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COMPETITION LAW INTERVENTIONS BY THE EUROPEAN COMMISSION ON ENERGY MARKETS

This article examines the European Commission's competition interventions on energy markets between 2004 and 2019. We analyse antitrust and merger procedures according to the competition concerns investigated and the competition intervention applied. Antitrust investigations often focused on market foreclosure and market sharing; to address these concerns, the Commission frequently concluded cases with commitment decisions, applying both behavioural and structural remedies. In merger control, one merger was prohibited and remedies were applied in ten cases.

INTRODUCTION

This article reviews competition law procedures by the European Commission (hereafter Commission or European Commission) on energy markets concluded after May 1st, 2004 until the end of 2019, in which the European competition authority settled for some kind of intervention on the market.

We first examine the Commission's antitrust procedures related to anti-competitive agreements and dominance cases[1] and provide a detailed analysis of procedures that ended with infringement or commitment decisions. Next, we examine mergers where the Commission decided in favour of intervention, either through a prohibition or by applying remedies.

Our analysis aims to give a comprehensive overview of the competition concerns identified by the European Commission on energy markets and to show how the competition authority addressed these concerns. Accordingly, we examine antitrust and merger interventions based on the various competition concerns, types of intervention (structural or behavioural), remedies applied and, in selected cases, according to other procedural aspects related to geographic markets or the particularities of the market concerned.

[1] The term *antitrust* is used in a broad sense here, covering dominance cases, vertical and horizontal anti-competitive practices, including cartels.

RELEVANT CHARACTERISTICS OF ENERGY MARKETS

Energy markets have certain characteristics with a big impact on what theories of harm arise on these markets as well as which competition solutions can be applied when it comes to both merger and antitrust procedures.

During the initial period examined, the energy markets of European Union member states were typically highly concentrated. Also, these markets had a high degree of *vertical integration*, whereby services offered on competitive markets such as electricity production or retail trade are vertically linked to concentrated, often monopolistic (and regulated) activities such as electricity transmission or distribution. Production and distribution have not been adequately separated either when it comes to the natural gas or electricity markets. Furthermore, demand for electricity is highly inelastic, but fluctuating in time (on a seasonal basis, across the week and during the day). This, alongside the market's structural particularities (varying marginal costs of production technologies, strong capacity constraints), allows certain market players to achieve price increase through withholding capacities. Another interesting horizontal effect when it comes to mergers is the strong network effect whereby the electricity supplier in some regions may be the most credible competitor of the natural gas provider, and because the two products complement each other, their joint provision is efficient (*Talus* [2011]).

EU energy markets have undergone major changes in the last few decades.[2] Energy production and transmission, earlier dominated by national monopolies, have seen notable structural developments, paving the way for a single European energy market envisioned by the EU. *Ex ante* regulated markets have opened up for competition. Still, the transformation of energy markets is far from complete: the single energy market holds promise for further efficiency gains (see *e.g. Booz & Company* [2013]).

The competition sector inquiry into energy markets played an important role in the liberalization process. The Commission's report released in 2007 (*EC* [2007]) followed an investigation launched in 2005 that found key deficiencies such as high concentration, vertical integration, limited transparency and a low level of integration in the markets of member states. New competitors entering the market were impeded by low liquidity and extant long-term contracts, as well as the scarcity of balancing markets and limited access thereof (*Wäktare et al.* [2007]). Several competition proceedings examined below were closely linked to this sector inquiry.[3]

The conclusions of the sector inquiry contributed to the EU's third energy package adopted in 2009, which contained several new provisions regarding the elec-

[2] The start of changes is often linked to the adoption of the first energy market directive in 1996 (96/92/EC Directive).

[3] Even before the publication of the final report of the sectoral inquiry, several unannounced on-site inspections (dawn raids) were carried out in the energy sector. Such dawn raids were conducted for example in May 2006, among others, in the case of E.ON, ENI, Gaz de France or RWE.

tricity and natural gas markets (see *e.g. Vince* [2011], *Sütő* [2014]) – ownership unbundling in particular, i.e. the separation of production and transport/transmission[4] with a view to eliminating the adverse competition effects of vertical integration.[5]

OVERVIEW OF CASES EXAMINED

The current study examines European Commission competition law proceedings on energy markets completed after May 1, 2004. There are several reasons for choosing this starting date. Regulation 1/2003/EC (*European Council* [2003])[6] regulating antitrust procedure entered into force on this day, introducing also commitment decisions (which frequently featured in energy markets)[7] and the new Merger Regulation, Regulation 139/2004/EC (*European Council* [2004]) also came into effect that year.[8]

The European Commission has several tools to protect and promote competition. We focus on individual competition proceedings below. *Antitrust procedures* control the conduct of undertakings, focusing on potential abuse of dominance cases and anti-competitive agreements; *merger control* procedures aim to prevent the negative competition effects of structural changes in the market.

Sector inquiries represent another potential element in the competition toolbox in addition to individual proceedings. (As mentioned, such a sector inquiry was conducted between 2005 and 2007 in the energy sector.) Furthermore, advocacy work could also contribute to improving the markets where competition authorities like the European Commission's Directorate General for Competition (DG Comp) try to influence regulation for a pro-competitive outcome.

[4] For energy transmission, important market actors include the transmission system operator, TSO and the distribution system operator, DSO. Transmission system operator means a natural or legal person who is responsible for operating, ensuring the maintenance of and, if necessary, developing the transmission system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the transmission of electricity. Distribution system operator means a natural or legal person who is responsible for operating, ensuring the maintenance of and, if necessary, developing the distribution system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the distribution of electricity (*European Parliament and Council* [2009]).

[5] The third energy package allowed member states to fulfill the above goals in several ways, with a hierarchy among the options available. The most beneficial is ownership unbundling; second is the independent transmission system operator (where the ownership of the producers might remain), while the third option is the independent transmission system operator.

[6] The original text of Regulation 1/2003/EC still refers to Articles 81 and 82, because the changes in numbering were introduced by the Lisbon Treaty signed in December 2007.

[7] Regarding the practical experience related to the application of Regulation 1/2003/EC please see also *EC* [2014].

[8] Regulation 139/2004/EC of the Council replaced the earlier (first) merger regulation. A key part of the new regulation is the change in the substantive analysis from the dominance test to the significant impediment of effective competition *(SIEC)* test.

Antitrust procedures

During the period investigated, 16 antitrust procedures were concluded, eight of these in the electricity market and eight in the natural gas market (until the end of 2019). A large number of the proceedings were conducted shortly after the European Commission's energy sector inquiry between 2007 and 2010, while a further six procedures were carried out between 2013 and 2018.

The majority of antitrust procedures examined were *abuse of dominance cases*, and all, except for one, concluded with *commitments*. The application of commitment decisions means that the procedures concluded without a formal finding of infringement – the parties adjusted their behaviour based on the European Commission's preliminary competition concerns.[9] The Commission concluded these proceedings by making the (either structural or behavioural) commitments offered by the parties binding (*Nagy* [2012], *Bellis* [2016], *OECD* [2016]).

Besides the commitment decisions, two cartel investigations were carried out, and in one case – somewhat related to one of the cartel procedures – an abuse of a dominant position was established. In the following chapters, we present a detailed analysis of the competition concerns and the remedies applied to them. It is worth noting that in the first part of the examined period the procedures concentrated primarily on larger, western European member states, while procedures after 2013, with one exception, affected markets of member states that joined after 2004 *(Table 1).*

TABLE 1 • **Overview of examined antitrust procedures**

Electricity market procedures			Gas market procedures		
name of the procedure	geographical market	time of decision	name of the procedure	geographical market	time of decision
E.ON-wholesale	Germany	2008	Distrigaz	Belgium	2007
E.ON-balancing market	Germany	2008	E.ON–GdF-agreement	Germany, France	2009
EDF	France	2010	RWE	Germany	2009
			Gaz de France Suez	France	2009
			E.ON	Germany	2010
Svenska Kraftnät	Sweden, Denmark	2010	ENI	Italy	2010
CEZ	Czech Republic	2013			
Power exchanges	EU	2014			
Opcom	Romania	2014			
BEH	Bulgaria	2016			
TenneT	Germany, Denmark	2018	Gazprom	Central and Eastern Europe	2018

[9] Regarding the controversies related to commitments see for example *Italianer* [2013], *Marsden* [2013] and *Jenny* [2015].

