throughout the process. How did the TSOs, regulators and producers/suppliers respond to the Commission's suggestion? [43]

4.4.3 Sector response to the proposal

Transmission system operators' response

The TSOs were generally positive to the Commission's proposal, because they regarded the Commission's proposal as involving concrete measures for how TSOs were to cooperate as well as on which issues (Commission, ETSO interviews). Moreover, network codes could be made legally binding. The TSOs saw that they were given "a powerful tool for changing the electricity market and enhancing TSO cooperation within the European electricity sector" (ETSO interview).

The TSOs were interested in binding network codes. The Commission had provided for two types of network codes: on the one hand, codes that could be made binding through comitology, and on the other, codes that could be drafted and adopted by ENTSO-E on a voluntary basis. However, the TSOs were not particularly interested in the voluntary codes: "during this process [the making of the Regulation], the TSOs clearly said [that they] didn't need voluntary codes, they need something that is legally binding" (Commission interview).

The most important thing for the TSOs was getting the cooperative arrangements into place. Moreover, within a scheme of regulated tariffs, TSOs were willing to take on tasks beyond the national realm (ETSO interview). Thus, TSOs were interested in being entrusted with the task of promoting cross-border developments, regarding themselves as impartial actors as they didn't have strong commercial interests. Consequently, when the third package was announced, containing proposals for quite far-reaching TSO cooperation, this was welcomed by ETSO (ETSO interview).

Albeit a majority of TSOs were generally positive, there was also scepticism towards change. This stemmed from "nostalgia" with existing organisations like UCTE (Commission interview). ETSO had welcomed

[43] Due to limited time and resources, the response of such actors has been limited to TSOs/vertically integrated companies, producers/suppliers and national regulators.

the proposal (ETSO interview). Having cooperated extensively within Nordel, the Nordic TSOs were also positive (Commission, ETSO interviews). Still, the latter group was concerned about losing the well-functioning *regional* cooperation within Nordel if replacing this with a *European* setting with implications for the level of ambition for TSO cooperation (ETSO interview).

UCTE was worried (ETSO interview). They were concerned that the existing cooperation on system operation, which had come a rather long way, would be jeopardised, as they didn't quite see that this could be carried over into new arrangements. Moreover, as one informant stated, this was also a matter of power: "those that ran the UCTE thought that this was the best way of doing things, and those that had positions within this organisation were probably also worried about losing these" (ETSO interview). Within UCTE, however, differences existed. While the German TSOs, which had been rather active within UCTE, were "rather hesitant", the French and the Belgian TSOs were positive. The French, notably, had taken "a global view on things", recognising the advantages of cooperating more extensively on a European level (Commission interview).

Internal TSO discussions in 2008

Once the proposals for a third package were on the table, TSOs realised that a completely new way of cooperating among TSOs was required, although the TSOs at first didn't quite grasp the extent of this (ETSO interview). Soon, however, ETSO contacted the other organisations, and suggested initiating a project with the purpose of establishing a new organisation (ENTSO-E) as called for by the Commission. With the proposed Electricity Regulation already on the table, it would be better for the TSOs to adapt as soon as possible, as it would require some effort to arrive at an agreement on how they would want the new organisation to be (ETSO interview). This project was driven by its TSO members (ETSO interview).

At first, UCTE was less receptive to the idea that TSO cooperation across synchronous zones was at all viable. The Nordic TSOs pointed out that they had managed to do this, as West-Denmark is part of the Continental European (UCTE) zone, and East-Denmark belongs to the Nordic zone. Over time, however, continental – and European TSOs in general – accepted that they had to let go of the old organisations, with the recognition that old agreements could be carried over into the new organisation (Commission, ETSO interviews).

The TSOs realised that it would be better if agreement could be found among the TSOs as to how ENTSO-E should look like, because if not, others might do this on their behalf , which was considered a potent threat at an early stage. The TSOs soon understood that the TSO project could be used as to attain influence. This project lasted throughout 2008, at the end of which the TSOs had agreed on a set of statutes and founded the new association (ETSO interview). When ENTSO-E became

operational in July the following year (ENTSO-E 2011b), the regional associations were dissolved (ETSO interview). Reassured by the possibility to carry existing cooperative practices into new arrangements, TSOs welcomed the Commission's proposal, which gave them a clear mandate to make network codes on a European scale.

National regulators' response

National regulators were not satisfied with an informal, advisory role: National regulators, as represented by ERGEG and CEER, were "obviously not pleased with the Commission's proposal to create a new body for cooperation among NRAs with no real powers" (ETSO interview). The Commission, however, had thought that it could work with the national regulators in an informal way,[44] but as a representative from the Commission noted, "the regulators didn't trust that we would work this way, so they wanted to introduce themselves in-between the network codes and comitology" (Commission interview).

In 2006 and up to the presentation of the formal proposal to the Electricity Regulation, national regulators within CEER and ERGEG had worked on getting their voices heard. They had a number of meetings with persons within the Commission, EP and the Council that were centrally placed vis-à-vis energy policy-development (ERGEG & CEER 2006). Moreover, ERGEG regulators had been working intensely on providing input to the Commission pertaining regulatory oversight, as indicated by a number of position papers published between February and June 2007. Responding to the internal market communication, for instance, ERGEG called for a regulatory framework at the EU level, possibly by extending the ERGEG mechanism, which would oversee and approve network codes whose mandatory development should be carried out by TSOs acting within a formal EU-level body. Moreover, ERGEG referred to the 2006 blackout, noting the increased interdependence among European networks (ERGEG 2007).

When the Commission's proposal was presented, John Mogg (chair of ERGEG and president of CEER), expressed disappointment with the absence of a strong European regulator in the Commission's proposal (EurActiv 2007c). In joint press releases, ERGEG and CEER underlined the need for effective regulatory oversight of TSOs at a European level (ERGEG & CEER 2007a); a strong ACER was needed in order to safeguard the public interest. Moreover, the TSOs had been given too much influence that went "beyond what TSOs should do" (ERGEG & CEER 2007b). National regulators regarded the role that they had been given in the Commission's proposal, including their role in the development of network codes, as "too weak" (ETSO interview). In order to amend the Commission's proposal towards a strengthened role of

[44] In the original proposal, the Agency was to provide an opinion on network codes when these were not in accordance with the set goals, or when they were neither submitted on time nor implemented by ENTSO-E (Commission 2007f).

regulators, then, national regulators understood that they had to get support of the European Parliament (ETSO interview).

Producers/suppliers' response

As the sector association representing the electricity industry at a European level, the Union of the Electricity Industry-EURELECTRIC ('Eurelectric') had followed the EU's initial work with the third package: "We had been lobbying quite extensively when the third package came" (Eurelectric interview). Reading the proposal, however, Eurelectric wasn't sure that the Commission's suggestions to an amended Electricity Regulation would safeguard the interests of its members. Moreover, "many areas for improvements" were noted, because the proposal was regarded as "far from being balanced" (Eurelectric interview).

Eurelectric was concerned about the amount of power given to TSOs. By allowing TSOs to draft network codes without regulatory oversight, the Commission was seen as going as far as to give TSOs regulatory powers, because the proposal was a "framework for regulatory issues that would be filled in by TSOs" (Eurelectric interview). The Commission had allowed this because they tended to regard unbundled TSOs as largely neutral actors, whereas Eurelectric saw TSOs as actors with vested interests (Eurelectric interview). Consequently, the Commission's proposal would make TSOs "judge and party" – a step that Eurelectric saw this step as "unprecedented", and as something that "should not be done again" (Eurelectric interview).

Eurelectric had publicly stated its support of regulatory oversight, underlining as well the importance of involving the Commission in this, noting that national regulators alone would not ensure a European outlook (Eurelectric 2007). Thus, Eurelectric teamed up with national regulators to lobby the European Parliament for regulatory oversight as well as for strengthening the consultation mechanism through which stakeholders – amongst others producers/suppliers represented by Eurelectric – would have the opportunity to get their voice heard (Eurelectric interview).

4.4.4 Reading in the European Parliament

Whereas TSOs had welcomed the original Commission proposal (ETSO interview), regulators and producers/suppliers were critical to the powers granted to the TSOs regarding network codes. Eurelectric had teamed up with national regulators to lobby the European Parliament for more regulatory oversight (Eurelectric interview).

Seeking to influence the political game, some of the national regulators were more active than others. The regulators from the major European countries like France and UK were seen as influential by the informants from the Commission and Statnett. Notably, the Commission informant indicated with some astonishment that he didn't know "exactly what happened" as regards the German regulator, but noted that this regulator

was "younger" (Commission interview).[45] John Mogg, chairman of the British regulator *Ofgem*, was pointed out as an important player as head of ERGEG and CEER (Commission, ETSO, Statnett interviews). As a former Director General in the Commission, he was quite familiar with the system (Commission interview). Other informants had not observed a difference in terms of how active the different regulators had been (ETSO interview). In general, however, irrespective of the extent of independence from national governments, regulators were seen as being in close contact with politicians: "for regulators, it seems to be a natural thing to talk to politicians" (Commission interview).

Supported by Eurelectric (Eurelectric interview), national regulators suggested 'framework guidelines' (Commission interview). A framework guideline would be drafted by regulators, resulting in a political document on the problem(s) that a given network code was to resolve. Drafting framework guidelines would be "a political process" thus removing the political issues from the network codes, which were to be drafted by TSOs (ETSO interview). Moreover, the regulators envisaged framework guidelines as becoming legally binding and connected to specific deadlines, which the Commission considered a less fortunate suggestion (Commission interview).

The call for more regulatory oversight found resonance within the European Parliament: "many Members of Parliament saw the need for a strong European regulator, because they did not think that the TSOs would to be able to handle this [the responsibility given to them in the Commission's proposal]" (ETSO interview). Parliamentarian support of a stronger ACER was also reported by the media (EurActiv 2008b). The rapporteur, Alejo Vidal-Quadras, called for more focus on harmonisation of network codes and regulatory framework, adding that voluntary harmonisation of "technical and market rules" would be insufficient (EP 2008: 35). [46] Moreover, he put forward the concerns raised by regulators and producers/suppliers that, if implemented in its original form, the Commission's proposal would give TSOs regulatory tasks: "Transmission System Operators are given a quasi-regulatory status while the Regulatory Agency [ACER] seems to be reduced to the role of an advisory body" (EP 2008: 33). This represented an allocation of tasks that did "not correspond to the actual and *natural division of competencies* at the national level" (EP 2008: 33, emphasis added).

In his report, Vidal-Quadras gave regulators a stronger role in the development of network codes via framework guidelines: Network codes should be developed based on framework guidelines set by ACER, but these codes should also be subject to approval by ACER (EP 2008: 13-18), thus making framework guidelines binding. Specific deadlines were

[45] The German *Bundesnetzagentur*, while established in 1998, was not given the responsibility for the energy sector until 2005 (Bundesnetzagentur 2010).
[46] Vidal-Quadras is a Spanish Member of Parliament and part of the Group of the European People's Party (Christian Democrats).

also included in Vidal-Quadras' report. Important amendments regarding the NC procedure are listed in table 3.

- Emphasis is put on regional cooperation, yet this should be compatible with *European* integration.
- ENTSO-E to submit draft network codes to ACER for approval.
- ACER to monitor implementation of network codes – non-compliance to be notified to Commission.
- ACER to be mandated by Commission to develop draft framework guidelines within 6 months
- Within 6 months of ACER adoption of guidelines, Commission shall mandate ENTSO-E to develop draft network codes in accordance with framework guidelines

Table 3: EP's amendments for the development of network codes. Source: EP (2008).

The TSOs were generally "supportive of a new regulatory authority", and had been "quite positive when the regulators started discussing how one could lift the political parts out [of the network codes]" (ETSO interview). The TSOs supported letting regulators deal with the more political issues which would be contained within the framework guidelines: "I think they [TSOs] even liked the fact that they would get guidelines from regulators" (Commission interview). Still, this was the major concession for the TSOs (ETSO interview). TSOs were regarded as facing challenges in the political game, in the sense that the message they wanted to convey often concerned very technical issues that were difficult to communicate to politicians (Commission, ETSO, Statnett interviews).

Drawing the line between framework guidelines and network codes, however, proved an issue of some controversy. Grey areas between framework guidelines and network codes exist. TSOs defended their responsibility for network codes, wanting neither ACER nor national regulators to interfere with this task. The TSOs stayed very much alert to calls for a strengthened ACER, because they thought they knew "the technical details better than the others" (ETSO interview).

TSOs were therefore sceptical of the idea of making framework guideline binding. As it turned out, however, the proponents of a more powerful ACER, one that could make legally binding decisions, faced a legal restraint posed by the Meroni Principle. According to EU case law, the EU could not vest new powers in another organisational body (ACER) without basing this in the Treaties. The Commission declared Parliament's call for a stronger ACER as legally unviable, given the absence of sufficient support among the member states for amending the treaties in order to create such a powerful EU Agency on energy. Thus, framework guidelines could not be made binding for the subsequent development of network codes, but a step where ACER would make non-

binding framework guidelines was kept in the procedure as tabled for the subsequent Council reading (Commission 2008: 2). According to an ETSO informant, this discussion between Parliament and the Commission took some time, with Parliament only reluctantly accepting a weaker ACER. The Commission regarded the deadlines suggested by Parliament as "completely unrealistic," yet accepted that amendment (Commission interview).

In Parliament, then, national regulators and producers/suppliers found an ally for strengthening regulatory oversight in general, and the role of ACER in the development of network codes in particular. The TSOs and the Commission accepted some amendments, like the introduction of deadlines and having the political parts settled by regulators in non-binding framework guidelines, but opposed the idea of making these framework guidelines binding for the development of network codes.

4.4.5 Council reading

The interviews indicated that the European Parliament was attentive to the Electricity Regulation and to the NC procedure within it (Commission and Eurelectric interviews). While EP was seen as having taken a "pragmatic" approach (Commission interview), the Council was regarded as busy discussing other issues contained within the third package on which rather differing opinions among the member states existed (interviews with Eurelectric, ETSO, Commission). The Council focused mainly on the Directives on gas and electricity, respectively, as well as on the ACER Regulation. This was where the major political issues were seen to be (Commission interview). This focus is confirmed by Council documents (Council 2007b, 2007d, 2008b, 2008c).

Part of both directives, ownership unbundling became particularly salient, and was given much attention in the Council, as reported by informants (Commission, Eurelectric, ETSO interviews), and by the media (see e.g. EurActiv 2007a, 2007b, 2007c). While this issue was noted by informants as an important driver to the third package, unbundling was "also why it got stuck" due to differing member state positions (Eurelectric interview). Moreover, some informants noted that it was unfortunate that unbundling became such a controversial issue, in terms of the consequences for how much attention other issues within the third package was given (Eurelectric, ETSO interviews).

The Electricity Regulation was regarded as "more technical" (Commission interview), and consequently, "it was not an issue for the member states" who were more concerned with unbundling (Eurelectric interview). Nevertheless, some political issues like *comitology* in general and the role of ACER "were influencing the content of the [Electricity] Regulation" (Commission interview). From public Council records it is clear that member states did discuss the role of ACER, with implications for the NC procedure (see e.g. Council 2007d).

During the course of discussions on ACER, its role as regards the development of network codes was subjected to deliberations. A former ETSO representative noted that "several member states pointed out that it would be unfortunate if TSOs were to assess political issues" (ETSO interview). The member states initially indicated different opinions regarding the tasks of ACER: "mixed-views were expressed as to the Agency [*sic*] possible involvement in technical matters (codes)" (Council 2008a: 6). As some member states wanted a stronger ACER, while others preferred to limit its role, the Slovenian Presidency submitted a compromise solution that "its involvement in technical matters (codes) should be of an advisory nature" (Council 2008a: 10), a compromise that member states had agreed on by June (Council 2008b: 2). As suggested in Parliament, ACER would draft framework guidelines, but ACER was to be an advisory body, allowed to make binding issues only on a case-by-case basis. As a result, framework guidelines could *not* be made binding, but would still be "guiding the process" (Commission interview).

Comitology was "somewhat sensitive" (Commission interview). At the end of the day, however, the Council realised that, given the level of detail in network codes, it would be better if this would be settled through comitology rather than through inter-institutional negotiations (i.e. between Council and Parliament). Eventually, reassured by the inclusion of framework guidelines and that ACER would be established, Parliament accepted this. With framework guidelines part of the procedure, the extent of comitology had been somewhat reduced, yet retained for making network codes legally binding (Commission interview).

The issue of whether the network codes would affect national arrangements was also raised during negotiations among the member states, resulting in an explicit formulation being inserted to restrict the scope of these network codes to cross-border issues (Commission interview).

Compromise was also reached on the two outstanding issues – unbundling and ownership of networks within the EU by third country companies – by October (Council 2008c: 17). Agreement on the voting rules for ACER was also reached, with equal voting weight given to all member states (although Germany had favoured greater say for bigger countries) (EurActiv 2008a). At the October meeting, the Council restated the role of the member states in steering the process, referring to the meeting of the European Council that had initially asked the Commission to tabling proposals (Council 2008c: 17). In December, the agreement in Council was finalised, and endorsed by Parliament. By the end of June 2009, the Electricity Regulation had been formally passed by Parliament and Council.

The Council, then, used much 'energy' on discussing the more political issues, found in the directives and in the ACER Regulation. Nevertheless, this influenced the network development procedure: Particularly the powers of ACER, but also unbundling, would have consequences for what kind of actors would be involved in drafting network codes, e.g.

whether or not these would be TSOs or vertically integrated companies. With a Council that was split on the issue of ACER's powers, the alternative emerging from talks between the Commission and Parliament (non-binding framework guidelines) represented a viable alternative for a compromise the member states could agree to.

4.5 The adopted NC procedure

One of the major changes brought about by the third package was the formal mandate given to TSOs acting within a European organisation, ENTSO-E, to develop network codes on system operation and market issues pertaining to cross-border electricity exchange (Commission interview).[47] The NC procedure, part the Electricity Regulation, had been considered as rather technical, and had not changed that much from the proposal in 2007 until the adoption in 2009. This is confirmed by comparing the two documents, but was also reported in interviews. An informant from the Commission reported that they had been quite surprised by this, noting that the Commission had been provided with a strong mandate (Commission interview). The main amendments were the introduction of framework guidelines – which had the effect of reducing the extent of comitology – and the specification of deadlines.

A rough presentation of the various steps of the final procedure is presented in table 4. Following initiation by the Commission, national regulators within ACER would make framework guidelines, which then would form the basis for the network codes. These, moreover, would be drafted by TSOs acting within ENTSO-E. Subject to approval in comitology, the network codes could be made legally binding as EU hard law. The network codes would be implemented by the TSOs themselves, and this was to be monitored by ENTSO-E and ACER (EU 2009b: art. 8-9). Here, lack of compliance with enacted network codes was also connected to sanctioning: The Commission could impose fines (EU 2009b: art. 22.2), and the member states "shall lay down rules on penalties applicable to infringements" (EU 2009b: art. 22.1). Following implementation, ENTSO-E and ACER were to monitor the effect of the network codes "on the harmonisation of applicable rules aimed at facilitating market integration" (EU 2009b: art. 8.8, art. 9.1). However, the network codes should be "without prejudice to the Member States' right to establish national network codes which do not affect cross-border trade" (EU 2009b: art.8.7).

The ACER Regulation describes the internal voting rules for national regulators pertaining to framework guidelines. Each regulator is represented by one person with one vote, and a two-thirds majority rule applies (EU 2009a: article 14.3). Regarding the internal voting rules of

[47] It should be noted that some aspects of this procedure were left for the involved actors themselves to decide (e.g. how ENTSO-E would consult with market actors), with subsequent developments taking place after 2009 fleshing out the more detailed rules for the procedure in many instances being a practice still in the shaping. As a result, this has been left outside the scope of this report.

ENTSO-E for making decisions on network codes, this was not laid down in the Electricity Regulation.

1. The Commission requests ACER to formulate (non-binding) framework guidelines on areas defined on a priority list
2. ACER consults with stakeholders, and writes framework guidelines. Deadline 12 months
3. ENTSO-E consults with stakeholders, and drafts network codes on the basis of the framework guidelines, taking, if appropriate, regional specificities into account
4. ENTSO-E sends draft network codes to ACER
5. ACER reviews the draft network codes, and writes an opinion on it. ACER could also send the draft network codes back to ENTSO-E with comments.
6. ACER sends the draft network codes to the Commission
7. Following evaluation by the Commission, the network codes might be subjected to comitology treatment, thus becoming legally binding

Table 4: The steps of the procedure for developing network codes.

4.5.1 Aftermath

The development of network codes now became a mandatory task for TSOs, and the codes could become legally binding. This marked a shift from the previous bilateral or regional voluntary negotiations producing recommendations. The NC procedure represented something completely new, which was distinct from previous TSO cooperation (reported by all informants). The task of making network codes was understood as substantial (interviews with Commission, ETSO, Eurelectric, Statnett), and an increase in the use of resources for cooperation was reported (Commission, Statnett interviews). Moreover, cooperation among national regulators was reported as having gone through a change. From a situation with nationally oriented regulators less concerned with European integration, the role and outlook of these actors have changed somewhat, and regulators now had an "important role on the European scene" (Eurelectric interview). The third package had brought about some changes in the roles and interests of actors: It had "reshuffled the power game a bit" (Eurelectric interview).

Moreover, the framework guidelines that had been added to the procedure during Council and EP readings were seen as innovative. A Commission representative referred to this as something completely new as compared to the railway sector, where the agency writes the codes. Here, on the other hand, was a "double system" in the sense that ACER would make framework guidelines on which the network codes made by ENTSO-E would be based on. Thus, despite the end-product – network codes – being comparable to legislation within the railway and aviation sectors,

the process for making network codes is different (Commission interview).

However, some issues were not resolved in the Third Package. This relates to the delineation between what is cross-border and what is national, and between framework guidelines and network codes. Additionally, while specific deadlines were initially accepted by TSOs, subsequent events would push these ahead in time.

Starting with the delineation in geographic scope of cross-border network codes, a clear distinction between cross-border and national network codes was not established. Informants indicated that it would be difficult in practice to establish such a distinction at all, with the two being tightly related (interviews Eurelectric, ETSO, Statnett). However, this is also a legal question (ETSO interview). An informant from the Commission stated that the difference between what could be regarded as cross-border and what could be regarded as national disappears once one goes down into the level of details, noting that, in system operation, "even if there are different control areas, the cooperation between two TSOs in a way includes almost everything they do in their [respective] control areas [i.e. also nationally]." This informant also mused that transmission grids are developing towards being inherently cross-border, whereas the distribution grid remaining a national issue (Commission interview). In the end, this representative explained, this matter could be decided in comitology. Here, a member state would have to raise the objection that a given network code is not cross-border. If accepted, then, the network code would be regarded as a cross-border rule (Commission interview). The comitology step of the process was reported by informants as not finally clarified (ETSO, Statnett, Eurelectric interviews).[48]

Proceeding to the distinction between network codes and framework guidelines, the former was regarded as technical, because the more political aspects had been placed under framework guidelines (Commission, Statnett, ETSO interviews). A representative from Eurelectric, however, displayed scepticism towards this view, drawing attention to the political aspects still inherent in network codes, although acknowledging that framework guidelines had reduced the political content of network codes (Eurelectric interview).Moreover, two informants regarded it possible that network codes might become politicised at a later stage, e.g. in comitology (Statnett, Eurelectric interviews). A former ETSO representative noted that there is a grey zone between framework guidelines and network codes (ETSO interview).[49]

[48] This is in part due to the reform of comitology in general following the decision on the Lisbon Treaty.

[49] This has proved to be an area of continued friction between ENTSO-E and ACER in the network code development procedure, as indicated by a letter ENTSO-E sent to ACER in 2011, where a framework guideline was criticised for being too detailed (ENTSO-E 2011a).

Finally, deadlines connected to the various steps of the procedure were seen as tight, yet likely to be complied with for by TSOs within ENTSO-E. Informants perceived the deadlines as exerting pressure on the TSOs (ETSO, Statnett interviews). An informal scoping phase preceding the actual drafting had been intended to provide all actors, including TSOs, with more time as well as identifying difficult issues at an early stage (Commission interview). However, the time for such scoping was subsequently shortened: The goal set by the European Council in February 2011 to establish an internal energy market by the end of 2014 pushed the schedule for network codes and other TSO tasks ahead in time (Statnett interview). This reduced the amount of time for scoping.

5 Analysis

Returning to the framework for the outcome of interest as presented in Chapter 1, the new procedure was *more precise* in that specific tasks and responsibilities were laid down in a *formal* procedure contained within EU legislation. Most importantly, perhaps, was that compliance with this procedure would be *compulsory*, as opposed to previous voluntary TSO cooperation, and non-compliance was attached to sanctions. This chapter will investigate the factors that caused this change by analysing the empirical data presented in the previous chapter through the lenses of three theoretical perspectives presented in Chapter 2. Finally, the three are drawn together in a discussion of the *combined* insights.

5.1 Power-oriented institutionalism

As noted for the power-oriented perspective in Chapter 2, actors evaluate institutional design instrumentally: gains from the current state of affairs are compared to those expected from a potential alternative. Actors will support a procedure that corresponds to their preferences, taking concerns for relative power into account. Within the power-oriented perspective, in order to enact the NC procedure in its particular form this would have to have followed from the preferences of the actors with formal influence on EU decision-making. Expectations to the preferences were presented in Chapter 2: The *Commission*'s first preference is a supranational solution with tasks delegated to it – its second-best being a supranational solution in which an EU-level body is given the tasks. *The European Parliament's* first preference is the delegation of tasks to an EU-level body with itself included in regulatory oversight – its second-best is that another EU-level body carry out such monitoring. *When delegating*, the preferences of *member states* vary according to the level of the distributional conflict: If this is high, member states will prefer a horizontal network solution; whereas a low distributional conflict allows for the establishment of a single agency. In the following, the expected preferences will be compared with the ones identified in the empirical data. First I will consider whether the actors supported making a formal *EU* procedure, touching upon the matter of integration; before moving on to analysing the content of the procedure as resulting from the preferences and influence of the different actors. Finally, this section will conclude with a preliminary discussion of the impact of interests and power on the formal decision on the NC procedure.

5.1.1 Actors supported an EU-level procedure

First, these actors would have had to be supportive of having a procedure located at a European level. Looking at the period leading up to the presentation of the Commission's proposal, the member states supported the idea of common network codes at the Hampton Court summit in 2005, following a UK U-turn. This was restated at later Council meetings. In its June 2007 meeting, most member states supported the need for better TSO cooperation at EU-level *for cross-border issues*, thus

displaying a concern for national sovereignty. With co-decision requiring the approval of Parliament, its support would also be necessary, and was indeed present: Parliament supported the need for an EU-level solution, calling for better TSO cooperation and technical harmonisation of networks. This means that the member states and EP supported regulating this on the European level – without which the Commission, as a rational actor, would have been less likely to initiate a legislative process for making the NC procedure.