Mergers

Regarding mergers in energy markets, the European Commission opted for some kind of intervention in 11 merger cases by the end of 2019.[10] Contrary to the antitrust procedures discussed above, only a small part of these mergers can be purely classified as either electricity or natural gas market mergers. The majority of procedures were conducted between 2004 and 2010, with one exception: the E.ON–Innogy-merger (2019) inquiry which the Commission concluded in September 2019.[11]

Out of the examined cases, one *merger was prohibited,* while in a further ten cases *remedies* were applied (conditions and obligations were imposed). Besides the mergers with competition intervention, 300 other procedures launched by the Commission affected energy markets; these were usually cleared by the Commission in Phase I. For Phase II procedures (in complex cases),[12] remedies were imposed or the application was withdrawn.

In the first intervention case discussed here, the Commission issued a prohibition decision after a lengthy inquiry into the ENI–EDP–GDP-merger (2004).[13] From the earlier cases, three procedures were closed in Phase II.[14] These cases seem to have offered some guidance for the evaluation of later procedures as well as for market participants for structuring transactions. Accordingly, other procedures examined between 2004 and 2011 could be concluded in Phase I, even with remedies.

The E.ON–Innogy-merger in 2019 – partly because of the complexity of the transaction – was cleared in Phase II.[15]

Regarding their geographical markets, merger cases give a more varied picture compared to antitrust procedures. *(Table 2)* One early case, a Phase II merger (E.ON–Mol), concerned the market of a new EU member state, Hungary, meaning

[10] The search engine on the website of the Commission, based on NACE codes, includes the case COMP/M.4141 (Linde/BOC merger) among natural gas mergers, which was also cleared with remedies. However, this merger concerned the market of industrial gas, thus, it is not discussed in this article.

[11] COMP/M. 8870 E.ON/Innogy. Having regard to the fact that the public version of the decision in this case was not published until the beginning of December 2019, we rely on publicly available information when presenting this merger, primarily on the press release issued by the Commission: https://ec.europa.eu/commission/presscorner/detail/en/IP_19_5582.

[12] The European Commission must decide in a merger procedure within 25 (35) working days of the commencement of the procedure decision whether the concentration (potentially with the remedies offered) is compatible with the common market, or whether there is need for a complex procedure (where remedies could also be applied) (*European Council* [2004] Articles 6 and 8).

[13] The merger was assessed based on the earlier merger regulation (*EEC Council* [1989]).

[14] If a merger raises serious concerns in relation to its compatibility with the common market, the decision is made after a complex Phase II analysis. The deadline for this procedure is 90 working days, as opposed to the 25 working days deadline of Phase I procedures (extendable by 15 days).

[15] Parallel with the case COMP/M.8870 there was another procedure (COMP/M.8871), examining the other side of the asset exchange between the two groups – the acquisition of E.ON's production capacities by RWE. This latter procedure was cleared by the Commission without remedies.

TABLE 2 • **Overview of mergers examined**

Parties to the procedure	Geographical areas affected by competition problem	Year of the decision	Phase I/II
ENI–EDP–GDP	Portugal	2004	II (prohibition)
Total–Gaz de France	France (regional)	2004	I
E.ON–MOL	Hungary	2005	II
DONG–Elsam–Energi E2	Denmark	2006	II
Gaz de France–Suez	Belgium, France	2006	II
EDF–British Energy	Great Britain	2008	I
Vattenfall–Nuon Energy	Germany (local)	2009	I
RWE–Essent	Germany	2009	I
EDF–Segebel	Belgium	2009	I
GdF Suez–International Power	Belgium	2011	I
E.ON–Innogy	Germany, Czech Republic, Hungary	2019	II

that for mergers, the pattern seen in antitrust procedures (earlier cases tend to be in western European markets, later cases in new member states) does not apply.

From a procedural perspective, it is worth noting that the Belgian competition authority requested a (partial) referral in two cases (EDF–Segebel and GdF Suez–International Power) in relation to the effects on the Belgian market. In the former case, the Commission refused the request, while in the latter case the authority withdrew the request following the submission of a modified commitment by the parties.[16]

COMPETITION CONCERNS IN ANTITRUST CASES

The majority of the antitrust procedures reviewed here relate to *abuse of dominance;* accordingly, competition concerns mostly relate to abusive conduct. Given that many procedures were conducted during the liberalization process, these were *mostly exclusionary abuses*, and only in one case an *exploitative abuse* (excessive pricing) was investigated. The two cartel cases primarily focused on market sharing and segmentation of the internal market.

Competition concerns most frequently arose in relation to *market foreclosure*, where a dominant undertaking restricts competition on the market. Below we classify the typical examples of market foreclosures into the following categories: *long-term contracts*, *capacity management*, *import restriction*, *restriction of cross-border capacities*, and *resale restrictions*, acknowledging and indicating possible overlaps.

[16] See Commission Decision of 12.11.2009 rejecting the request of the competent authorities of Belgium asking for the partial referral of case No COMP/M.5549 – EDF/Segebel, and also item 10 of the decision in case COMP/M.5978 GdF/International Power.

Market sharing partly overlaps with foreclosure; however, we consider it to be a self-standing competition concern, especially when related to *partitioning the internal market along national borders*. In the examined cases, the Commission investigated market sharing primarily in the cases of restrictive agreements, resale restrictions, and restriction of cross-border capacities.

In one of the foreclosure cases, an exclusionary behaviour, *margin squeeze* was also scrutinized. Finally, in one case, using different reference prices, *excessive pricing* was also investigated; this procedure also featured other foreclosure and market-sharing behaviours.

Foreclosure

In the case of antitrust[17] procedures, competition concerns are most frequently related to foreclosure issues where a (generally) dominant undertaking engages in restrictive practices in order to foreclose access to a part of the market, thereby reserving it for itself or related undertakings. Foreclosure on the energy markets most frequently manifests itself in the restriction of access to distribution/transport grids; this is complemented by consumer and input foreclosure issues. This analysis presents some of the foreclosure cases.[18]

Market foreclosure concerns in energy markets commonly arise as a consequence of *long-term contracts* which presented a special challenge in the period of energy market liberalization. In Distrigaz (2007), the Commission concluded that in the Belgian natural gas market, due to long-term and large-scale contracts (see also *Svetiev* [2014]) concluded by Distrigaz, competitors could not compete for Distrigaz's customers. (Regarding exclusivity provisions in this case see also *Schweitzer–Bay* [2016].) The quantitative restrictions would prevent customers from switching, thereby limiting the scope of other gas suppliers to conclude contracts with customers. In the case of Electricité de France (EDF, 2010), the Commission concluded that the contractual clauses by the French electricity supplier EDF (taking into account their scope, duration and nature) significantly limited the possibilities of competitors to acquire EDF's customers. Moreover, these contracts contained explicit *exclusivity clauses*, or other provisions resulting in de facto exclusivity. In CEZ (2013), according to the preliminary competition concerns of the Commission, CEZ, the incumbent undertaking on the Czech electricity market, may have pursued a strategy of preventing new market entry by making pre-emptive reservations on the Czech electricity transmission system. Consequently, CEZ's competitors were

[17] *Table A1 of the Appendix* chronologically lists examined cases according to the number of the procedure, name of the procedure and the year of decision.

[18] Foreclosure cases could be differentiated whether they generally restrict access to the market, or the access to certain consumers or inputs. Accordingly there is market, consumer, or input foreclosure.

prevented from accessing the transmission network system even though CEZ had no intention of making use of these capacities.

A very detailed and extensive investigation into refusal to grant access to the gas transmission network featured in the ENI-case (2010) in respect of the Italian natural gas market (*Hjelmeng* [2013], *Botteman–Patsa* [2013]). Italy is a net gas importer, and when the inquiry got under way, 87 percent of domestic consumption came from imports. All relevant gas pipelines related to imports were fully or partially owned by ENI. The Commission concluded that ENI's infrastructure for importing gas should be considered as indispensable, since access to them was objectively necessary for competing in Italy's gas supply markets. With regard to the adverse market structure, the Commission's preliminary competition concerns suggested that ENI's complex conduct, including capacity management,[19] may be considered as refusal of access.

In the RWE-case (2009), according to the Commission's findings, the RWE transmission system operator (TSO) 'may have refused access to its network, and may have pursued a strategy according to which it tried to systematically keep the transport capacities on its own network for itself'. RWE booked almost all capacity on its transmission network on a long-term basis, making it almost impossible for competitors to access this network.

A special area of foreclosure cases are *import restrictions*. Below, we present cases in which import restrictions played an important role in the theory of harm of the Commission.

In the GdF Suez-case (2009), the subsidiary of GdF Suez, GRTgaz, owned and operated all the important entry points on the French natural gas market. The Commission objected to GdF Suez's protracted foreclosure of access to gas import capacity in the GRTgaz network through its reservation of French import capacities over the long term. In some cases the refusal to access was explicit – though more often implicit – when these capacities were sold in an insufficiently transparent manner. The aforementioned conduct by ENI relating to capacity management had similar effects to the GdF Suez case.

Similar conduct was investigated in respect of E.ON (2008) on various electricity markets. Here, the investigation found that the system operator (E.ON), being also responsible for balancing markets, had prevented producers from other member states from exporting electricity into the E.ON balancing market, in order to reserve these for German generation capacities (and in particular, for its own capacities).

[19] The first element of refusal of access was capacity hoarding, where ENI prevented other service providers from using existing and unused capacities, often communicating lower capacities than available to restrict competition. The second element is capacity degradation: ENI providing access to its network with unfavorable conditions, such as deferred or short-term access. And finally, the third element is strategic underinvestment: despite significant and genuine demand, ENI did expand capacities, thereby restricting competition on the downstream market for natural gas supply.

Market sharing

Segmentation of the internal market was the key competition concern in respect of two cartel proceedings. In the case of E.ON–GdF-agreement (2009), the Commission found that the non-compete clauses in the agreement divided the market when it came to the import of Russian natural gas. In the power exchanges procedure (2014), the Commission investigated a restrictive agreement between French-German company EPEX Spot and a company owned by Scandinavian and Baltic enterprises, Nordpool Spot (NPS), where the parties also divided their current and future European markets among themselves. According to the agreement, countries north of Poland belonged to the interest sphere of NPS, while countries to the south of it belonged to the sphere of EPEX.

Internal market segmentation was also investigated in a case featuring Romanian power exchange operator Opcom (2014), where Opcom required a Romanian VAT identification number to get access to spot transactions at the power exchange. Thus, foreign traders from the European Union had to have two active VAT identification numbers on Opcom's trading platforms, while for Romanian traders one such number was sufficient. The Commission concluded that this behaviour, discrimination based on nationality/place of establishment, amounted to an abuse of dominance by Opcom.

The Commission also investigated internal market segmentation in several dominance cases, some related to interconnectors, others to resale restrictions. Cross-border interconnectors play an important role in the functioning of the single market by connecting markets in different member states.[20] In the Svenska Kraftnät-case (2010), the system operator of Swedish interconnectors, Svenska Kraftnät, restricted the export capacity of Swedish interconnectors, thereby discriminating between different (typically Danish and German) network users and segmenting the internal market (*Sadowska-Williams* [2013]). Similar issues were examined in the TenneT-case (2018), where the Commission had concerns that the operator of Danish-German interconnector TenneT restricted interconnector capacity, especially during periods when wind energy production on the German market was high, thereby placing Danish energy producers at a disadvantage, while resulting in higher prices on the German electricity wholesale market and higher end-user prices.

Destination clauses and *resale restrictions* can also lead to foreclosure or the segmentation of the internal market. In the BEH-case (2016), according to Commission's preliminary assessment, Bulgarian Energy Holding (BEH) abused its

[20] Interconnector is a transmission line which spans over two countries border, and connects national transmission grids. The allocation of cross border capacities is the task of national transmission system operators, which typically cooperate in the allocation of the capacities on the two sides of the border.

dominant position on the free wholesale market for the supply of electricity in Bulgaria by entering destination clauses into contracts for the wholesale supply of electricity with freely negotiated prices.[21] These clauses stipulated where the electricity should be used and where it can be resold. The Commission found similar concerns (among others) in the Gazprom-case (2018). In several cases, Gazprom contracts contained *direct re-export bans*, while in other instances they contained *take-or-pay* provisions that gave Gazprom the right to increase annual minimum capacity when it came to re-exports, thereby hindering the profitability of re-export operations.[22] This was a clear example of dividing the internal market along member states' borders in the case of several central and eastern European countries.

Other competition restrictions – margin squeeze and excessive prices

In the RWE-case (2009), further competition concerns, besides the refusal of access, related to *margin squeeze*. According to the theory of harm, the vertically integrated RWE on the upstream natural gas transmission market probably set network access fees sufficiently high to discourage competitors from entering the downstream market. RWE paid lower fees for the use of the network and could also take advantage of several other benefits.[23]

In the Gazprom-case (2018), in addition to market-sharing practices, the Commission also established in its preliminary competition concerns that in five member states (Estonia, Latvia, Lithuania, Poland, Bulgaria) Gazprom charged *excessive prices*. In this regard, the Commission compared prices to Gazprom's expenses as well as to prices on other competing markets. Regarding expenses, a 170 percent profit margin was established by the Commission, while compared with the German natural gas market, a 9-24 percent surplus was established. Table 3 provides an overview of antitrust procedures on the various energy markets.

[21] Electricity supply in Bulgaria is provided in a hybrid system, where some transactions are completed based on regulated prices, and others on a free market. In the regulated market, four providers supply electricity to small customers, while in the wholesale market the only supplier is NEK, the subsidiary of BEH. Free market trade is possible both for small customers and for large customers; this represented 43.4% of the Bulgarian consumption in 2014, when the above procedure started.

[22] Further indirect tools were the control of some measuring locations (Bulgaria), or the refusal of natural gas transmission to alternative points of transfer (Poland).

[23] Regarding competition concerns see COMP/B-1/39.402 – RWE foreclosure of natural gas market case items (22)–(37).

TABLE 3 • **Competition concerns in antitrust procedures on energy markets**

Competition issue	Examples for relevant procedures
Foreclosure	
Long-term contracts	Distrigaz (2007), EDF (2010), CEZ (2013)
Capacity management	ENI (2010)
Import restrictions	GdF Suez (2009), ENI (2010), E.ON wholesale (2008)
Division of the internal market (and foreclosure)	
Non-competition clauses, market sharing	E.ON–GdF-agreement (2009) Power exchanges agreement (2014)
Discrimination based on establishment	Opcom Romania (2014)
Cross-border capacities	Svenska Kraftnät (2010), TenneT (2018)
Resale restrictions	BEH (2016), Gazprom (2018)
Margin squeeze	RWE (2009)
Excessive pricing	Gazprom 2018)

Note: Table A1 of the Appendix chronologically summarizes the antitrust procedures examined here.

COMPETITION CONCERNS IN MERGER CASES

Concentrations can be classified according to whether participants carry out their activities on the same relevant market or on different markets.[24] The former are called *horizontal*, the latter *non-horizontal, mergers* (*EC* [2004]). Non-horizontal concentrations can be further classified into vertical and conglomerate mergers (*EC* [2008*a*]).[25]

Both horizontal and non-horizontal mergers can be sub-divided based on the implications they have to the relevant market. Effects can be either non-coordinated (also called unilateral) or coordinated.

Given the specificities of the energy markets presented above, five of the mergers below can be considered "hybrid" cases mainly because the natural gas and electricity markets are closely related: here, the Commission investigated *both* the (potential) horizontal and non-horizontal relations of the merging parties.[26] Four intervention cases are clearly horizontal mergers, while two cases are vertical. Below we present these cases based on the competition concerns raised by them.[27] (For the analysis of certain cases see also *Federico* [2011].)

[24] *Appendix Table A2* chronologically summarizes examined merger cases according to the number of the procedure, name of the procedure and the year of decision.

[25] Shortly after the publication of the Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, the European Commission issued its new guidelines on the assessment of horizontal mergers (*EC* [2004] – horizontal guidelines). The guidelines on non-horizontal mergers were published four years later, following several decisions examined in this article (*EC* [2008*a*] – non-horizontal guidelines).

[26] Section 7, footnote 6 of the non-horizontal guidelines (*EC* [2008*a*]) refers to this, mentioning Case/COMP/M.3440 – EDP/ENI/GDP as an example.

[27] Given that substantive vertical coordinative or conglomerate effects were not raised, we do not discuss theories of harms related to these.

Unilateral horizontal effects of concentrations

When it comes to horizontal concentrations, there are two ways for horizontal unilateral (non-coordinated) effects to take place. The primary effect of the merger will be the loss of competition between the merging firms. A secondary effect is that non-merging firms in the same market can also benefit from the reduction of competitive pressure resulting from the merger, since the merging firms' price increase may switch some demand to the rival firms, which, in turn, may find it profitable to increase their prices. The reduction in these competitive constraints can result in a price increase in the relevant market (*EC* [2004]).

The cases examined below featured the following horizontal unilateral competition effects: 1) loss of actual or potential competitors 2) increased ability to withhold capacity (hence increasing profits) 3) hindering the expansion of competitors.