For this procedure to be formally tabled, the support of the Commission was required. The Commission wanted a faster pace in harmonisation of network codes, having evaluated work within existing arrangements (among TSOs and national regulators, respectively) as insufficient. The Commission's preference for an EU-level procedure can be identified in public records, presented in Chapter 4: It saw European harmonisation of network codes as facilitating market integration. Having received positive signals from the Council as well as Parliament, the Commission was interested in tabling an EU-level procedure, because this corresponded to its preference for more supranational solutions. Thus, all the relevant actors supported making an EU-level NC procedure. This broad support was important in bringing about the NC procedure, because its presence enabled the Commission to table a formal proposal. Moving on to the responsibility for the particular tasks within this procedure, I will now look at the more specific preferences of each actor, comparing those expected with the ones found through the empirical inquiry.

5.1.2 Commission wanted to shape, but not draft network codes

The data from Chapter 4 shows that the Commission did *not* prefer to draft the network codes itself. Noting the technical complexity of network codes and the need for an efficient way of revising these, the Commission wanted TSOs to do this through enhanced cooperation within a formal European organisation (ENTSO-E). Nevertheless, giving TSOs the role of drafting network codes could also be seen as a way of circumventing member state resistance, all the while reassuring TSOs that self-regulation would be sustained. Equally safeguarded was the Commission's preference for expedient and centralised EU-level harmonisation, because the previous voluntary self-regulation would become mandatory.

Therefore, the Commission suggested a formal procedure where an EU-level body of TSOs would make the network codes. This corresponds to the Commission's expected *second* preference, but according to the empirical data, this was actually the *first* preference of the Commission. The Commission wanted to entrust TSOs with the drafting task, but this trust was linked to mandatory ownership unbundling. The latter was seen by the Commission as important for assigning TSOs with European network code development, because the Commission did not trust vertically integrated companies to draft neutral network codes. For a Commission interested in market integration, it would not be rational to have vertically integrated companies drafting network codes. Mandating TSOs with network code development was therefore linked to ownership

unbundling as suggested in the Electricity *Directive*. Thus, the Commission was instrumental in delegating this task to unbundled TSOs, because this was more rational given the goal of integrating national electricity markets.

Nevertheless, the Commission *did* allot a role for itself, in line with its *first* preference and institutional self-interest: It would be involved within the early (priority-setting) and final stages (comitology) of the procedure. Moreover, the Commission reserved the right to take over ENTSO-E and ACER tasks if these were to fail to deliver on time. This 'safety mechanism' would enable the Commission to step in and ensure EU-wide harmonisation in case of such non-compliance. This was a rational measure in light of the Commission's dissatisfaction with the lack of speed in voluntary harmonisation. A consequence of its self-interest, the Commission had given itself a strong position regarding regulatory oversight in the procedure, with the input of national regulators or an EU-level regulator being of an advisory nature. The Commission, then, did not prefer to participate in the actual drafting of network codes, but envisaged itself having a role within the beginning and at the end of the procedure. This was a rational strategy, giving the Commission influence without having to spend resources on the actual drafting. This made the Commission suggest a procedure in which TSOs, based on priorities drafted by the Commission, would make the network codes that could be made legally binding through Commission-initiated comitology.

5.1.3 Parliament wanted a stronger ACER

EP was generally supportive of the Commission's proposal. However, it wanted to make some key changes pertaining to regulatory overview. First and foremost, it wanted to strengthen the role of national regulators acting through an EU body (ACER) in the procedure. Thus, it was rational to suggest *binding* framework guidelines. As legally binding, these would likely have to be publicly available, thus ensuring transparency. Moreover, increasing the role of ACER would have the effect of reducing the influence of the Commission within the NC procedure. This means that Parliament was concerned about regulatory oversight, as expected, but that it wanted another EU-level body (ACER) to be responsible for this – its expected *second* preference. Moreover, this indicated a concern for relative power, in that the influence that would be given to national regulators or ACER would come at the expense of that of the Commission – a more powerful Commission could have implications for the inter-institutional relationship between the Commission and Parliament. Thus, the influence of the Commission within the procedure was sought reduced by Parliament.

5.1.4 Member states wanted a weaker ACER and less comitology

For EP's amendments to be sustained, they would need the member states' support. In the Council readings, member states concentrated on the more 'political' issues, regarding the Electricity Regulation as more 'technical'. Moreover, in a rational effort to protect national sovereignty,

a clause was inserted underlining that network codes would apply to *cross-border* issues – by definition not interfering with national markets. Thus, the terminology and this legal clause imply a low distributional conflict, which is consistent with previous research (Kelemen & Tarrant 2011: 932). Nevertheless, the power-oriented perspective would still expect member states to be engaged in discussions on issues of low distributional conflict, tolerating delegation to a single EU-level body (rather than a looser network, as expected in the case of a higher distributional conflict) as a rational step ensuring needed coordination and credible commitment.

In this case, however, the member states were less involved, concerned as they were with more salient issues like unbundling. However, member states had already shown their support of what would eventually become ENTSO-E *prior* to the formal proposal was on the table. Additionally, during the legislative process, the member states discussed the role of ACER and comitology in general – both aspects that have implications for the procedure for network code development. Member states had different preferences on ACER, but agreed on establishing this single EU-body, as supported by the Commission and Parliament. Nevertheless, due to diverging interests, the member states supported neither a stronger ACER nor binding framework guidelines. The Commission, having written an opinion on Parliament's suggested amendments, also responded negatively to this, stating that it was legally unviable. Non-binding guidelines were however supported by the Commission. This could be understood in light of the Commission's interest in getting its proposal enacted, which could be achieved by facilitating agreement and compromise between Council and Parliament. Because sufficient member state support could be established for non-binding framework guidelines, this became part of the NC procedure.

Comitology was also discussed, with member states having a general preference that this should be restricted to making implementation rules, and not to make general rules – network codes would be located in the latter group. Despite the goals of comitology being to ensure member state control of implementation of EU legislation at a lower level of detail, Parliament and member states were concerned about the extent of comitology. The reason is that the Commission arguably has a larger influence within comitology than within the co-decision procedure, as it often holds the chair of a committee. Thus, the contours of institutional self-interest on behalf of all actors are revealed here: Making general rules within comitology could give the Commission more relative influence, which neither member states nor Parliament were interested in. Nevertheless, given the level of technical detail, member states were not interested in the alternative to comitology: Discussing this in inter-institutional negotiations with Parliament and the Commission. Thus, member state and Parliament's interests did not exist in a vacuum, but were rather seen in relation to the use of limited time and resources. Moreover, the inclusion of framework guidelines would reduce the role of comitology within the procedure, thus reassuring member state concerns for too much comitology. Because EP had attained a role within

comitology following the previous comitology reform and because it was reassured by the Council's acceptance of framework guidelines – although non-binding – it could support the proposed comitology. The acceptance of Council and Parliament on this was instrumental in retaining comitology in the procedure for developing network codes. See table 5 for a list of factors that reduced in particular member states' concern for distributional implications of the NC procedure.

- Member states could support the compromise reached between the Commission and EP
- Non-binding framework guidelines reduced the extent of comitology
- Network codes were regarded as having low distributive implications
- Member states were reassured because network codes would apply to *cross-border* issues
- Framework guidelines would be made by an ACER controlled by national regulators
- Network codes would be made by an ENTSO-E controlled by national TSOs
- Commission would remain in the background *unless the former two organisations could not agree internally*
- National representatives could control the Commission within the comitology stage

Table 5: Factors that contributed to Council support of the NC procedure.

Reassurance had also been provided to member states by the cross-border clause (mentioned above). This could be utilised by member state representatives in order to contest a given network code. However, in practice the burden of proof would be on the member state representatives rather than on the Commission: During comitology, the argument would have to be made that a given network code is *not* cross-border instead of the requirement that it *is* cross-border. If separating between the national and the cross-border of transmission networks in Europe were an easy task, this would have fewer implications, but as confirmed by informants as well by previous literature (Squicciarini et al. 2010: 13), such a distinction is hard or impossible to make. As the usage of comitology was accepted by the member states, however, this remained part of the procedure.

5.1.5 Conclusion of the power-oriented analysis

As a result of the broad consensus that TSOs would draft network codes, conflict of interest regarded the role of ACER, and the extent of comitology. On binding framework guidelines and the role of ACER, disagreement existed between, on the one hand, the Commission and Council, and Parliament on the other. Unable to muster enough support, Parliament had to drop the 'binding' in binding framework guidelines. Comitology, however, gave rise to a different constellation of actors, with

the Commission on one side, and Parliament and member states on the other. Comitology openly concerned the institutional balance of power, as a substantial set of rules would be treated through comitology rather than through inter-institutional negotiations. Nevertheless, the Commission was able to gather sufficient support to its position due to two factors: *De facto* reduction of comitology by acceptance of the amendment of (non-binding) framework guidelines, and the level of technical detail in network codes. Linking comitology and framework guidelines allowed for a compromise among the actors, which was necessary in order to muster sufficient support as necessary for adopting the NC procedure. Thus, the adoption of the NC procedure as well as its specific allocation of tasks and responsibilities can be traced back to the interests of the actors considered here (Commission, Parliament, member states).

5.2 Historical institutionalism

Historical institutionalism – as presented in Chapter 2 – takes a temporal perspective, and regards outcomes as resulting from a path-dependent development. Stability is maintained by positive feedback mechanisms that keep subsequent developments on a given path. This process of cause and effect is located in (and influenced by) a greater social context. Path-dependency eventually brings about the outcome to be explained. Change can occur due to a critical juncture that introduces new and other feedback effects: With new positive feedback, the direction of the path shifts – thus creating new legacies. It is via these mechanisms of positive feedback that the critical juncture can cause the outcome. For the old path as well as for the emerging and new one, operationalized indicators for positive feedback will be identified, with positive feedback located in a larger context of sector-specific reform.

Positive feedback effects are here placed in two groups: The first group comprise of distribution effects, which concern changes in the distribution of formal influence. The second group consist of coordination effects, specified as the support of and resource usage on institutions (vested interests and invested resources) by actors that are empowered by distribution effects. In the following, an account of this path-dependency will be presented in a chronological order. Here, a switch from a decentralised towards a centralised path is identified. Decentralisation entails that the individual organisations engaging with transnational institutions (cross-border cooperation between non-state actors) are ensured a high degree of autonomy. Opposite, centralisation reduces the influence of individual organisations, because an individual organisation can be overruled. It should be noted that the temporal delimitations of the sections below are approximate.

5.2.1 Path of decentralisation (prior to 1986)

Cross-border cooperation during the pre-liberalisation period represented a path-dependent decentralism. This path developed in the context of

post-war reconstruction and national electricity systems.[50] Vertically integrated organisations with production interests controlled the transmission networks. These organisations had vested interests in decentralised systems of cooperation in order to retain control of their respective national markets. Nationally oriented organisations supported decentralised cross-border cooperation (van der Vleuten & Lagendijk 2010). Transnational cooperation on cross-border electricity exchange that emerged during this period followed a path of decentralism. The interests of the national organizations fed into the existing transnational cooperation, which consequently was kept at a minimum, established for the purpose of ensuring stability of system operation and security of supply. Transnational associations were allotted with relatively modest resources compared to the use of resources on national matters. That most resources were used nationally reinforced the national orientation. Subsequently, the relatively low cross-border activity contributed to reinforcing this decentralised path and the national orientation of these organisations.

5.2.2 Critical juncture: Initial decisions (1986-1996)

During this period, developments would be set on a different path, pointing in the direction of more centralisation. This period was contextualised by a momentum from the single market initiative, and by the end of the Cold War, which allowed for expansion of the UCPTE synchronous zone (the later UCTE zone) to Southern and Eastern Europe. The context, then, was permissive to centralising tendencies.

Within the EU, the influential organisations at this stage were the Commission and the Council. Parliament mainly had a consultative role. The Commission sought to establish an internal electricity market in Europe, but its ambitious measures were met by resistance in the Council. Emerging from prolonged negotiations among these two bodies, an approach was established: Energy market legislation would be developed incrementally, yet existing transnational cooperation could be enhanced. The former reflected member states' concern for national sovereignty, as did the latter, because existing associations were decentralised and voluntary.

During negotiations with the Council, the Commission had sought to facilitate progress in attaining consensus through bottom-up processes in which it addressed the industry directly (Eikeland 2004). Although the ensuing top-down legislation was watered out, this would subsequently interact with voluntary coordination. The compromise, then, a combination of incremental legislation and voluntary transnational cooperation, would affect subsequent developments: Here was a scope for action that the Commission wanted to exploit in order to push for more top-down legislation, but whose effect would take perhaps unintended twists and turns.

[50] For a historical account, see van der Vleuten and Kaijser (2006).

The combined approach represented a critical juncture because it would change the direction of the path towards more centralisation. This would eventually bring about the NC procedure in its particular form, notably centralised outside the formal EU apparatus. This critical juncture stretched out in time: Energy market integration had been discussed since 1986. The end of the critical juncture is difficult to date precisely, but at least the first electricity directive in 1996 marks its definite end. This was identified as a critical juncture because of its observed effects in terms of new and different mechanisms of positive feedback.

5.2.3 Emerging changes due to positive feedback (1997-2006)

Given the nature of critical junctures and positive feedback, the changed course would need time to become manifest in institutions. In early stages of a sequence, then, decentralised cooperation would still be in place. Over time, this would start changing in accordance with positive feedback gradually reinforcing the new tendency. Moreover, interruptions in supply during this period would contribute to strengthen this path of centralisation.

Distributive feedback effects: Structural changes within member states

EU energy market legislation was adjusted gradually. In 2003, stricter requirements for unbundling between production and transmission (horizontal specialisation within the industry); and independence of national energy regulators from industry and national governments (vertical specialisation within government) were passed by the EU as part of the second package. These incremental changes within top-down legislation pointed in a more centralising direction, indicating a new path. In some countries, this was preceded by or coincided with national reforms that supported this tendency.

A development towards horizontal specialisation within the industry had started with the requirement for unbundling of accounts in the first package, and was reaffirmed with the second package, which required legal unbundling. However, close ties and in practice vertical integration remained in place in several member states, changing more slowly. Nonetheless, the outlook of organizations with transmission activities was changing, because production interests were becoming relatively less important with each step towards stronger unbundling, and transmission interests thus becoming relatively more important. This structural change contributed to reducing the influence of production interests, which had been important for maintaining the previous decentralised path.

Within government, vertical specialisation meant that national energy regulators were emerging as separate entities from national governments. This development was reaffirmed with the second package, where the function of regulatory overview was to be placed in an organisation that was separated from the more political decision-making within national ministries – a change that has been prominent in many other sectors (Christensen & Lægreid 2006a). While independent from the industry,

however, many regulators maintained close ties to their sector departments. Nevertheless, the political influence on regulatory overview was, relatively speaking, reduced. This contributed to reducing the relative influence of national governments, whose concerns for national sovereignty had been important for a decentralised path-dependency. Thus, the incremental legal changes following from the critical juncture would trigger changed outlooks as the actor landscape underwent structural changes.

Coordinative feedback effects: New outlooks within transnational institutions

These two processes of structural change (horizontal and vertical specialisation) reinforced the centralising path, because the changes at the national level fed back into cross-border cooperation. Thus, distributional changes were decisive for preparing the scene for the NC procedure: National regulators as separate entities came into being, and TSOs became increasingly separated from producers. This consequently started affecting the vested interests of these actors as they were engaging within transnational associations.

The character of regional associations like UCTE and Nordel changed as they were redefined as *TSO* associations (in 1999 and 2000, respectively). Coinciding with the restructuring of transnational TSO associations was centralisation among associations for cross-border cooperation among producers, seen with the merger of UNIPEDE and Eurelectric (1999). Notably, distribution networks, to a lesser extent subject to unbundling requirements, were part of the new European producer association (Union of the Electricity Industry-EURELECTRIC). Transnational cooperative associations on transmission networks, on the other hand, was redefined, reducing the relative influence of producer interests, as opposed to what was the case for distribution networks. This illustrates how the changes of transnational TSO associations were directly linked to the structural changes occurring at the national level, signalling a path-dependent development, where changing outlooks were fed into transnational TSO associations via positive feedback, thus indicating that a critical juncture had indeed taken place.

Equally indicative of the critical juncture was the Commission's efforts to enhance voluntary cooperation. The Commission supported the founding of a TSO association at the European level (ETSO), and actively established a European network for regulators (ERGEG). The emergence of both associations had been facilitated by the structural changes at the national level ensuing from top-down EU legislation, and by the Commission's bottom-up strategy. As European associations, this reinforced the centralising tendency. Towards the end of this period, moreover, a changed position among TSOs was emerging, with an increasing willingness to engage in cross-border matters. This too prepared the ground for the path of centralisation.

The creation of European associations moreover strengthened the role of the Commission. Having played a central role in facilitating their emergence, the Commission had carved out an institutional involvement for itself on a regular basis: The Commission participated in ERGEG, met with ETSO, and organised Florence summits. As a result, the structural changes had affected vested interests, which changed the landscape of transnational associations – and this produced a distributive feedback effect in terms of giving the Commission a role.

Nevertheless, the new or redefined transnational associations of TSOs and national regulators, respectively, remained decentralised in their structures, indicating that it was still early in the sequence of the centralising path. Signs of the old path could be recognised: Cooperation was voluntary and decisions consensus-based; regional TSO associations continued exist; and ERGEG could only make recommendations on cross-border issues because national governments had not delegated such powers to the EU-level. Moreover, in terms of resource usage, neither TSOs nor national regulators were using much of their capacity on cross-border issues, focusing rather on their national markets. Thus, large shares of their capacity were being used on matters that did *not* entail cross-border cooperation. For national regulators in particular, this was also the result of a lack of competence for making binding decisions within ERGEG. For TSOs as well as regulators, then, the effects of the old path could still be observed, indicating that this was relatively early in the new path-dependent sequence initiated by the critical juncture.

The Commission, on the other hand, was directing relatively large resources towards carrying out investigations and making benchmarking reports identifying shortcomings of the existing regulatory framework. Thus, the Commission's resource use had shifted according to the new path, indicating that the developments were occurring faster here, which would contribute to strengthen the centralisation path. The vested interests of the Commission were moreover affected by its interpretation of the blackouts, which strengthened its support for more centralised cooperation on cross-border electricity issues. Although the Commission preferred more supranational solutions even prior to the blackout, this crisis strengthened the direction set by the new path. As such, this is a crisis whose effect differs from that usually expected within historical institutionalist research: Instead of undermining an existing path-dependent development, in this case it contributed to strengthening one that was already emerging according to a critical juncture.

The vested interests of organisations were adjusting according to the new path, as the transnational associations reflected the structural changes in organisations at the national level, and of the Commission's bottom-up strategy. This illustrates mechanisms of positive feedback, because the structural changes at the national level had started changing the outlook of the organisations participating within transnational association that subsequently were redefined, and new European associations had been established. This paved the way for a more centralised path, because the dynamics within transnational cooperation were changing as positive

feedback maintained and reinforced a path developing in this direction. Without the changes in the actor landscape, the TSOs and the national regulators would not have been available to play a key role within the new NC procedure, and ETSO and ERGEG paved the way for ENTSO-E and ACER.

5.2.4 Path of centralisation (2007-2009)

The consolidation of the new path occurred in a context of heightened attention to climate change and sustainability, which went together with a growth in electricity production from renewable energy sources that brought intermittency – due to natural fluctuations – already noticed by the TSOs operating the transmission networks. This context would facilitate the path of centralisation, because it increased the need for coordination.

National regulators and TSOs had had the chance to do some first experiences within EU-level associations like ERGEG and ETSO, respectively. TSOs had made experiences with negotiating on voluntary recommendations, where the challenge of ensuring credible commitment and compliance made them welcome the idea of network codes becoming EU law. Moreover, because it could now coordinate with a lower number of associations due to this centralisation, this favoured the position of the Commission of integrating as the expense of member states' scepticism of this.

As the Commission tabled a proposal, then, the TSOs subsequently supported it. Not only did the proposal allow TSOs to continue making the network codes themselves, thus retaining an element of decentralism – but these would become binding, thus alleviating TSOs of efforts for ensuring compliance themselves. Bindingness (as EU hard law) implies centralisation because it reduces the individual influence of TSOs in deciding on a course of action. Thus, the vested interests of TSOs had been subject to positive feedback from the critical juncture: Structural changes at the national level fed into existing and new transnational associations, which subsequently shifted the vested interests of these into supporting centralisation: TSOs gave up individual autonomy retained within the old path of decentralised cooperation in order to gain collective power and binding codes. Moreover, this direct empowerment of especially TSOs can be interpreted as the outcome of a chain of events following the critical juncture: Gradually emerging as separate organisations following unbundling, interacting in redefined and European TSO associations, they were now given a European mandate within a single European TSO association, thus fusing top-down legislation with bottom-up cooperation.

National regulators and producers/suppliers had in the past supported the decentralised model – the former as part of a national ministry, with close ties to the government, and the latter as part of a vertically integrated company. The European associations of both, ERGEG and Eurelectric, respectively, did not respond to the proposal by defending the existing

decentralised model, but rather lobbied for strengthening ACER, which indicates a step in the direction of centralisation. Affected by the increasing impact of unbundling, Eurelectric producers and suppliers had interests increasingly diverging from those of TSO – although, given the initial starting point and the uneven progress in unbundling across member states, overlaps in ownership and interests still existed. Nevertheless, that Eurelectric regarded TSOs as partial and diverging from those of their members is a strong indicator of just how much had changed from the days of vertically integrated companies. Now, rather than backing the TSO position, Eurelectric instead supported the position of ERGEG and CEER that network codes should be subjected to regulatory overview by national regulators. This alliance is path-dependent because it follows from the structural changes that had occurred earlier in this path-dependent sequence. Now, the conflict lines had shifted to intra-sectoral ones, rather than the previously more relevant national ones.

5.2.5 Conclusion of historical institutionalism

The adoption and shape of the NC procedure was the eventual outcome of a critical juncture. This is also an account of resistance to change, because change only arose when the mechanisms of positive feedback changed, which signalled that a critical juncture had taken place. Vested interests in a decentralised model of cooperation pointed in the same direction as member states reluctant to delegate power in energy matters to the EU-level. However, the critical juncture over time shifted the path towards centralisation by introducing a different dynamic in the mechanisms of positive feedback. The critical juncture, moreover, was the initial approach taken to internal energy market within the EU: Incremental top-down legislation combined with voluntary and bottom-up transnational cooperation.

The shape of the NC procedure reflects the localisation in a path-dependent sequence. Not long after the critical juncture, it was enacted at an intermediate (if not still fairly early) stage of the sequence. As a result, while positive feedback has influenced the procedure in a more centralised direction, clear signs of the continued presence of decentralised elements can be identified, cf. table 6.

Decentralised	**Centralised**
Regional cooperation sustained…	…yet carried into a single TSO association
Internal ENTSO-E processes not regulated by EU law	…although EU is to give an opinion on it
ACER governed by a board of national regulators with a seat each, voting with absolute majority	Absolute majority, while less centralised than simple majority, is still a majority vote
Framework guidelines will be non-binding	Framework guidelines will guide network code development
Network codes do not necessarily become binding	…but they can be, and TSOs favour binding codes
Network codes are *cross-border* codes	Network codes will also be *common.* And distinction between cross-border and national hard to establish – burden of proof to argue that something is *not* cross-border

Table 6: Decentralised vs. centralised elements in the NC procedure.

5.3 Sociological institutionalism

From the sociological stream within institutionalist theory, mimesis was picked for explaining the NC procedure, motivated by an interest in tracing the origins of the institutional *shape*. Organisations seek legitimacy from their organisational field, thus imitating practices that are positively evaluated. A practice can spread as a trend or fashion within this organisational field. This is in particular expected to influence behaviour in a situation characterised by uncertainty and/or dissatisfaction with existing policy. Specifically, this perspective analyses the comparisons that the Commission made when drafting the proposal for the procedure. Moreover, with amendments being made during the subsequent readings in Parliament and Council, the origin of these revisions will subsequently be analysed. First, however, a brief look at comparisons drawn in the past.

5.3.1 From special to one of the networked ones

Prior to the first package, electricity was treated as ‘special’, a categorisation that would start changing gradually as liberalisation and competition was introduced to the electricity sector. Starting with the idea of an internal *energy* market, this was drawn from the general internal market. From the start, moreover, legislation for the two sectors of

electricity and gas, respectively, developed in tandem, with largely parallel legislative acts in the three packages.

During this period the Commission drew inspiration from similar sectors like telecom and civil aviation, but also from 'early movers' like the UK and the Nordic countries that had already liberalised their national electricity markets. Subsequent legislation also to a large extent drew on the internal market and competition principles, e.g. that access to cross-border networks should be granted through *market*-based methods (EU 2003). Thus, models from similar sectors were utilised, perceived as similar due to the common trait of being network-bound (i.e. transport of the given good/service being dependent on infrastructure), with sectors like energy and telecommunications representing "sectors close to the state" with a history of self-regulation (Mayntz & Scharpf 1995). The model of liberalisation, moreover, reflected a major trend at the time as part of the New Public Management representing a package of: "Structural disaggregation, autonomization, agencification, devolution, deregulation and market competition" (Christensen & Lægreid 2006b: 3).

The Commission was not content with the existing cooperative schemes, regarding harmonisation as proceeding too slowly, and considering cooperation insufficient for an increasingly complex sector. As the second package entered into force, the Commission had signalled its dissatisfaction with the status quo: Existing legislation was too weak, and many member states had failed to implement it. However, not previously regulated in a formal EU procedure, making a formal *procedure* for common network code development would represent a new step. Thus, there was some uncertainty as to how this should be done, which opens for the possibility that inspiration was found and comparisons drawn from the organisational field: Imitation of models could impact the procedure for network code development.

5.3.2 Existing practices and other network sectors

In the following, the different parts of the NC procedure as initially proposed by the Commission are traced back to their origins, showing how carriers facilitated diffusion by imitation. The proposed ENTSO-E was to build on existing cooperation, indicated by the referral to this as the *ETSO+* option. Here, existing routines for voluntary and regional TSO coordination on network codes served as a model for the new procedure. The Commission was familiar with these routines through its meetings with TSOs and their associations within the framework of the Florence Forum. Through such direct relations, then, routines serving as models could travel, thus explaining the major role allotted to TSOs within the formal EU procedure on network code development.

This was also affected by framing: It was communicated that existing cooperation could be carried over into the new arrangements (e.g. regional groups within ENTSO-E), which thus contributed to sustaining the role given to TSOs within the formal EU procedure, because this new procedure was inspired by existing practices. This is also a message that

had been conveyed from the TSOs to the Commission prior to the making of the proposal. Here, a connection was made between the role of TSOs regarding national transmission networks and their role in developing the national market on the one hand, and cross-border transmission networks operated by TSOs which could give TSOs a role in developing a European market on the other hand. The suitability of this is indicated by the Commission representative's referral to TSOs drafting network codes as a 'pragmatic approach' – it might not be ideal, but it is adequate. Consequently, it became part of the procedure formally tabled by the Commission. This means that the an existing model of self-regulation in this sector converged with the newer trend of autonomization and agencification, as a separate body would make general and binding laws (although it would have to be approved within comitology).