1. Loss of actual and/or potential competitor(s)

An obvious unilateral effect of a horizontal concentration is the loss of competition because of the disappearance of actual and/or potential competitor(s). Accordingly, this concern was frequently featured in these cases. The ENI–EDP–GDP-case (2004) concluded with a prohibition decision; here, the Commission investigated the proposed joint acquisition of control over the incumbent company in the Portuguese natural gas market (Gás de Portugal, GDP) by Energias de Portugal (EDP), the incumbent electricity provider in Portugal, and ENI, an Italian energy company. One of the Commission's concerns was that as a result of the merger, a potential competitive constraint on the Portuguese natural gas wholesale market exercised by EDP would be removed. On the other hand, the Commission was also concerned about the removal of the potential competition constraint exercised by GDP on EDP (which was the incumbent provider on the electricity generation market), as GDP was a potential market entrant as a builder of CCGT[28] power plants.[29] (For more details see *Conte et al.* [2005].)

In the Gaz de France–Suez-case (2006), the Commission objected to the strengthened dominant position of the parties on both countries' markets because of the high entry barriers on the Belgian and French natural gas wholesale markets and on the Belgian electricity generation and wholesale markets.[30] Competition

[28] Combined cycle gas turbine (CCGT).

[29] Furthermore, the concentration would have resulted in the reduction of actual competition on the natural gas retail market (having regard to EDP's market presence in one of the distribution network areas), and it would have caused a potential loss of competition on the electricity retail market (given the potential market entry of GDP). The Commission attributed the horizontal effects to the fact that the most likely and effective market entrant to the other product's market would have been the incumbent company of the natural gas wholesale market and the electricity wholesale market, respectively, especially taking into consideration that the consumer base was given for both companies, and the entry would also have enabled bundled offers (dual fuel).

[30] Companies belonging to the Gaz de France–Suez-group put increasing competition pressure on each other before the transaction. In Belgium, the new entrant Gaz de France (GDF) through its

concerns were also raised regarding the French district heating market, where the largest player was Suez, and the second largest was GDF. (For more details see *Bachour et al.* [2007].)

In the DONG–Elsam–Energi E2-case (2006) the two largest Danish electricity producers (Elsam and E2) were actual and/or potential competitors of the Danish state-owned natural gas company (DONG) on the Danish natural gas wholesale market, so their disappearance from the market would have resulted in a substantial loss of competition. Furthermore, the Commission also considered Elsam and E2 as (potential) competitors in the retail markets for the supply of natural gas to large industrial customers as well as to households and small businesses. (For further details see *Bengtsson et. al.* [2006].)

In the Vattenfall–Nuon-merger (2009), the Commission identified harmful competition effects only on the local markets of Hamburg and Berlin, where Vattenfall held an incumbent position (with a 70-90 percent market share) on the retail electricity market for households, and Nuon was a significant entrant – although it was only able to gain less than a 10 percent market share. (For further details see *Lo Nardo et al.* [2005].)

In the RWE–Essent-case (2009), the Commission identified horizontal unilateral effects on the German wholesale electricity markets. Essent had a controlling stake in a local utility provider (Stadtwerke Bremen AG, swb), which was primarily active on the German electricity wholesale market through its coal power plants, where RWE held a joint dominant position with E.ON.[31] The transaction would have resulted in a significant competitor disappearing from the market, thus strengthening RWE's (joint) dominant position. Furthermore, the notified transaction would have led to horizontal unilateral effects in Bielefeld, which belonged to the distribution zone of RWE, and where on the low calorific gas (L-Gas) supply market of industrial large consumers the only competitor of RWE before the transaction was Stadtwerke Bremen. (For further details see *Driessen-Reilly et al.* [2009*b*].)

subsidiary SPE, which was jointly controlled by GDF and Centrica, generated actual competition on the natural gas wholesale market with Distrigaz, which was Suez's natural gas market incumbent subsidiary. Furthermore, SPE was the most important competitor of Electrabel, Suez's incumbent subsidiary on electricity markets (it was also present to a lesser extent on natural gas markets). On the French natural gas wholesale markets, Distrigaz put the most competition pressure on the incumbent Gaz de France before the transaction. At the time of the transaction, SPE was under the joint control of Gaz de France and Centrica, and it was the second largest market player on both electricity and natural gas markets in Belgium.

[31] The parties had joint dominant position based on the consistent practice of the federal competition authority (Bundeskartellamt), to which the Commission also referred in its decision. RWE and E.ON together held 30 to 40 percent of the installed power plant capacity, together with Vattenfall and EnBW it was even 50-60 percent. The four incumbent companies controlled all of the baseload generation and provided two-third of the total electricity production in Germany. See section 237 of decision in Case/COMP/M.5467 RWE–Essent (https://ec.europa.eu/competition/mergers/cases/decisions/m5467_20090623_20212_en.pdf).

In the EDF–Segebel-case (2009), the Commission expected that, as a result of the transaction, a significant potential entrant, France's EDF, would have been less motivated to enter the Belgian electricity wholesale market via the development of new production capacities. Before the transaction, EDF planned to build two plants which would have accounted for 10 percent of Belgian production capacities. Segebel was a holding company which among its interests held a 51 percent stakes in SPE, a company active on the Belgian electricity wholesale market. (For details see *Asbo et al.* [2010].)

In the GDF Suez/International Power-case (2011), the Commission identified competition concerns on the Belgian electricity generation and wholesale markets. GDF Suez was a dominant player on the Belgian electricity market, while International Power had stakes in the T-Power gas power plant, whose production capacities (0-5 percent of the Belgian capacities) were committed to RWE in a long-term contract.[32] Furthermore, International Power had an operation and maintenance contract with T-Power. The theory of harm suggested that after the transaction, International Power's share in T-Power would have made it possible for GDF Suez to use sensitive information related to the operation of T-Power (natural gas purchase, patterns of electricity production, maintenance schedules, etc.) in its business decisions-making related to its own power plants. Ultimately, these would have made it possible for GDF Suez to raise prices, while also putting its competitor, RWE, at a competitive disadvantage. (See *Gatti* [2011].)

In the E.ON–Innogy-case (2019), the Commission found that the merger would significantly reduce competition on the German market for the supply of electricity for heating purposes, as the parties were the largest players on the supply side before the transaction, while smaller firms typically faced significant entry/expansion barriers. The parties had a strong position on the Czech markets for the retail supply of natural gas and the retail electricity supply to households and small businesses, as well as on the Hungarian market for the retail supply of electricity to unregulated businesses, and they were at the same time close competitors. Thus the transaction in its original form would have resulted in the loss of competitive pressure on each other. Similar effects could be expected in respect of electric charging stations on German highways, as only a few market players operate (or plan to operate) these, and in several instances the charging stations of the parties were situated in close proximity.

2. Capacity withholding

In the EdF–British Energy-case[33] (2008), the Commission identified horizontal unilateral effects in the British electricity generation and wholesale market. Before the merger, the capacities of British Energy were based on baseload (primarily nu-

[32] Before the transaction, T-Power was a full-function joint venture under the joint control of Tessenderlo (33.3%), Siemens (33.3%) and International Power (33.3%).

[33] COMP/M.5224 EdF/British Energy (https://ec.europa.eu/competition/mergers/cases/decisions/m5224_20081222_20212_en.pdf).

clear) power plants, while Electricité de France (EdF) had a more flexible generation portfolio, with coal and natural gas-fired power plants. The Commission was of the opinion that the merged entity would have an incentive to withdraw part of its baseload capacities in order to increase the market price of its infra-marginal production units (situated on the *merit order* curve representing short-term supply on the left from the intersection point with the short-term supply curve).[34] The Commission found the potential effect significant, despite the fact that the merging parties' cumulative market share on the generation and wholesale market was less than 30 percent, and the market was not concentrated (HHI was under 1000[35]). (For further details see *Driessen-Reilly et al.* [2009*a*].)

A similar theory of harm was formulated in the RWE–Essent-case (2009), where RWE would have had greater incentives to withhold its electricity production capacities and thus increase prices following the transaction in which its capacities were extended with Essent's coal-fired power plants.

3. Hindering the expansion of competitors

In the EdF–British Energy-case (2008), the Commission expected an increased concentration in the ownership of sites suitable for new nuclear plants as a consequence of the merger. Furthermore, the parties were expected to hold significantly more (limited) connection rights to the electricity transmission network than necessary to realize their capacity expansion plans. Based on this, the parties would have been able to prevent, or at least delay, potential entry into the electricity production market.

Horizontal coordinated effects of concentrations

There is only one case in this sample where horizontal coordinated effects were considered, the RWE–Essent-merger (2009). Although the Commission primarily focused on horizontal unilateral effects, the reference to a joint dominant position in this decision implies that the Commission also found coordinated effects potentially problematic. However, the decision did not analyse the potential coordinated effects in detail.

[34] The merit order curve can be created in the way that we assign to the marginal costs (short-term variable costs) of different production units the production capacities of these units, and then arrange them in an ascending order of the costs. Baseload production capacities are at the beginning of the curve, while gas-fired power plants are at the end. For the explanation on the curve and capacity withholding see for example the article of *Chauve et al.* [2009] related to the aforementioned *E.ON* (2008) antitrust procedure (COMP/39388).

[35] Herfindahl–Hirschman-index (HHI) is used for measuring market concentration. HHI is the sum of the square of the market shares of the market participants, and it can be between 0 and 10 000. Markets with value under 1000 are not considered concentrated.

Vertical effects of concentrations

Within non-horizontal concentrations, the most typical unilateral effect of a vertical merger is *market foreclosure*. Foreclosure may happen where the merger is likely to raise the costs of downstream rivals by restricting their access to an important input (input foreclosure), or where the merger is likely to foreclose upstream rivals by restricting their access to a sufficient customer base (customer foreclosure) (*EC* [2008*a*] sections 29–30).

Of the cases examined here, some form of input foreclosure was a concern in five cases, while customer foreclosure arose in three cases.

Input foreclosure on energy markets may arise between different levels of the vertical chain if there is no (full) ownership unbundling. This implies that adverse non-horizontal effects may arise if monopolistic activities (e.g. transmission on electricity markets or transportation and storage on natural gas markets) and competitive market activities (e.g. electricity generation or natural gas retail) end up owned by the same company. Even with effective price regulation of monopolistic activities, this may result in a situation whereby the merged entity has the incentive to restrict competition by the degradation of the quality of services provided to downstream competitors.

Competition concerns regarding the lack of ownership unbundling were raised in several cases such as the ENI-EDP-GDP prohibition case and the E.ON-Mol, DONG-Elsam-Energi E2 and Gaz de France-Suez cases approved in Phase II with remedies, furthermore in the Total-Gaz de France, which was approved in Phase I.

In the ENI–EDP–GDP-case (2004), before the transaction, GDP was present on every level of the natural gas market vertical chain (import, storage, transportation, distribution, wholesale), and the transaction would further strengthen this position somewhat. In the Gaz de France–Suez-case (2009), Suez had a very similar position on the Belgian natural gas market.

In the E.ON–Mol-case (2005), after acquiring Mol's natural gas supply contracts and storage capacities, E.ON would have been present in the whole vertical chain of the natural gas market, except for natural gas transmission and domestic production. The resulting input foreclosure concerns would have been further enhanced by the transactional arrangements of the parties, according to which Mol would have kept a 25 percent minority shareholding in its subsidiaries in the natural gas wholesale market and storage. Therefore, Mol would have had an incentive to discriminate against E.ON's competitors in accessing its transmission and storage infrastructure, taking into consideration the remaining structural relationship of the parties. (For further details see *Bartók et al.* [2006].)

In the DONG–Elsam–Energi E2-merger (2006), the competition concern was related to DONG's pre-existing dominant position on the natural gas storage market, which is considered to be the most important factor in ensuring flexibility for natural gas producers. Before the merger, Elsam and ENERGI E2 could provide

flexibility for natural gas producers both seasonally and in the short term, due to the easy controllability of their CCGT power plants. Thus, they could exercise a certain competition constraint on DONG's storage operations, which would have disappeared as a result of the merger.

In the Total–Gaz de France-case (2004), Total would have had a strong market share after the acquisition of Gaz du Sud Ouest (GSO) from GDF on the retail natural gas market for eligible customers in southwestern France.[36] In addition, Total would also be in a dominant position in the markets for natural gas transmission and storage.

Furthermore, *input foreclosure* may also arise in cases where the merged entity disposes with non-network inputs if, say, the merged entity is active both in the wholesale of natural gas as well as on downstream markets where natural gas can be used as an input (e.g. in natural gas retail or electricity production). In these cases, a vertically integrated supplier may have the incentive to raise the price of the input of the downstream market in order to put its subsidiary into a better position in downstream competition. This kind of input foreclosure theory of harm arose in the *ENI–EDP–GDP*, *E.ON–Mol* and *Gaz de France–Suez* cases.[37]

In the E.ON–Mol-case (2005), the merged entity would have been vertically integrated both on the natural gas wholesale and retail markets, as well as the markets of electricity generation, wholesale and retail. Thus the merged entity would have had the ability and incentive to foreclose its actual and potential competitors from the natural gas retail market and the electricity generation and wholesale markets because the competitors would have been dependent on E.ON when purchasing natural gas. A similar concern was also present in the ENI–EDP–GDP-merger (2004), where after the merger actual (and potential) competitors operating natural gas-fired power plants could have purchased natural gas only from their competitor, the merged entity. The same competition issue also arose in the Gaz de France–Suez-case (2006), related to the purchase of natural gas by Belgian electricity market players.

[36] Eligible customers can form an independent market. According to the regulation, these customers purchase electricity from the liberalized (competitive) market and not through public utility contracts.

[37] *Federico* [2011] has an interesting discussion on the complex relationship of horizontal unilateral effects and this method of input foreclosure. By increasing input costs of price determining electricity production units of the merit order curve (CCGT power plants), thereby foregoing profit on the natural gas wholesale market because of the lost sales resulting from the price increase of the natural gas, the merged entity can still generate profit on the electricity generation market from the increased price of its electricity production units. According to the author, this is a similar behaviour to the situation when the merged entity withholds its capacities to achieve higher profits through its infra-marginal production units. Hence, the two strategies can substitute each other to some extent, thus, according to Federico, related horizontal and vertical effects should not be evaluated cumulatively. If one of the strategies (for example, input foreclosure) is especially strong, then the other will be typically weaker. (According to Federico, cumulative evaluation should be treated in the same way also in relation to the customer foreclosure theory of harm.)

TABLE 4 • **Competition issues in merger cases on energy markets**

Investigated competition issues/procedures	Relevant markets
HORIZONTAL UNILATERAL EFFECTS	
Loss of actual competitor	
GdF–Suez	Belgian and French natural gas wholesale Belgian electricity generation and wholesale
Vattenfall–Nuon	Hamburg and Berlin electricity retail
RWE–Essent	German electricity wholesale
EDF–Segebel	Belgian electricity wholesale
E.ON–Innogy	German electricity supply for heating purposes Czech natural gas retail Certain segments of Czech and Hungarian electricity retail
Loss of potential competitor	
ENI–EDP–GDP	Portuguese natural gas wholesale Portuguese electricity generation and wholesale
DONG–Elsam–Energi 2	Danish natural gas wholesale
GDF Suez–International Power	Belgian electricity generation and wholesale
Capacity withholding	
EDF–British Energy	British electricity generation and wholesale
RWE–Essent	German electricity generation and wholesale
Hindering expansion of competitors	
EDF–British Energy	market of British sites suitable for building nuclear power plants market of electricity grid access connection points
HORIZONTAL COORDINATIVE EFFECTS (ONLY IN THEORY)	
RWE–Essent	German electricity generation and wholesale
VERTICAL EFFECTS	
Input foreclosure	
ENI–EDP–GDP	Portuguese natural gas transportation and storage Supply of Portuguese power plants with natural gas
E.ON–Mol	Hungarian natural gas transportation and storage Supply of Hungarian power plants with natural gas
DONG–Elsam–Energi E2	Danish natural gas storage and flexibility market
Gaz de France–Suez	Belgian natural gas transportation and storage Supply of Belgian power plants with natural gas
Total–Gaz de France	French regional natural gas transportation and storage
Customer foreclosure	
ENI–EDP–GDP	Portuguese natural gas wholesale
DONG–Elsam–Energi E2	Danish natural gas wholesale
RWE–Essent	Regional supply of low calorific value natural gas (wholesale)
OTHER VERTICAL EFFECTS	
EDF–British Energy	British electricity wholesale (decrease of liquidity)

Notes: Table A2 of the Appendix chronologically summarizes examined concentration cases.

Customer foreclosure, as a theory of harm, states that the merged entity can prevent upstream market entrants from accessing competing downstream market customers, with a possible deterrent effect on market entry or a foreclosure effect on actual upstream competitors through raising barriers to entry. Concerns related to customer foreclosure were raised in the *ENI–EDP–GDP*, *DONG–Elsam–Energi E2* and *RWE–Essent* cases.[38]

Concentrations also can have *other vertical unilateral effects*. The Commission investigated one of these: a rather novel, vertical unilateral theory of harm in the *EdF–British Energy* merger. The notified merger, according to the analysis, could have led to a fall in liquidity on the electricity wholesale market. British Energy was in a "long" position on the generation and wholesale markets, as it produced more electricity as a vertically integrated company than it sold to end customers on retail markets. The opposite was true for EdF, which acquired some electricity on wholesale markets, which it then sold on retail markets to end customers. The Commission found that the merged entity would have had the ability and incentive to internalize the sales that earlier went through wholesale markets, thereby (not necessarily intentionally) decreasing liquidity of the market, which would in turn raise prices on wholesale markets, thus raising entry barriers on wholesale and/or retail markets. *Table 4* gives an overview of the merger cases on energy markets.