The shape of regulatory overview, of which ACER would be part, for the network code procedure was laid down in the proposal for a new Electricity Regulation, but the shape of the new EU-level regulatory agency was also laid down in the ACER Regulation. For ACER, a number of comparisons were drawn: These represented different models of European networks or groupings, but were found to be unviable in light of legal constraints or the goals to be achieved by establishing a new EU-level body. On this basis the Commission concluded that a regulatory EU agency would be the suitable solution, and a viable comparison was found within the railway sector: The European Railway Agency, established in 2004, and operational since 2006, would serve as inspiration for ACER. A brief look at the European Railway Agency reveals a number of commonalities with the electricity sector. In both sectors, infrastructure plays a pivotal role, transporting goods via networks (although few people travel by electricity networks), and operating the system in a safe way is an important task. The Railway Agency, moreover, is tasked with facilitating cross-border transport by harmonising technical standards (EUROPA.eu 2010). Interoperability between the national networks, then, is the goal for the Railway Agency as would be the goal for the future energy agency. Travelling via the carrier of symbolic systems, the railway agency was theorised by generalising its tasks – a functional definition pertaining to task of regulatory overview – thus enabling it to serve as a model that could be applied elsewhere.

Moreover, at the time, the two sectors of energy and transport were still organised within the same Directorate-General in the Commission (DG TREN). Thus, individuals working with the two sectors were colleagues, and were working in the same building at the time. This facilitated an understanding of similarity, as well as direct meetings and social ties among individuals thus working within the same building. As such, the relational systems carrier was available. Within this relational system (DG TREN), moreover, models utilised were available, as individuals working with energy could look to transport for practices. As a result, the railway agency offered a theorised model from a sector perceived as similar, and this model was imitated within the electricity sector, resulting in ACER. This meant that a model was not found within the

organisational field of the Commission, but rather *within* it. Moreover, this was not from another DG, but from the same DG TREN in which energy was organised.

Regarding comitology, inspiration had been drawn from the telecom sector, which illustrated how such detailed technical rules could be made legally binding, thus providing a model for how it could be done. Comitology within the telecom sector was moreover regarded as having delivered results. Further, pertaining to the legislative output resulting from comitology – binding codes – comparisons were also drawn to the railway and aviation sectors, respectively, looking at rules for airport safety from the latter. Thus, existing models that were sufficiently general (i.e. theorised) in sectors that were perceived as similar, practices could be imitated. Moreover, these were deemed worthy of copying – imitating – because they were regarded as having produced good results. Making detailed rules binding through comitology as within these similar sectors, then, was deemed not only possible, but also attractive. As a result, this imitation influenced the comitology step within the network code procedure. Here, then, a model from a different DG, yet one also belonging to the Commission was used.

5.3.3 A model for division of labour

As the proposal moved from the Commission to Parliament, the organisational field changed somewhat. No longer within a context of the EU's executive branch, it had now moved to realm of party politics of the European Parliament. The major amendment suggested – with implications for the extent of comitology, as noted earlier – was the concept of framework guidelines. This was proposed by a Parliament concerned with legitimacy, thus representing an organisation promoting a norm as depicted in Finnemore (1993). The legitimacy-based motivation behind Parliament's behaviour is indicated by its regard of the influence envisaged for TSOs in the procedure as too large and inappropriate. An appropriate division of labour, on the other hand, meant that regulators, not companies, should carry out regulatory tasks, i.e. rule-making. The characterisation of this as a 'natural' division of labour implies a taken-for-granted-ness indicative of the cognitive understanding of institutions. Thus, Parliament's concern for a suitable specialisation between ACER and ENTSO-E reflected a theorised model. As a theorised practice, this model had originated at the national level, yet diffused to the European level: Enhancing the role of ACER (amongst others by means of framework guidelines) was seen as corresponding to the model found on the national level. Moreover, Mogg (head of ERGEG and CEER) had stated that a stronger ACER was required in order to safeguard the 'public interest' – an argument associated with practice at the national level as well as indicative of the legitimacy of this model. Additionally, initial EU-level application of this model could be identified: National regulators had already been making guidelines within the Florence mini-fora and ERGEG. Additionally, direct relations among John Mogg and EU officials provided a relational link that facilitated this exchange of

ideas. This might have strengthened the cause for framework guidelines that subsequently were promoted by Parliament.

5.3.4 Conclusion of sociological institutionalism

This case shows that the more appropriate organisational field might be network sectors in general rather than other DGs, or other organisations within the same sector. This indicates that the concept of an organisational field is fuzzy, because delineating what constitutes such a field is not obvious, but might vary from case to case. This highlights the importance of at least complementing the notion of an organisational field with that of relational carriers, where perceptions of similarity can stretch across sectors. In this case, then, models from other network-sectors were imitated, notably from railway (regulatory agency), telecom (comitology) and aviation (network codes). That models from similar sectors served as inspiration is consistent with Pollitt (2012 - forthcoming), who singles out the airline and railway sectors, respectively, as having served as models for energy sector liberalisation. Within the two former sectors, deregulation that had occurred at an earlier point in time was perceived as 'successful' (Pollitt 2012 - forthcoming: 2). Thus, the Commission had perceived practices within these sectors as appropriate models that moreover were applicable. Here, then, a perception of similarity (relational system) was an important carrier for generalised models from these sectors to the electricity sector, which influenced the procedure for network code development. The clearest indication of mimesis is found for ACER, which imitated the railway agency.[51]

Nevertheless, still indicated is that the context in which imitation occurs could affect the sources of emulation. As the context changed from the Commission to Parliament, models were to a larger degree drawn from national regulatory arrangements within the same sector than from European regulatory arrangements within other sectors. Here, an 'agentification trend' had emerged especially since the 1980s, entailing the establishment of regulatory agencies for carrying out the administrative part of executive politics at "an arm's length from political considerations" (Martens 2006: 126). ENTSO-E and ACER both reflect this trend. These two bodies were mandated with rule-making (although ACER's framework guidelines would be non-binding) that would take place *outside* the legislative process within the EU that would involve Council and Parliament. Moreover, in both cases, the organisations represented within ENTSO-E and ACER were TSOs and national regulators, respectively. These organisations at the national level have also increasingly become independent from national governments. As such, the general fashion found within the organisational field served as a model subsequently imitated.

[51] It is therefore surprising that alternative models for regulatory overview deemed unviable were expressly mentioned in the impact assessment, whereas the model evaluated as suitable was not.

Nevertheless, the NC procedure resembles a bricolage because it reflected the imitation of different models, drawing on different practices, cf. table 7.

Model	**Copy**
Railway agency had a larger role in code drafting	For ACER a more advisory role was proposed – with code drafting remaining with the TSOs through ENTSO-E. Double system as innovation
Division of labour at the national level: National regulators, while less involved in the operative part of cross-border transmission, would at least in some member states be able to veto the equivalent of a network code through their regulatory oversight over their national TSO	This option was not available for ACER vis-à-vis ENTSO-E

Table 7: Models for and imitation within the NC procedure.

5.4 Drawing the perspectives together

In this section, the complementarity and contradictions in the explanations of power-oriented, historical and sociological institutionalism will be considered through their combined effort at explaining that the NC procedure in its particular form. Here, I will look into how they interact with one another, and evaluate whether or not this contributes to a deeper understanding. Whether or not the complementary evidence represents a necessary or sufficient explanation of the outcome will be treated (George & Bennett 2005; Ragin 2000). For the analytical assessment announced in Chapter 3, necessary factors entail that this specific procedure would not have been enacted *without* their presence, requiring in addition that these – or their totality – are sufficient. Moreover, an evaluation of whether or not a different outcome might have been consistent with the presence of these factors – in part a matter of sufficiency, as factors might be necessary without being sufficient, thus making it possible that another outcome might have occurred *despite the presence* of the causal factors, if only necessary and not sufficient.

At its most basic level, the procedure would not have been formally enacted had it not – as explained by the power-oriented perspective – been proposed by the Commission, and gained the support of EP and of the Council. Regarding the latter in particular, the member states would not have supported this procedure if they had perceived of it as contrary to their interests. An indicator of this is the attempt by EP to introduce

binding framework guidelines, which due to a mixed reception among the member states was subsequently dropped (although non-binding ones were sustained). While necessary, in isolation this offers a rather thin account as to why the procedure was enacted in its particular shape, making it insufficient. Moreover, the Commission's proposal remained largely unchanged – with the noted change pertaining to framework guidelines, as well as other minor revisions – until its adoption, which also is not explained. If the Commission had anticipated the positions of the other two EU organisations as part of a rational strategy aimed at getting its own proposal enacted, this does not explain why it had *not* taken them for regulatory overview, on which discussions did occur. More importantly, it does not account for the particularities within the NC procedure.

Here, then, the historical perspective provides a deeper and complementary explanation. The reason why the EU could and would pass this procedure in its particular version, as well as why TSOs and national regulators were available and willing to partake in it, is seen as structural. The NC procedure ensued from a critical juncture constituted by an early de facto compromise between the Commission and Council: A combined approach was taken by the EU in energy market regulation, consisting of incremental legal changes and buttressing voluntary transnational cooperation. Although the isolated historical analysis pointed to this critical juncture as a cause that eventually brought about NC procedure, combining the historical perspective's account of the new actor constellations that had emerged with the power-oriented perspective's take on interests and influence, a stronger account is offered.

While the power-oriented perspective regards the major EU bodies as the actors, it does not exclude the option that these might have been lobbied by sub-national actors. Superior expertise on network operation as well as organising market exchanges gave TSOs leverage in the Commission's consultations prior to making the proposal. Given a strong cross-border European mandate, the TSOs supported this proposal. However, their actions under this mandate could not be sufficiently controlled by national regulators, for whom no corresponding mandate had been foreseen. Thus, the Commission's proposal was decisive for activating national regulators. Seen through the lenses of relative power, national regulators were interested in retaining their relative position vis-à-vis TSOs. Producers/suppliers were equally concerned. As a result, these joined forces, and mobilised in order to amend the proposal. While interested in regulatory oversight, the national regulators did not have the technical expertise to draft network codes. As a result, neither national regulators nor producers/suppliers contested that TSOs should do this.

While a traditional approach to lobbying would expect sub-national actors approaching their respective national representatives, in this case the Council and the member states were evaluated as less receptive for lobbying efforts, because the member states were giving much attention to other issues within the third package – issues that were more politically salient and had visible distributive implications. This means that the

temporal co-occurrence of issues on the agenda influenced which EU body that the coalition sought to address – with member states busy, the coalition turned to Parliament. Evaluated as receptive to new input and as generally supportive of regulatory overview, Parliament was targeted for lobbying efforts.

Once they had been mobilised, national regulators had the necessary expertise that enabled them to approach the political arena. This political knowhow stemmed from previously having been part of a sector ministry. This aided them in getting their voice heard in Parliament, to the effect that binding framework guidelines were included in Parliament's amendments. However, the Commission and the TSOs resisted the notion of ACER making binding framework guidelines. Given mixed views in Council, this was subsequently dropped, although a compromise was found in non-binding framework guidelines.

Considering actors other than national governments lobbying the EU through their respective transnational associations reveals a stronger explanation of the specific allocation of roles to ENTSO-E and ACER than what is accounted for by considering the interests of the Commission, EP and Council, or the path-dependent development alone. The structural changes identified by the historical perspective forms a crucial factor here, because it draws attention to the changing actor landscape and the emergence of new conflict lines. This influenced the dynamics among actors seeking to influence the decision-making process as presented within the power-oriented perspective.

Moreover, the power-oriented perspective shows how, despite subject to similar structural developments, the TSOs were to a larger degree empowered at the European level within the NC procedure than what was the case for ACER – the member states differentiated among the two, regarding the distributional implication greater for the latter. This combined explanation offered by the power-oriented and the historical perspectives appears necessary and sufficient, and given the presence of the causal factors noted here, it seems less likely that another outcome would have ensued.

While a historical account could have traced the division of labour at the national level to the structural changes, it does not explain why this coalition to such an extent were mobilised by the Commission's proposal. Adding the sociological perspective's notion of legitimacy could moreover explain the strong reaction by national regulators and producers/suppliers alike. National regulators and producers/suppliers alike interpreted the Commission's proposal as giving regulatory tasks to TSOs. This could be seen as representing a violation of what had been established as an appropriate division of labour within the energy sector, but also more generally, reflecting a broader trend. Triggering self-interest as well as concerns for appropriateness, the subsequent mobilisation of national regulators and producers/suppliers becomes more understandable. Thus, the distinction between the two logics of action is not absolute in this case, which is a general problem noted in the

literature (March & Olsen 2004). As the division of labour was a broader trend, moreover, this facilitated resonance among other actors to the cause forwarded by the coalition, and reduced opposition. Without the leverage provided by legitimacy, it seems less likely that the coalition would have been able to push through an amendment substantially increasing the role of ACER within the NC procedure.

6 Concluding remarks

In this final chapter, the main results are summarized, and conclusions presented. In order to evaluate the foundation on which the findings stand, moreover, attention is given to the methodological and theoretical choices taken in this report. The findings are then used as a basis for to draw potential implications of the development of EU energy market regulation, and the question is raised as to the effect on the pace towards the internal energy market.

6.1 Research question and main results

The research question was motivated by an observed puzzle: European organisations were given a clear mandate to make EU-wide rules in spite the observed resistance on part of the member states to delegate power on energy issues. The research question addressed in this report, then, is *why the procedure for developing network codes was enacted in its particular form*. The research objective was to explain why European organisations had been given a mandate – formalised within this procedure – to make rules that would apply across the EU.

As indicated by the presentation in Chapter 1, an institutional approach was taken in this report, analysing it as a case of institutional change of a procedural rule. In Chapter 2, three complementary theoretical perspectives to be applied were presented. While not rendering an exhaustive explanation – additional perspectives could theoretically have been chosen – it provided a stronger account than what a single perspective in isolation could offer. The power-oriented perspective expected the change and design of institutions to be the product of rational actors with formal influence within the EU legislative process that acted on given preferences. The historical perspective addressed the effect that initial choices constituting a critical juncture could have on later developments, and expected mechanisms of positive feedback to produce incremental adjustments that would eventually bring about the outcome of interest. Finally, the sociological perspective expected institutional change to be interrelated with conceptions of legitimacy existing within organisational field, where individual organisations would adjust through imitation.

The separate analysis from the power-oriented perspective found that the procedure for developing network codes (NC procedure) was found to follow from the interests of the Commission, European Parliament (EP) and the member states of the Council. The procedure was seen as having low distributional implications by the member states. This was partly the result of the technical dimension of the rules to be developed, and partly ensured through inserting a clause that formally limited the rules to cross-border issues. The Commission and the European Parliament supported the procedure, because this followed from their preference for EU-level arrangements. The need for compromise between the supranational preferences of Commission and EP on the one hand, and the member states' national preferences on the other hand, resulted in the delegation

of roles and tasks to separate EU-level bodies consisting of transmission system operators (TSO) and national regulators, respectively. Member states, Commission and EP regarded it as efficient to have the TSOs draft the network codes themselves given the need for technical expertise for developing the rules. Finally, the inclusion of non-binding framework guidelines represented a compromise between supporters and opponents of stronger regulatory oversight. While EP supported a stronger Agency for the Cooperation of Energy Regulators (ACER), the Commission did not support this, and mixed views among the member states meant that no majority within the Council could be established for a strong regulatory agency. Diverging interests were thus reconciled through a compromise solution through which ACER was awarded advisory powers.

The historical analysis traced the origin of the procedure back to the initial compromise between the Commission and Council in the early 1990s, prior to the first energy market package: EU energy market regulation would develop through incremental top-down legislation and enhanced voluntary transnational cooperation. Step-by-step strengthening of unbundling requirements within EU law made transmission interests relatively more prominent within existing transnational associations of TSOs – with production interests thus given relatively less weight. In a similar vein, gradual separation of regulatory overview from national energy ministries took place. For all of the emerging actors, transnational cooperation was enhanced through the Florence Forum. Moreover, new European transnational associations of TSOs and national regulators, respectively, were established. Through this gradual transformation, national actors that interacted through European associations emerged, and they were willing to take on more European roles and tasks. The compromise reached in negotiations leading up to the first energy market package changed the mechanisms of positive feedback, and thus represented a critical juncture. This means that it influenced the dynamics of actor and interest constellations. The result was an emerging shift from a path of decentralisation towards more centralisation. Nevertheless, the procedure displayed elements of the new path as well as of the previous one as it had been enacted relatively early in this new path-dependent sequence.

The analysis from the sociological perspective found that the adoption of practices was driven by concerns for legitimacy. Other sectors that were considered similar, and whose practices were regarded as successful, were imitated. As the Commission drafted the proposal for a new Electricity Regulation, the electricity sector was considered comparable to other network-bound sectors such as railway and telecom, where practices that were regarded as applicable for electricity issues existed. The Commission therefore sought to imitate these practices. This was reflected by the use of the European Railway Agency as a model for ACER, but also by copying the idea from telecom to use comitology to make technical rules legally binding. As the proposal was sent to the European Parliament, this organisation's concern for regulatory overview influenced the proposal. Moreover, this norm had originated at the national level, and diffused to the European level through the

development of regulatory agencies and networks above and beyond the individual nation-states within other policy areas. The creation of ACER was moreover buttressed by an agencification trend spanning the various organisational fields. The final result involved an element of innovation because models from different sources were combined in a bricolage.

In the combined analysis, an important finding in this study was the decisive role played by TSOs, national regulators and producers/suppliers for the specific allocation of roles and tasks within the NC procedure. Leverage provided by information asymmetry gave the TSOs a major role in the procedure, although the allotted drafting task now became mandatory and subject to deadlines. However, the TSOs welcomed legally binding network codes because this would alleviate them of imposing compliance themselves. This set-up also served the Commission's interest in faster harmonisation without having to use resources on the actual drafting itself. Nevertheless, this proposal mobilised national regulators and producers/suppliers, who were discontent with the large role given to TSOs. Moreover, they saw it as violating an appropriate division of labour. Motivated by self-interest, yet aided by legitimacy, national regulators and producers/suppliers were successfully able to push for the inclusion of framework guidelines within the NC procedure. As non-binding framework guidelines, however, regulatory input remained advisory, due to opposition from TSOs, the Commission and a Council divided on the issue. While initially sceptical to the extent of comitology, the reduced role of this through the introduction of framework guidelines reassured Council and Parliament.

TSOs, producers/suppliers and national regulators had emerged through a gradual transformation, which represented vertical specialisation within government, and horizontal specialisation within the industry. These changes fed back into their transnational associations, which were subsequently redefined. As networks rather than EU-level agencies as studied by Egeberg and Trondal (2011), their behaviour similarly diverges from an intergovernmental pattern, because they addressed the Commission and Parliament rather than their national governments. Moreover, the conflict line that was intra-sectoral rather than following national borders, which could be regarded as a feedback from specialisation. It remains to be seen how the European Network of Transmission System Operators for Electricity (ENTSO-E) and ACER – to a larger extent representing agencies – will position themselves vis-à-vis the EU and/or the national governments, which could be an interesting topic for further research. While the change of this procedural rule would probably not have been comprehended without the longer historical development, combining this with insights from the other two perspectives offered a substantially stronger explanation of the particular elements contained in the NC procedure. Thus, while the perspectives draw attention to different aspects of change, the combined analysis illustrated the benefit of a complementary approach.

Data from the different sources were cross-checked, and a largely compatible picture was rendered from the accounts made by different

informants as well as by the documents. Two exceptions require some attention: According to a Eurelectric representative, this association was decisive for the mobilisation of national regulators, whereas this was not emphasised by other informants. Moreover, as no formal interview was conducted with a national regulator, this was difficult to establish. It might signal positive self-representation at work, so while the account from the Eurelectric representative certainly seems plausible, this was downplayed in the presentation in Chapter 4. Additionally, probing for informants' view of particular (external) events without directly mentioning the 2006 blackout turned out to be difficult, yet previous research provided support for using these data in the analysis. The main picture rendered was the same, which reduces the likelihood that data are biased.

6.2 Towards an internal energy market?

The establishment of EU-level agencies is expected to "contribute to an additional executive centre formation at the European level and thus bring the existing political-administrative order further away from an intergovernmental order" (Egeberg & Trondal 2011: 882). Thus, the establishment of ENTSO-E and ACER could have such an effect, not only due to their important tasks within the NC procedure, but also through other responsibilities at the European level. Here, sub-national actors – TSOs and national regulators – through their respective transnational associations would become part of a "multilevel Union administration" whilst remaining part of the national one, thus becoming "double-hatted" (Egeberg 2006b).

With decision-making power located at a European level for this procedure, this could signal an increase in integration within this policy area. However, this integration did not transfer power to the Commission, EP or Council, but rather to independent bodies – consistent with Egeberg and Curtin (2008); Egeberg and Trondal (2011); Nørgård (2006); Støle (2006). These studies have looked at the inclusion of such networks of national regulatory agencies, and the role of ACER is consistent with this. Moreover, while the boards of such agencies are staffed with representatives from national regulators, the inclusion of a Commission representative – indeed the case for ACER – could increase the influence of the Commission on the agency (Egeberg & Trondal 2011). Distinct from these studies, however, is the collective role of TSOs within the NC procedure. The organisational structure of ENTSO-E resembled an agency in the sense that it was a single body rather than a network. However, this body consisted of private enterprises, yet had been given a major role in making legislation that would apply generally across Europe.

Transnational cooperation at the European level could represent a challenge for national regulation. The regulatory gap – the lack of regulation of cross-border issues – was reduced somewhat by institutionalising voluntary self-regulation by TSOs, which now became mandatory and subject to sanctions. Nevertheless, the powers of ACER

over ENTSO-E were weaker than those usually possessed by national energy regulators over their respective TSO at the national level.

Could this speed up the process of establishing an internal electricity market? Returning briefly to the governance literature mentioned in Chapter 1, the contents of the NC procedure meant that negotiations within ACER or ENTSO-E, respectively, would be conducted under the threat imposed by sanctions in relation to non-compliance with specific deadlines. If credible, this threat would be expected to speed up the process of harmonisation. A different picture is rendered by Meyer (2012), who finds that a credible threat of governmental intervention could be contra-productive if it increases the number of veto players, and makes existing self-regulatory processes politically salient.

Regarding the first expectation, informants confirmed the credibility of the threat imposed by deadlines. While the number of veto players did increase with the NC procedure, for TSO drafting, this increase is relative depending on which predecessor association ENTSO-E is compared with. Compared with the larger associations (e.g. the Continental European one), the increase is low, whereas compared to the smaller associations, (e.g. the Nordic one), the increase is substantial. In terms of saliency, the NC procedure has attracted some debate, yet this has been driven by actors that are to be consulted, but that do not have a formal say in the procedure (e.g. producers/suppliers). At any case, it remains to be seen in the future, but as of June 2012, with a single exception, all output from the NC procedure had been delivered on time.[52] Still, harmonised network codes must also be implemented in order to have an effect on market integration, which offers a topic for subsequent research.

[52] The framework guideline on cross-border balancing was somewhat delayed.

Appendix 1: Interview Guide

Before we start, could you just briefly state your involvement in the process? *(state, and ask for confirmation)*

Looking at the situation in 2003-2005, how would you describe the cooperation between TSOs (or vertically integrated companies) regarding network codes?

- *Follow-up:* Were there a lot of people working with this within the separate TSOs? Using much time on this as compared to national activities?

- *Follow-up:* Who had an interest in keeping it that way? Who wanted to change this?

Were there any external factors influencing this assessment (either supportive or opposing)?

Thinking back, how would you describe the changes that occurred, resulting in the revised cross-border regulation on electricity in 2009?

- *Follow-up:* What is the change?

- *Follow-up:* Would you describe this procedure as representing something substantially new, or as a revision of existing arrangements?

Do you agree to the following interpretation of this change? A case where industry self-regulation increasingly occurs under a threat of legislative or executive action by the EU, and the Commission.

How do you regard the possibilities that the Commission has for imposing sanctions if the work with developing network codes does not proceed according to the schedule? (E.g. if ENTSO-E uses more than 12 months to draft)

Why did it change?

How did the TSOs respond to the Commission's proposal for change?

Question to the Commission: How did the Commission use the input received from (organisation X) during the drafting of the proposal? And did it have any influence on the outcome?

Question to other organisations: How did the Commission respond to your input regarding the third energy package? (Were they heard? What and how? How did other organisations view this?

When you think back at the process, were there any coinciding or preceding events that impacted the procedure?

- *Follow-up:* Why and how did it (not) matter?

- Did event X influence the evaluation of the at the time existing cooperation, or were evaluations less affected by this? In what way?

- *Follow-up:* Did all actors re-evaluate? Whose evaluations were (not) affected?

- *Follow-up:* Did this influence the reform process? How?

Would you say that there was a large degree of initial agreement on what changes should be made, or were there differing opinions that made negotiations and compromises vital?

Who, in your opinion, were the key actors? (Supportive/opposing, active/passive)

How did the member states respond to the Commission's proposal of this particular procedure for the development of network codes?

Did you get the impression that this was an important issue for the MS in Council – top political attention or an issue handled at the lower levels member states administration?

Did the role of ACER in drafting non-binding framework guidelines represent a compromise between the Council (didn't want stronger Agency) and EP (wanted stronger Agency)?

Who suggested specific deadlines? Who were in favour, and who were sceptical?

What were the reactions to the proposal that the Commission were to take over the drafting tasks in the case of failure to comply with deadlines by ENTSO-E, or ACER, respectively? How did you respond? How did your organisation respond? How did other, relevant organisations (which?) respond?

Compared to the other elements in the 3rd legislative package, how much attention was given to this issue? *(cf. ownership unbundling)*

Are there some national regulators that, in your opinion, are more influential within ERGEG/CEER? Which ones? (Why?) Does this impact outcomes? How?

Why was the procedure shaped the way it is? Were comparisons drawn with other policy areas? Did one look to how other sectors organised cooperation? Where there any role-models that was important for how to shape the procedure? Why?

If we consider the professional/expert communities – did they have similar or different ways of considered such practices? *(For instance between engineers and economists.)*

- *Follow-up if gets a positive reply:* Has there been a change in the relative position of professions within the power sector? Do you think this influenced the shape of the procedure in any way, or do you think this mattered less/not at all?

Would you describe network codes as technical or political?

In your opinion, are these network codes purely cross-border, or do they affect national system as well?

What do you think about the preliminary results of the new arrangements, as well as prospects?

Are some things happening in other ways than the way laid down in the formal procedure? Does informal contact alongside formal cooperation play a role? How?

What about ownership unbundling? As this was not made mandatory – do you observe this as having an impact here?

Is there anything you would like to tell me about which I haven't thought to ask you?

Is there anybody else that you come to think of that might be useful for me to talk to?

Can I contact you later if I have further questions or issues?

Appendix 2: List of Informants

A representative from the European Commission

A representative from the former European Transmission System Operators (ETSO)

A representative from the Union of the Electricity Industry-EURELECTRIC (Eurelectric)

A representative from Statnett

A representative from Norway's Mission to the European Union

Literature

Andersen, Svein S (2006). "Aktiv informantintervjuing ('Actively interviewing informants')" in *Norsk Statsvitenskapelig Tidsskrift,* 22(3), 278-298.

Aspinwall, Mark D. & Gerald Schneider (2000). "Same Menu, Seperate Tables: The Institutionalist Turn in Political Science and the Study of European Integration" in *European Journal of Political Research,* 38(1), 1-36.

Banchoff, Thomas (2002). "Institutions, Inertia and European Union Research Policy" in *JCMS: Journal of Common Market Studies,* 40(1), 1-21.