COMPETITION INTERVENTIONS IN ANTITRUST PROCEDURES

Antitrust procedures by competition authorities generally seldom result in *structural interventions*. The European Commission adopted only one infringement decision in antitrust proceedings where a structural measure was applied.[39] *Commitment* decisions, on the other hand, featured structural or access measures in about half (about 20 cases) of the procedures (*Wils* [2015]).

[38] In the ENI–EDP–GDP-case, the natural gas demand of Portgas (a company belonging to EDP), that was earlier satisfied from the competitive market would have been satisfied by the new merged entity as the result of the merger, thus, foreclosing the players of the natural gas wholesale market. The Commission identified a similar effect in respect of the Danish markets: following the merger, ELSAM and ENERGIE E2's CCGT plants would have been supplied by DONG, an incumbent company in the natural gas market. In the RWE-Essent case, following the merger, Stadtwerke Bremen would have purchased the low-calorie natural gas from RWE.

[39] A structural measure was applied in the procedure against the Austrian Altstoff Recycling Austria (ARA) in 2016. ARA was collecting household packaging waste for recycling, and its unique waste collecting infrastructure was indispensable for other competitors to compete on this market. ARA was fined for setting unfair conditions, and the Commission obliged ARA (based on the suggestion of ARA) to divest part of the household waste collecting infrastructure. [AT.39759 – ARA Foreclosure case OJ (2016) C 432/6. – https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2016:432:FULL&from=ET].

Structural measures are frequently applied in energy markets: both divestitures and other structural measures were applied in several of the procedures below (*Tóth* [2016]). In addition to structural interventions, several behavioural measures were taken, and in three cases prohibition decisions with fines were adopted.

Divestitures

In a divestiture process, an undertaking or part of an undertaking is sold to an independent buyer with the aim of creating a new competitor or strengthening existing competitors (*EC* [2008*b*] point 63). Divestitures are clearly considered the preferred solution by competition authorities in merger cases, when the authority reacts to a structural change in the market with a structural measure – the application of divestitures in antitrust procedures is rather infrequent.

Several divestitures have been applied in energy-related antitrust procedures, enhancing competition in various ways (*Hjelmeng* [2013]). A common type of divestiture is the unbundling of production and transmission capacities, preventing the leverage of dominance from one submarket to another. Further divestiture of certain production or transmission capacities in a given submarket is also featured in several cases. In commitment decisions, the *unbundling of production and transmission capacities* was first applied in the E.ON-procedure (2008). In this case, E.ON, seeking to remedy the competition concerns related to electricity balancing capacities, agreed to the divestiture of the electricity transmission network (the sale of its high-voltage grid) to a new independent buyer. As a consequence of this decision, E.ON was no longer able to favour its own production units during the allocation of balancing capacities.[40]

Another example of the unbundling of transmission and production capacities is the *RWE*-procedure (2009), in which the Commission established a likely dominant position by RWE both in the market of high-pressure transmission (upstream) and the regional distribution (downstream) market. In order to address the competition concerns, RWE agreed to divest the entire gas transmission network *(Thyssengas)*. RWE also committed to making support services available for the buyer and to providing the experts necessary to operate the business.

In the aforementioned E.ON-procedure (2008), production capacities were also divested when a part of E.ON's electricity producing capacities (5,000 MW power plants) were divested to independent buyers. A similar divestiture happened in the procedure against the incumbent operator of the Czech electricity market, České Energetické Závody (CEZ) (2013). CEZ – similarly to E.ON – committed to selling one of its power plants (or a combination of its power plants with about 800-1000 megawatt capacity), to an eligible buyer approved by the Commission.

[40] As a supplement to the above commitments, E.ON also undertook not to re-acquire divested transmission or production capacities for the next ten years.

In the ENI-CASE (2010) *transmission capacities were divested*; here the Commission tried to address concerns arising from ENI's dominant position on the Italian wholesale natural gas market. The company agreed to divest its share of the most important import pipelines (TAG, TENP and Transitgas) in favour of an independent buyer.[41] ENI also committed not to extend or renew its transmission contracts from the time of the decision until the closure of the divestiture process, and not to enter into new transmission contracts which would serve its own interests as a supplier on the aforementioned pipelines (*Sadowska* [2011]). This measure covered such a significant part of ENI's import capacities that it can be even considered an unbundling of production and transmission capacities.

Other structural measures

In addition to divestitures, the Commission took several additional pro-competitive measures which had an effect on the market's structure. Some examples of these include the creation of new bidding zones, the extension of interconnector capacities, and the creation of the Bulgarian power exchange.

The aim of the *creation of new bidding zones* is to foster more flexible and market-oriented electricity supply and prices. In the SVENSKA KRAFTNÄT-CASE (2010), the operator of the Swedish electricity transmission grid (both a public authority and an undertaking in this market) restricted the export capacity of Swedish interconnectors. Svenska agreed to perform considerable developments in the market: it subdivided the Swedish transmission system into bidding zones, and, further to their implementation, agreed to manage congestion in the Swedish transmission system without limiting trading capacity on interconnectors.[42] This led to improvements such that prices were based on a more balanced demand-supply relationship, allowing greater flexibility in electricity supply, thereby avoiding artificial restrictions of cross-border capacities. Where there was insufficient capacity for the operation of these bidding zones in the Swedish network, a new transmission line was created.[43]

[41] The pipeline TAG was actually sold to an entity which is under direct or indirect control of the Italian state. (The buyer was Cassa Depositi e Prestiti, an investment bank, in which the Italian Ministry of Economy has 83 percent ownership.)

[42] Electricity within Sweden typically flows from north to south, as the majority of production capacities are in the north of the country, while the majority of consumers are in the south. During the examined period, the transmission grid of the country had four bottlenecks, where congestion was common. The Swedish system operator, in order to avoid (increased) congestions within the country, restricted exports, thus keeping the price of electricity lower in the country.

[43] It is also interesting that one observation received during market testing highlighted that in the southern part of Sweden prices will actually increase as a consequence of the commitment decision. The Commission found this consequence acceptable in order to end discrimination between Swedish and non-Swedish consumers.

Eight years after the procedure described below, focusing on Swedish-Danish interconnectors, a somewhat similar procedure was conducted regarding the Danish-German interconnectors in the TenneT-case (2018). TenneT, a large German system operator, also committed to making maximum capacity available at the Danish-German interconnection points and to gradually increasing these capacities until 2026.

In the BEH-case (2016) (Bulgarian Energy Holding (BEH) the former state oil and gas company's successor), the Commission identified several competition concerns.[44] The key commitment BEH undertook was to create and operate a power exchange in Bulgaria, where market participants could buy and sell electricity products on an hourly basis for delivery next day. It agreed to do so within three months of the decision.[45] The Bulgarian Energy Holding also agreed to provide liquidity for the operation of the exchange and to transfer ownership within six months of the decision.

Behavioural measures

Together with divestitures and other structural measures, competition intervention measures often contain provisions on the future behaviour of the parties. These behavioural measures by the competition authority usually directly target the conduct that led to a competition concern.

In the Distrigaz-case (2007), the intervention *limited the volume and duration of contracts*. Distrigaz offered commitments stipulating that for each calendar year, on average 70 percent of the gas volumes it supplied to industrial users and electricity producers in Belgium would return to the market under market terms. Contracts with industrial consumers and electricity producers would be concluded for a maximum of five years. In addition, Distrigaz undertook not to conclude any gas supply agreements with its resellers for a duration exceeding two years, and not to include usage restriction clauses in the contracts.

In the EDF-case (2010), French electricity provider Electricité de France also agreed *not to conclude contracts for a duration longer than five years*, and that it would conclude only non-exclusive contracts, allowing consumers to buy electricity from other providers. To avoid any concerns on foreclosure, EDF also agreed to make at least 65 percent of the electricity supplied to large industrial customers available to alternative providers under market terms,[46] and to terminate any re-sale restrictions.[47]

[44] According to preliminary competition concerns of the Commission, subsidiaries controlled by BEH generally included 'destination clauses' in the contracts during electricity tenders.

[45] The power exchange was in the beginning operated by the subsidiary of BEH together with Nord-Pool Spot.

[46] The 65 percent provision is valid for the whole duration of the commitment, while in each calendar year at least 60 percent should be made available for alternative providers.