Berger, Peter L. & Thomas Luckmann (1967). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. New York: Anchor Books.

Bergström, Carl-Fredrik & Adrienne Héritier (2007). "Institutional Rule Five: Controlling the Implementation Powers of the Commission (Comitology)" in Adrienne Héritier (ed.), *Explaining Institutional Change in Europe* (pp. 171-227). Oxford: Oxford University Press.

Berry, Jeffrey M. (2002). "Validity and Reliability Issues in Elite Interviewing" in *Political Science and Politics,* 35(4), 679-682.

Biernacki, Patrick & Dan Waldorf (1981). "Snowball sampling: problem and techniques of chain referral sampling" in *Sociological Methods and Research,* 10(2), 141-163.

Bowen, Glenn A. (2009). "Document Analysis as a Qualitative Research Method" in *Qualitative Research Journal,* 9(2), 27-40.

Buchan, David (2010). "Energy Policy: Sharp Challenges and Rising Ambitions" in Helen Wallace, Mark A. Pollack & Alasdair R. Young (eds.). *Policy-Making in the European Union* (6th ed.). Oxford: Oxford University Press.

Buijs, Patrik, David Bekaert & Ronnie Belmans (2010). "Seams Issues in European Transmission Investments" in *The Electricity Journal,* 23(10), 18-26.

Bundesnetzagentur (2010). Die Bundesnetzagentur - Kurzporträt. Retrieved April 12th, 2012, from http://www.bundesnetzagentur.de/cln_1931/DE/Presse/Publikationen/service/servicePortraetBNetzA_node.html

Börzel, Tanja A. (2010). "European Governance: Negotiating and Competition in the Shadow of Hierarchy" in *Journal of Common Market Studies,* 48(2), 191-219.

Börzel, Tanja A. & Thomas Risse (2009). The Transformative Power of Europe: The European Union and the Diffusion of Ideas *KFG Working Papers* (Vol. 1). Berlin: Kolleg-Forschergruppe "The Transformative Power of Europe".

Böttger, Tatjana (2010). *Die neue europäische Agentur für die Zusammenarbeit der Energieregulierungsbehörden (ACER).* Master Thesis, Otto-von-Guericke-Universität Magdeburg, Magdeburg.

Capoccia, Giovanni & R. Daniel Kelemen (2007). "The Study of Critical Junctures: Theory, Narrative, and Counterfactuals in Historical Institutionalism" in *World Politics*, 59(April), 341-369.

Christensen, Tom & Per Lægreid (2006a). "Agencification and Regulatory Reforms" in Tom Christensen & Per Lægreid (eds.). *Autonomy and Regulation* (pp. 8-49). Cheltenham, UK: Edward Elgar.

Christensen, Tom & Per Lægreid (2006b). "Introduction" in Tom Christensen & Per Lægreid (eds.). *Autonomy and Regulation* (pp. 3-7). Cheltenham, UK: Edward Elgar.

Christensen, Tom, Per Lægreid, Paul G. Roness & Kjell Arne Røvik (2004). *Organisasjonsteori for offentlig sektor: instrument, kultur, myte ('Public Sector Organization Theory')*: Universitetsforlaget.

Collier, Ruth Berins & David Collier (1991). *Shaping the Political Arena*. Princeton, New Jersey: Princeton University Press.

Commission (2003). *Commission Decision of 11 November 2003 on establishing the European Regulators Group for Electricity and Gas*. (2003/796/EC).

Commission (2005). *Report on progress in creating the internal gas and electricity market*. (COM(2005) 568 final). Brussels.

Commission Decision of 9 November 2006 amending the Annex to Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity, 2006/770/EC C.F.R. (2006a).

Commission (2006b). *Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy*. (COM(2006) 105 final).

Commission (2007a). *Accompanying the legislative package on the internal market for electricity and gas - Impact Assessment*. (SEC(2007) 1179).

Commission (2007b). Competition: Commission energy sector inquiry confirms serious competition problems, *Press release*, 10th January Retrieved 11.09.11, Access 2007b, from http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/26 (read 11.09.11).

Commission (2007c). Energising Europe: A real market with secure supply, 19th September 2007 Retrieved 12th April 2012, Access 2007c, from http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1361&format=HTML&aged=0&language=EN&guiLanguage=en

Commission (2007d). *An Energy Policy for Europe*. (COM(2007) 1 final). Brussels.

Commission (2007e). *Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report)*. (COM(2006) 851 final).

Commission (2007f). *Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity*. (COM(2007) 531 final).

Commission (2007g). *Proposal for a Regulation of the European Parliament and of the Council establishing an Agency for the Cooperation of Energy Regulators*. (COM(2007) 530 final).

Commission (2007h). *Prospects for the internal gas and electricity market*. (COM(2006) 841 final).

Commission (2008). *CODECISION PROCEDURE – First reading: European Parliament legislative resolution on the proposal for a regulation of the European Parliament and of the Council amending regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity*. (SP(2008)4439). Retrieved from http://www.europarl.europa.eu/oeil/spdoc.do?i=15162&j=0&l=en.

Council (2006). *Council conclusions: "A New Energy Policy for Europe" - Contribution of the Energy Ministers to the 2006 Spring European Council*. (6878/06). Brussels.

Council (2007a). *Brussels European Council 8/9 March 2007 - Presidency Conclusions*. (7224/07). Brussels.

Council (2007b). *Preparation of the TTE (Energy) Council on 3 December 2007*. (15193/1/07). Brussels.

Council (2007c). *Press release: 2805th Council meeting - Transport, Telecommunications and Energy*. (10456/07 (Presse 133)). Luxembourg.

Council (2007d). *Press release: 2835th Council meeting*. (15891/07 (Presse 274)). Brussels.

Council (2007e). *Report: TTE (Energy) Council on 6 June 2007 - Gas and Electricity Market*. (9905/07). Brussels.

Council (2008a). *Preperation of the TTE (Energy) Council on 28 February 2008*. (6324/08). Brussels.

Council (2008b). *Press release: 2875th Council meeting*. (10310/08 (Presse 162)). Brussels.

Council (2008c). *Press Release: 2895th Council meeting*. (13649/08 (Presse 276)). Luxembourg.

de Nooij, Michiel (2011). "Social cost-benefit analysis of electricity interconnector investment: A critical appraisal" in *Energy Policy*, 39(6), 3096-3105.

Dehousse, Renaud (2008). "Delegation of Powers in the European Union: The Need for a Multi-principals Model" in *West European Politics*, 31(4), 789-805.

DiMaggio, Paul J. & Walter W. Powell (1983). "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields" in *American Sociological Review*, 48(2), 147-160.

Domanico, Fabio (2007). "Concentration in the European electricity industry: The internal market as solution?" in *Energy Policy*, 35(10), 5064-5076.

Eberlein, Burkard (2003). "Formal and informal governance in Single Market regulation" in Thomas Christiansen & Simona Piattoni (eds.). *Informal Governance in the European Union* (pp. 150-172). Cheltenham, UK: Edward Elgar Publishing.

Eberlein, Burkard & Edgar Grande (2005). "Beyond Delegation: Transnational Regulatory Regimes and the EU Regulatory State" in *Journal of European Public Policy*, 12(1), 89-112.

EC (1988). *The Internal Energy Market (Commission Working Document)*. (COM(88) 238 final). Commission of the European Communities.

Eckert, Sandra (2011). *The Policy Effects of Multilevel Regulation in Europe. Insights from the Energy and Postal Sector*. Paper presented at the The EUSA Twelfth Biennial International Conference, Boston, Massachusetts. Available online: www.euce.org/eusa/2011/papers/4b_eckert.pdf (read 11.09.11)

Egeberg, Morten (2006a). "Balancing Autonomy and Accountability: Enduring Tensions in the European Commission's Development" in Morten Egeberg (ed.), *Multilevel Union Administration: The transformation of executive politics in Europe* (pp. 31-50). Basingstoke: Palgrave Macmillan.

Egeberg, Morten (2006b). "Europe's Executive Branch in the Melting Pot" in Morten Egeberg (ed.), *Multilevel Union Administration: The transformation of executive politics in Europe*. Basingstoke: Palgrave Macmillan.

Egeberg, Morten & Deirdre Curtin (2008). "Towards a New Executive Order in Europe?" in *West European Politics*, 31(4), 639–661.

Egeberg, Morten & Jarle Trondal (2011). "EU-level agencies: new executive centre formation or vehicles for national control?" in *Journal of European Public Policy*, 18(6), 868.

Eikeland, Per Ove (2004). The Long and Winding Road to the Internal Energy Market - Consistencies and Inconsistencies in EU Policy *FNI report*. Lysaker: Fritjof Nansen Institute.

Eikeland, Per Ove (2011a). "EU Internal Energy Market Policy: Achievements and Hurdles" in Vicky L. Birchfield & John Duffield (eds.). *Toward A Common European Union Energy Policy - Problems, Progress and Prospects* (pp. 13-40). New York: Palgrave Macmillan.

Eikeland, Per Ove (2011b). "The Third Internal Energy Market Package: New Power Relations Among Member States, EU Institutions and Non-State Actors?" in *Journal of Common Market Studies*, 49(2), 243-263.

El-Agraa, Ali M. & Francis McGowan (2001). "Energy Policy" in Ali M. El-Agraa (ed.), *The European Union: Economics & Policies* (6th ed., pp. 293-318). Harlow, England: Financial Times/Prentice Hall.

ENTSO-E (2010). Statistical Yearbook 2010. Brussels.

ENTSO-E (2011a). ENTSO-E Response to ACER consultation: Framework Guidelines on Electricity Grid Connections, *Press release*, 8 April Retrieved 24 April 2012, Access 2011a, from https://www.entsoe.eu/fileadmin/user_upload/_library/position_papers/110502-ENTSO-E_response_to_ACER_FWGL.pdf

ENTSO-E (2011b). Factsheet 2011.

ENTSO-E (undated-a). ETSO - European Transmission System Operators. Retrieved 16 April, 2012, from https://www.entsoe.eu/the-association/history/etso/

ENTSO-E (undated-b). UCTE - Union for the Coordination of the Transmission of Electricity. Retrieved 26 April, 2012, from https://www.entsoe.eu/index.php?id=102

ENTSO-E (undated-c). What is a Transmission System Operator - TSO? Retrieved 13 May, 2012, from https://www.entsoe.eu/the-association/what-is-a-tso/

EP (2006). *European Parliament resolution on a European strategy for sustainable, competitive and secure energy - Green paper*. (P6_TA(2006)0603).

EP (2007a). *European Parliament resolution of 10 July 2007 on prospects for the internal gas and electricity market*. (P6_TA(2007)0326). Official Journal.

EP (2007b). *Report on Prospects for the internal gas and electricity market*. (A6-0249/2007).

EP (2008). *Report on the proposal for a regulation of the European Parliament and of the Council amending Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity*. (A6-0228/2008). Retrieved from http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&mode=XML&reference=A6-2008-228&language=EN.

ERGEG (2007). Cross Border Framework for Electricity Transmission Network Infrastructure - An ERGEG Conclusions Paper, *Press release*, Access 2007

ERGEG & CEER (2006). Energy Regulators meet the European Commission President on the need for new legislation, *Press release*, Access 2006

ERGEG & CEER (2007a). EU Energy Regulators back the European Commission's 3rd energy package proposals, *Press release*, Access 2007a

ERGEG & CEER (2007b). Support by Florence Forum for the Commission's proposals for an EU Agency, *Press release*, Access 2007b

EU (2003). *Regulation (EC) No 1228/2003 of the European Parliament and of the Council of of 26 June 2003 on conditions for access to the network for cross-border exchanges in electricity*. Official Journal.

Consolidated Version of the Treaty of on the Functioning of the European Union (2008).

Regulation (EC) No 713/2009 establishing an Agency for the Cooperation of Energy Regulators, 713/2009 C.F.R. (2009a).

Regulation (EC) No 714/2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003, 714/2009 C.F.R. (2009b).

EurActiv (2005). Blair calls for stronger EU energy policy co-operation, *EurActiv*, 31 October. Retrieved 24 March 2012, from http://www.euractiv.com/energy/blair-calls-stronger-eu-energy-policy-operation/article-146630

EurActiv (2006a). Commission cracks down at slow liberalisation of EU energy market, *EurActiv*, 5 April. Retrieved 24 March 2012, from http://www.euractiv.com/energy/commission-cracks-slow-liberalisation-eu-energy-market/article-153993

EurActiv (2006b). Commission wields big stick at EU energy sector, *EurActiv*, 17 February. Retrieved 24 March 2012, from http://www.euractiv.com/energy/commission-wields-big-stick-eu-energy-sector/article-152709

EurActiv (2006c). Gas crisis resolved but lack of EU energy policy remains problem, *EurActiv*, 5 January. Retrieved 24 March 2012, from http://www.euractiv.com/energy/gas-crisis-resolved-lack-eu-energy-policy-remains-problem/article-151227

EurActiv (2007a). Commission set for climb-down on 'ownership unbundling', *EurActiv*, 3rd September. Retrieved 24th March 2012, from http://www.euractiv.com/energy/commission-set-climb-ownership-unbundling/article-166335

EurActiv (2007b). EU unveils plan to dismantle big energy firms, *EurActiv*, 20th September. Retrieved 23rd March 2012, from http://www.euractiv.com/energy/eu-unveils-plan-dismantle-big-energy-firms/article-166890

EurActiv (2007c). Third energy package: stakeholder reactions broadly positive, *EurActiv*, 20th September 2007. Retrieved 23rd March 2012, from http://www.euractiv.com/energy/third-energy-package-stakeholder-reactions-broadly-positive/article-166908

EurActiv (2008a). Energy ministers clinch deal on liberalisation, *EurActiv*, 13 October. Retrieved 16 April 2012, from http://www.euractiv.com/energy/energy-ministers-clinch-deal-liberalisation/article-176279

EurActiv (2008b). MEPs: Strong EU regulator key to energy market puzzle, *EurActiv*, 29 May. Retrieved 23 March 2012, from http://www.euractiv.com/energy/meps-strong-eu-regulator-key-energy-market-puzzle/article-172804

EurActiv (2011). Internal energy market in doubt as 18 states face court, *EurActiv*, 3 October. Retrieved 10 October 2011 from http://www.euractiv.com/energy/internal-energy-market-doubt-18-states-face-court-news-508048

Eurelectric (2007). Eurelectric Position Paper on the European Commission's approach to market developments (10th January energy package). Brussels.