[47] The duration of commitments was for ten years, both regarding the contracts and re-sale restrictions; commitments regarding contracts were applicable only in the case EDF's market share does not fall below 40 percent in two consecutive years.

TABLE 5 • **Antitrust intervention measures on energy markets**

Competition authority intervention	Examples for relevant procedures
Divestitures	
Unbundling of production and transmission capacities	E.ON electricity, RWE
Divestiture of production capacities	E.ON electricity, CEZ
Divestiture of transmission capacities	ENI
Other structural measures	
New bidding zones, enhancement of interconnector capacities	Svenska Kraftnät, TenneT
Creation of power exchange	BEH
Termination of restrictive provisions	
Restriction of volume and duration of contracts	Distrigaz, EDF
Price revision clause	Gazprom
Prohibition and fines	
Market sharing, restrictive agreements	E.On–GdF, electricity exchanges
Discrimination, abuse of dominant position	Opcom

As mentioned above in the Gazprom-case (2018), the Commission also investigated an exploitative abuse (excessive pricing) and included a *price revision clause* in its decision. Here, Gazprom introduced a bi-annual price revision mechanism allowing each contractual party to request a gas price revision in the event of a change of economic circumstances in European gas markets, or if the contract price failed to reflect the development of certain prices in certain western European countries. If an agreement was not forthcoming, the commitments opened up the possibility of referral to arbitration.

As seen above, in the case of two anti-competitive agreements and one abuse of dominance case, infringements were established. During these procedures, certain behaviours were prohibited and *fines imposed*. However, other structural measures were not taken. Table 5 lists the antitrust procedures according to the type of intervention measure taken.

Effectiveness and review of antitrust interventions

Whereas a comprehensive study of the effectiveness of antitrust interventions has yet to appear, it is widely acknowledged that the sector has undergone significant development and important efficiency gains can be met through further market integration (*Booz & Company* [2013]). Some cases also show how market developments allowed the review and early termination of the commitments. In the E.ON-case (natural gas, 2010), at E.ON's request, the Commission 're-assessed the market situation and concluded that, due to this material change in the structure of German gas market, the commitments were no longer necessary.'

COMPETITION INTERVENTION IN MERGER CASES

If a merger raises competition concerns, the parties may seek to modify the concentration in order to resolve them and obtain clearance of their merger. It is the responsibility of the parties to put forward commitments; the Commission may not unilaterally impose any conditions. If the parties do not propose valid remedies to eliminate competition concerns, a prohibition decision is adopted (*EC* [2008*b*] sections 5–6).

Structural commitments are generally preferable, given that such commitments prevent competition concerns related to the merger permanently and do not require monitoring measures. Nevertheless, other types of commitments may also be suited to preventing the significant impediment of effective competition.

The Commission notice (*EC* [2008*b*] – henceforth, Notice) draws a general distinction between 1) *divestitures* and 2) *other (structural) remedies,* such as granting access to key infrastructure or inputs on non-discriminatory terms, and 3) *commitments relating to the future behaviour* of the merged entity. The Commission clearly prefers divestiture commitments as a remedy. Other structural measures may be also suitable to resolve competition concerns if those remedies are effectively equivalent to divestitures. However, behavioural commitments may be acceptable only exceptionally in very specific circumstances.

For the sake of consistency, our discussion of cases henceforth pays heed to the categorization established by the Notice, even though this was published at the end of 2008, after several procedures discussed in this study were concluded. It is important to note that due to the complexity of energy market mergers, different types of remedy often existed in parallel in these cases. Accordingly, besides divestitures, the Commission often used other (quasi-structural) remedies as well.[48]

Structural remedies (divestiture of a viable and competitive business, removal of links with competitors) were applied in nine cases, while other (quasi-structural) measures were established in four cases by the Commission. In line with the priorities of the Commission, behavioural commitments were accepted only in a complementary manner.

Structural remedies

The Commission understands structural remedies primarily as divestitures. The Notice differentiates between two basic forms of divestiture: 1. divestiture of a viable and competitive business (divestiture), 2. removal of links with competitors (*EC* [2008*b*]).

Almost in all merger cases discussed in this study which raised horizontal competition concerns and were cleared with remedies, assets of the merging parties

[48] Section 63 of the *EC* [2008*b*] also refers to the fact that sufficient lowering of entry barriers often is not achievable by individual measures.

were *divested*. The Commission accepted the separation of network elements as a structural commitment also in vertical mergers, where foreclosure resulting from the lack of ownership unbundling was a relevant competition concern (except the *Total-Gaz de France* case).

The E.ON–Mol-case (2005) was the first to conclude with a divestiture. In order to remove input foreclosure concerns, the Commission cleared the merger on condition that Mol divests its remaining 25 percent shareholdings in the wholesale and storage subsidiaries within six months of the closure date. In addition, MOL shall not acquire direct or indirect minority stakes in these companies for a period of 10 years as long as E.ON is a majority shareholder of these companies. This condition achieved the ownership unbundling in the natural gas vertical chain.

In the DONG–Elsam–Energi E2-merger (2006), in order to solve the input foreclosure concern related to the flexibility issues of the natural gas storage market, DONG offered to sell the larger of its two natural gas storages in Lille Torup (Jutland), and, it undertook not to acquire direct or indirect control over the whole or part of the storage for ten years.

In the Gaz de France–Suez merger (2006), among other commitments, the parties offered to relinquish Suez's control over Fluxsys, a company operating the transmission network and the Zeebrugge LNG terminal. This commitment served to eliminate the input foreclosure resulting from the lack of ownership unbundling.[49] To solve the unilateral horizontal concern on the Belgian markets, Suez divested its shareholdings in Distrigaz and SPE (which was controlled jointly by Suez, GDF and Centrica). Furthermore, GDF divested Cofathec Coriance, to solve the horizontal concern on the French district heating market.

In the EdF–British Energy-merger (2008), the remedies applied by the Commission were relatively intrusive, considering that the merging parties' market shares did not seem to be significant.[50] To solve the horizontal competition concern related to capacity withholding, the parties offered to divest one of British Energy's coal-fired power plants (Eggborough) and another CCGT power plant of EdF (Sutton Bridge). Furthermore, to solve the horizontal concern related to the restriction of entry, the parties offered to sell one of the sites suitable for building a nuclear power plant (Dungeness or Heysham) to an independent operator.[51]

[49] Besides this the parties (as a behavioral commitment) undertook to expand their Belgian and French natural gas infrastructure capacities. Among their commitments, they offered to create a joint entry point on the Zeebrugge terminal in order to solve the difficulties resulting from the lack of access capacity at the hub.

[50] The EdF–British Energy-merger is also interesting from the point of view that following a market test, the Commission did not accept the first commitment package submitted by the parties because it considered that competition concerns related to the capacity withholding and the decrease of liquidity were not solved by the commitment. Therefore, the merger was cleared only after the parties amended the commitment.

[51] Besides this the parties offered the commitment to terminate the connection contract concluded with the transmission system operator regarding Hinkley Point.

In the Vattenfall–Nuon-merger (2009), in order to solve the horizontal competition concerns, the parties offered to sell Noun's German subsidiary, including temporary rights to use trademarks related to Noun. Considering the fact that no competition concerns were identified outside Berlin and Hamburg, Vattenfall was offered the option to carve out and keep for itself customers' contracts unrelated to the retail supply of gas and electricity in Berlin and Hamburg, and two of Noun's German subsidiaries which were not active in the electricity retail segment.

In the EdF–Segebel-merger (2009), the parties committed to selling one of EdF's two project companies set up to implement EDF's planned CCGT construction projects. In addition, the parties offered to divest the assets of the other company in the event that, by a certain date, the new entity did not take a positive investment decision to construct the CCGT project in question or decided not to proceed with the investment. The aim of the commitment was to ensure that investment projects started by EdF would continue on the Belgian electricity market *(invest or divest)*.

In the GDF Suez–International Power-merger (2011), the parties offered the commitment to divest International Power's share in T-Power and to transfer T-Power's operation and maintenance agreement to third parties.

In the E.ON–Innogy-merger (2019), in order to solve horizontal competition concerns, the parties offered to divest most of E.ON's customers supplied with heating electricity in Germany, including all assets necessary for effective market operation. Moreover, they offered the commitment to divest E.ON's business in the retail supply of electricity to unregulated customers in Hungary as well as Innogy's entire business in the retail supply of electricity and gas in Czechia. The parties also offered to cease operating 34 electric charging stations located on German motorways in favour of an independent buyer later.

Besides divestments, *removal of links with competitors* is another means of structural intervention. In the RWE–Essent-merger (2009), the commitment of the parties to divest Essent's 51 percent controlling share in Stadtwerke Bremen solved both the horizontal and the customer exclusion theories of harm.