EUROPA.eu (2010). European railway agency. Retrieved 27 April, 2012, from http://europa.eu/legislation_summaries/transport/bodies_objectives/l24013_en.htm

Finnemore, Martha (1993). "International organizations as teachers of norms: the United Nations Educational, Scientific, and Cutural Organization and science policy" in *International Organization*, 47(4), 565-597.

Geddes, Barbara (2003). *Paradigms and Sand Castles: Theory Building and Research Design in Comparative Politics*. Ann Arbor: University of Michigan Press.

George, Alexander L. & Andrew Bennett (2005). *Case Studies and Theory Development in the Social Sciences*. Cambridge, Massachusetts: The MIT Press.

Gerring, John (2007). *Case study research : principles and practices*. Cambridge: Cambridge University Press.

Guéguen, Daniel (2011). *Comitology: Hijacking European Power?* (4th ed.). Brussels: European Training Institute and Europolitique.

Hall, Peter A. & Rosemary C. R. Taylor (1996). "Political Science and the Three New Institutionalisms" in *Political Studies*, 44, 936-957.

Hancher, Leigh & Adrien de Hauteclocque (2010). Manufactoring the EU Energy Markets: The Current Dynamics of Regulatory Practice *EUI working paper*. Florence: Robert Schuman Centre for Advanced Studies.

Hauteclocque, Adrien de & Kim Talus (2011). Capacity to Compete: Recent trends in access regimes in electricity and natural gas networks *EUI Working Papers* (Vol. RSCAS 2011/09).

Héritier, Adrienne (2001). "Overt and Covert Institutionalization in Europe" in Alec Stone Sweet, Wayne Sandholtz & Neil Fligstein (eds.). *The Institutionalization of Europe* (pp. 56-70). Oxford: Oxford University Press.

Héritier, Adrienne & Sandra Eckert (2008). "New Modes of Governance in the Shadow of Hierarchy: Self-Regulation by Industry in Europe" in *Journal of Public Policy*, 28(1), 113-138.

Héritier, Adrienne & Dirk Lehmkuhl (2011). "Governing in the Shadow of Hierarchy: New Modes of Governance in Regulation" in Adrienne Héritier & Martin Rhodes (eds.). *New Modes of Governance in Europe: Governing in the Shadow of Hierarchy* (pp. 48-74). Basingstoke: Palgrave Macmillan.

Hildingsson, Roger, Johannes Stripple & Andrew Jordan (2012). "Governing Renewable Energy in the EU: Confronting a Governance Dilemma" in *European Political Science*, 11(1), 18-30.

Hix, Simon & Bjørn Høyland (2011). *The Political System of the European Union* (3rd ed.). Basingstoke: Palgrave Macmillan.

IEA (2005). *Lessons from Liberalised Electricity Markets*: International Energy Agency.

Jabko, Nicolas (2006). *Playing the Market: A Political Strategy for Uniting Europe, 1985-2005*: Cornell University Press.

Jevnaker, Torbjørg (2012). *Regulate, or else... The EU procedure for harmonizing cross-border network codes for electricity*. Master of Arts, University of Oslo, Oslo.

Kelemen, R. Daniel & Andrew D. Tarrant (2011). "The Political Foundations of the Eurocracy" in *West European Politics*, 34(5), 922-947.

King, Gary, Robert O. Keohane & Sidney Verba (1994). *Designing social inquiry : scientific inference in qualitative research*. Princeton, N.J.: Princeton University Press.

Kingdon, John W. (2003). *Agendas, alternatives, and public policies*. New York: Longman.

Lijphart, Arend (1971). "Comparative Politics and the Comparative Method" in *American Political Science Review*, 65(3), 682-693.

Lund, Thorleif (2002). *Innføring i forskningsmetodologi ("Introduction to Research Methodology")*. Oslo: Unipub.

Majone, Giandomenico (1996). "A European Regulatory State?" in Jeremy Richardson (ed.), *European Union: Power and Policymaking* (pp. 263-277). London: Routledge.

March, James G. & Johan P. Olsen (1989). *Rediscovering Institutions: The Organizational Basis of Politics*. New York: Free Press.

March, James G. & Johan P. Olsen (2004). The Logic of Appropriateness *ARENA Working Papers*. Oslo: ARENA Centre for European Studies, University of Oslo.

Martens, Maria (2006). "National Regulators between Union and Governments: a study of the EU's environmental policy network IMPEL" in Morten Egeberg (ed.), *Multilevel Union Administration: The transformation of executive politics in Europe* (pp. 124-142). Basingstoke: Palgrave Macmillan.

Mayntz, Renate & Fritz W. Scharpf (1995). "Steuerung und Selbstorganisation in staatsnahen Sektoren ('Control and self-organization in sectors close to the government')" in Renate Mayntz & Fritz W. Scharpf (eds.). *Gesellschaftliche Selbstregelung und politische Steuerung ('Social self-regulation and governance')* (pp. 9-38). Frankfurt: Campus Verlag.

McGowan, Francis (2011). "The UK and EU Energy Policy" in Vicky L. Birchfield & John Duffield (eds.). *Toward A Common European Union Energy Policy - Problems, Progress and Prospects* (pp. 187-213). New York: Palgrave Macmillan.

McNamara, Kathleen (2001). "Where Do Rules Come From? The Creation of the European Central Bank" in Alec Stone Sweet, Wayne Sandholtz & Neil Fligstein (eds.). *The Institutionalization of Europe* (pp. 155-170). Oxford: Oxford University Press.

Meeus, Leonardo, Konrad Purchala & Ronnie Belmans (2005). "Development of the Internal Electricity Market in Europe" in *The Electricity Journal*, 18(6), 25-35.

Meyer, Niclas (2012). Political Contestation in the Shadow of Hierarchy *LSE 'Europe in Question' Discussion Paper Series* (Vol. 46). London: London School of Economics and Political Science.

Mosca, Manuela (2008). "On the origins of the concept of natural monopoly: Economies of scale and competition" in *The European Journal of the History of Economic Thought*, 15(2), 317-353.

Nordel (2009). Annual report 2008.

Nowak, Bartlomiej (2010). "Energy Market of the European Union: Common or Segmented?" in *The Electricity Journal*, 23(10), 27-37.

Nørgård, Gitte Hyttel (2006). "National Limits to Transnational Networking? The Case of the Danish IT and Telecom Agency" in Morten Egeberg (ed.), *Multilevel Union Administration: The transformation of executive politics in Europe* (pp. 163-179). Basingstoke: Palgrave Macmillan.

Ostrom, Elinor (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Peters, B. Guy (2005). *Institutional Theory in Political Science: The 'new institutionalism'*. London: Continuum.

Pierre, Jon & B. Guy Peters (2009). "From a club to a bureaucracy: JAA, EASA, and European aviation regulation" in *Journal of European Public Policy*, 16(3), 337-355.

Pierson, Paul (2000). "Not Just What, but When: Timing and Sequence in Political Processes" in *Studies in American Political Development*, 14(Spring), 72-92.

Pierson, Paul (2004). *Politics in Time: History, Institutions, and Social Analysis*. Princeton: Princeton University Press.

Pollak, Johannes, Samuel Schubert & Peter Slominski (2010). *Die Energiepolitik der EU ("The Energy Policy of the EU")*. Vienna: Facultas wuv.

Pollitt, Michael G. (2012 - forthcoming). "The role of policy in energy transitions: Lessons from the energy liberalisation era" in *Energy Policy*.

Ragin, Charles C. (2000). *Fuzzy-set social science*. Chicago: University of Chicago Press.

Roness, Paul G. (2009). "Handling Theoretical Dicversity on Agency Autonomy" in Paul G. Roness & Harald Sætren (eds.). *Change and Continuity in Public Sector Organizations: Essays in Honour of Per Lægreid*. Bergen: Fagbokforlaget.

Rosamond, Ben (2010). "New Theories of European Integration" in Michelle Cini & Nieves Pérez-Solórzano Borragán (eds.). *European Union Politics* (3 ed.). Oxford: Oxford University Press.

Samuelson, Paul A. (1948). *Economics*. New York: McGraw-Hill.

Sanden, Joachim (2009). *Die New Governance-Ansätze in der Europäischen Wirtschaftspolitik am Beispiel der Energiepolitik (own translation: 'The New Governance-Approach in European Economic Policy in the Case of Energy Policy')*. Osnabrück: Tectum.

Schimmelfennig, Frank & Bertold Rittberger (2006). "Theories of European integration: Assumptions and hypotheses" in Jeremy Richardson (ed.), *European Union: Power and Policy-Making* (pp. 73-95). London: Routledge.

Scott, W. Richard (2008). *Institutions and Organizations: Ideas and Interests*. Thousand Oaks, California: Sage Publications.

Selznick, Philip (1957). *Leadership in Administration: A sociological interpretation*. New York: Harper & Row.

Selznick, Philip (1985). "Focusing Organizational Research on Regulation" in R. G. Noll (ed.), *Regulatory Policy and the Social Sciences* (pp. 363-367). Berkeley/Los Angeles: University of California Press.

Squicciarini, Giuseppina, Guido Cervigni, Dmitri Perekhodtsev & Clara Poletti (2010). The Integration of the European Electricity Markets at a Turning Point: From the regional model to the third legislative package *EUI Working Papers* (Vol. RSCAS 2010/56).

Stone Sweet, Alec, Neil Fligstein & Wayne Sandholtz (2001). "The Institutionalization of European Space" in Alec Stone Sweet, Wayne Sandholtz & Neil Fligstein (eds.). *The Institutionalization of Europe*. Oxford: Oxford University Press.

Stone Sweet, Alec & Wayne Sandholtz (1998). "Integration, Supranational Governance, and the Institutionalization of the European Polity" in Alex Stone Sweet & Wayne Sandholtz (eds.). *European Integration and Supranational Governance*. Oxford: Oxford University Press.

Strang, David & John W. Meyer (1993). "Institutional Conditions for Diffusion" in *Theory and Society*, 22(4), 487-511.

Streeck, Wolfgang & Kathleen Thelen (2005). "Introduction: Institutional Change in Advanced Political Economies" in Wolfgang Streeck & Kathleen Thelen (eds.). *Beyond Continuity. Institutional Change in Advanced Political Economies* (pp. 1-39). Oxford: Oxord University Pres.

Støle, Øivind (2006). "Towards a Multilevel Union Administration? The Decentralization of EU Competition Policy" in Morten Egeberg (ed.), *Multilevel Union Administration: The transformation of executive politics in Europe* (pp. 86-102). Basingstoke: Palgrave Macmillan.

Tallberg, Jonas (2010). "Explaining the institutional foundations of European Union negotiations" in *Journal of European Public Policy*, 17(5), 633-647.

Thatcher, Mark (2011). "The creation of European regulatory agencies and its limits: a comparative analysis of European delegation" in *Journal of European Public Policy*, 18(6), 790-809.

Thelen, Kathleen (1999). "Historical Institutionalism in Comparative Politics" in *Annual Review of Political Science*, 2, 369-404.

Thomas, Steve (2003). "The Seven Brothers" in *Energy Policy*, 31(5), 393-403.

Tolbert, Pamela S. & Lynne G. Zucker (1983). "Institutional Sources of Change in the Formal Structure of Organizations: The Diffusion of Civil Service Reform, 1880-1935" in *Administrative Science Quarterly*, 28(1), 22-39.

Trillas, Francesc (2010). "Electricity and telecoms reforms in the EU: Insights from the economics of federalism" in *Utilities Policy*, 18(2), 66-76.

UCTE (2009). *UCPTE-UCTE: The 50 Year Success Story – Evolution of a European Interconnected Grid*. Brussels: Secretariat of UCTE.

van der Vleuten, Erik & Arne Kaijser (2006). *Networking Europe: transnational infrastructures and the shaping of Europe, 1850-2000*: Science History Publications/USA.

van der Vleuten, Erik & Vincent Lagendijk (2010). "Interpreting transnational infrastructure vulnerability: European blackout and the historical dynamics of transnational electricity governance" in *Energy Policy*, 38(4), 2053-2062.

Vasconcelos, Jorge (2005). "Towards the internal energy market, how to bridge a regulatory gap and build a regulatory framework" in.

Wasenden, Odd-Harald B. (2008). *EU Market Abuse Regulation in Energy Markets*. Oslo: Cappelen.

Wettestad, Jørgen, Per Ove Eikeland & Måns Nilsson (2012). "EU Climate and Energy Policy: A Hesitant Supranational Turn?" in *Global Environmental Politics*, 12(2), 67-86.

Yin, Rokert K. (2009). *Case Study Research - Design and methods* (4th ed.). Los Angeles: Sage.

Zeit (2006a). Der Zorn Brüssels ('The Wrath of Bussels'), *Zeit*, 6 April Retrieved 24 March 2012, from http://www.zeit.de/2006/15/Der_Zorn_Bruessels

Zeit (2006b). Nadelöhr an der Grenze ('On the border, the eye of a needle'), *Zeit*, 27 April Retrieved 24 March 2012, from http://www.zeit.de/2006/18/Nadeloehr_an_der_Grenze

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