Quasi-structural remedies[52]

Although the Commission prefers the above-mentioned structural remedies (divestiture, removal of links with competitors), it may also accept other types of commitments, but only in circumstances where the other remedy proposed is at least equivalent in its effects to a divestiture (*EC* [2008*b*] section 61). Regarding the energy

[52] The Notice, in its section 17, classifies remedies of other types also to structural measures, however, based on sections 61 to 70 which focus on these remedies, it seems that these are at most quasi-structural measures, therefore we discuss these separately. (*EC* [2008*b*])

market mergers reviewed here, two types of quasi-structural remedy were imposed as conditions: 1. access provided to basic inputs (natural gas, electricity), 2. access to infrastructure, networks. Quasi-structural interventions were more typical for vertical concentrations.

1. Natural gas-/electricity release

Besides the termination of structural relationships through ownership unbundling in the E.ON–Mol-merger (2005), the Commission cleared the transaction only on condition that the merged entity committed to a natural gas release program and a capacity release program in order to resolve the input foreclosure concerns. The aim of the remedy was to ensure market liquidity. Through these programs, E.ON released roughly 14 percent of Hungarian natural gas consumption over nine years (until July 2015).

In the DONG–Elsam–Energi E2-merger (2006), in order to solve the horizontal competition concerns related to wholesale markets, DONG offered to release natural gas equalling 10 percent of Danish annual consumption for six years (until 2011) as part of a natural gas release program. Furthermore, to solve vertical concerns related to customer foreclosure, the commitments contained a clause according to which existing direct customers of DONG who take part in the auctions of the gas release program or buy from a wholesaler who acquired gas via such an auction are entitled to reduce their contractual obligation to purchase from DONG.

In the EdF–British Energy-merger (2008), to address the fall in liquidity, the parties offered commitments to release significant volumes of electricity in the same way as they currently sell electricity on the wholesale market, i.e. through OTC trades and/or structured trades agreements.

2. Access for third parties

In the Total–Gaz de France-merger (2004), which was the first case with a conditional clearance decision among those examined in this paper, the Commission applied a quasi-structural measure to solve competition concerns related to the lack of vertical separation on the local market. As part of the commitment, Total agreed to introduce several measures ensuring non-discriminatory access for third parties to the natural gas transmission network and storage capacities in the distribution area of the acquired Gaz du Sud Ouest (GSO). The remedy first of all ensured that if the consumer changes supplier, transmission and storage capacities related to the supply of the customer are transferred from the old supplier to the new one.

In order to ensure adequate liquidity, in the E.ON–Mol-merger (2005), E.ON also offered to ensure access to storage capacities with regulated prices and under regulated conditions for large customers and traders participating in the natural gas and capacity release programs.

Prohibition

One of the examined energy market cases, the ENI–EDP–GDP MERGER (2004), was concluded with a prohibition decision. Taking into consideration that the merger would have resulted in both significant horizontal and vertical effects; furthermore, that according to the view of the Commission the commitment submitted by the parties would have not adequately eliminated competition concerns, the Commission decided to prohibit the merger. *Table 6* contains competition interventions by the Commission in energy market mergers.

TABLE 6 • **Competition interventions in energy market mergers**

Remedies applied	Examples for the application of remedies
STRUCTURAL MEASURES	
Divestitures	
Divestiture of a business	Vattenfall–Nuon GDF Suez–International Power
Divestiture of wholesale unit, transmission network	E.ON–Mol Gaz de France–Suez
Divestiture of power plants	EdF–British Energy EdF–Segebel
Divestiture of natural gas storages	E.ON–Mol DONG–Elsam–Energi E2
Divestiture of consumer portfolio	E.ON–Innogy
Termination of relationship with competitors	RWE–Essent
QUASI-STRUCTURAL REMEDIES	
Access to infrastructure, Networks	
Access to transportation network and storage capacities	Total–Gaz de France
Access to storage capacities	E.ON–Mol
Access to basic inputs (natural gas, electricity)	
Release of 14 percent of the annual natural gas consumption (HU)	E.ON–Mol
Release of 10 percent of the annual natural gas consumption (DK)	DONG–Elsam–Energi E2
Release of electricity	EdF–British Energy
Prohibition	ENI–EDP–GDP

CONCLUSIONS

The European Commission concluded several (27 according to the criteria used here) procedures in the examined period on the energy markets where some kind of competition intervention took place. A considerable number of these procedures was conducted close in time to sector inquiries by the European Commission (2007), and the adoption of the European Union's third energy package (2009). However, we have found several examples of procedures which were more recently closed or still pending.

Due to the particularities of energy markets, the majority of antitrust procedures are related to abuse of dominance. Additionally, the European Commission completed two cartel cases. In the case of antitrust procedures, the most typical competition concerns were market foreclosure and segmentation of the internal market.

The European Commission generally concluded the dominance cases with *commitment decisions*. Thus, in these cases, there was no finding of infringement but parties addressed the competition concerns by offering commitments which altered their behaviour or changed the market's structure.

The frequent application of commitment decisions resulted in several structural interventions in the markets. While in infringement cases there is only one example of structural intervention (none in the energy sector), commitment decisions resulted in several divestitures and other structural interventions in the energy markets.

In the period examined there were 11 mergers regarding which the European Commission applied remedies, and in one case the merger was prohibited. In 2005 and 2006, three mergers were cleared in complex Phase II procedures, while between 2011 and 2019 the Commission applied no remedies in respect of energy mergers.

Regarding mergers triggering intervention by the Commission, the most common competition concerns were the loss of effective or potential competitors, the withholding of capacities, or the hinderance of expansion by competitors. Vertical competition concerns mostly related to market foreclosure, generally hindering access to inputs or customers.

The Commission typically used divestitures to handle competition concerns in merger cases. Different types of business units were subject to these divestitures (transmission network, power plant, natural gas storage facilities or customer portfolio). In addition to divestitures, quasi-structural access measures were applied, granting access to grids or basic inputs.

In summary, the Commission's antitrust proceedings significantly contributed to the development and integration of energy markets. However, this integration process is on-going, and there is still plenty of room for efficiency gains. The application of remedies in energy mergers is not very frequent, and generally focuses on the elimination of regional competition concerns. Most competition concerns are addressed in Phase I procedures, and this is likely thanks to the lessons learned from previous procedures as well as well-designed transactions.

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APPENDIX

Cases examined

Tables *A1 and A2* chronologically summarize examined cases according to the number of the procedure, name of the procedure and the year of decision. Decisions related to these procedures can be found through the case finder of the European Commission, where the summary published in the Official Journal can be also found, we also indicated this.

TABLE A1 • **Antitrust procedures**

Number of the procedure	Name of the procedure	Year of decision	Accessibility in the Official Journal
37966	Distrigaz	2007	OJ (2008) C 9/8
39388	E.ON wholesale	2008	OJ (2009) C 36/8
39389	E.ON balancing market	2008	OJ (2009) C 36/8
39401	E.ON–GdF-agreement	2008	OJ (2009) C 248/5
39402	RWE	2009	–
39316	Gaz de France Suez foreclosure	2009	OJ (2009) C 57/13
39317	E.ON natural gas market foreclosure	2010	–
39315	ENI	2010	–
39386	EDF	2010	OJ (2010) C 133/5
39351	Svenska Kraftnät	2010	OJ (2010) C 142/28
39727	CEZ	2013	OJ (2013) C 251/4
39952	Power exchanges	2014	OJ (2014) C 334/5
39984	Opcom	2014	OJ (2014) C 314/7
39767	BEH	2016	–
40461	TenneT	2018	OJ (2010)
39816	Gazprom	2018	OJ (2010)

TABLE A2 • **Merger procedures**

Number of the procedure	Name of the procedure	Year of decision	Accessibility in the Official Journal
M.3440	ENI–EDP–GDP	2004	OJ (2005) L 302/69
M.3410	Total–Gaz de France	2004	OJ (2005) C 4/03
M.3696	E.ON–Mol	2005	OJ (2006) L 253/20
M.3868	DONG–Elsam–Energi E2	2006	OJ (2007) L 133/24
M.4180	Gaz de France–Suez	2006	OJ (2007) L 88/47
M.5224	EdF–British Energy	2008	OJ (2009) C 38/8
M.5496	Vattenfall–Nuon Energy	2009	OJ (2009) C 212/16
M.5467	RWE–Essent	2009	OJ (2009) C 222/1
M.5549	EdF–Segebel	2009	OJ (2010) C 57/9
M.5978	GdF Suez–International Power	2011	OJ (2011) C 60/9
M.8870	E.ON–Innogy	2019	–