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ENERGY LIBERALIZATION IN ANTITRUST STRAITJACKET:
A PLANT TOO FAR?

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A Plant Too Far?*

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Abstract

The European Commission has launched a number of antitrust investigations against the major energy incumbents in the aftermath of the energy sector inquiry. Most of them have already been settled under Article 9 of the EC Regulation 1/2003 and the undertakings offered far-reaching, sometimes structural, commitments. This article studies the 2008 investigation into price manipulation in the German electricity wholesale market. In spite of no convincing evidence and flaws in the assessment, the Commission was able to negotiate from E.ON substantial capacity divestments.

The Commission is straightforward about using antitrust rules to open up energy markets. Sector inquiries, commitment procedure and structural remedies allow for a quick intervention, flexible problem-solving and bring about decisive changes in the energy market setting. However, harnessing antitrust for the purpose of energy liberalization policy has an adverse impact on competition enforcement itself. First, it leads to a number of 'weak' cases, based on far-fetched arguments. Second, it results in remedies which are not tailored to the abuse at issue, but are in line with a wider objective of energy market liberalization, and as an outcome of negotiations, further swayed by the firm's own interest in the ultimate shape of the commitment package.

Keywords

Energy Policy ; Competition Law ; Germany

I. Introduction*

A wave of antitrust investigations has shaken the European energy sector in the recent years.¹ In spite of being formally liberalized in 2007, energy markets remained in fact closed to competition.² To get a better insight into the problem, the Commission opened a sector-wide inquiry which confirmed the concerns and identified several areas where competition issues are likely to arise.³ The sector inquiry was then followed by a number of individual antitrust investigations targeting energy incumbents in several Member States. Ten out of fourteen cases have already been closed and in eight of them companies offered far-reaching, sometimes structural, commitments, ushering in a new pattern of antitrust enforcement. In the light of the slow-paced energy liberalization process this no-nonsense go-ahead application of competition rules comes as no surprise. Energy market reforms face strong governmental opposition in several countries.⁴ The lack of political will holds up market opening via regulatory measures.⁵ The Commission may hope to achieve the same effects by antitrust deals with energy incumbents, bypassing at the same time the difficult legislative process.

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¹ So far the Commission has launched fourteen antitrust investigations in the aftermath of the energy sector inquiry: Commission Decision of 11 October 2007 in case COMP/37.966 – *Distrigaz*; Commission Decision of 5.03.2008 in case COMP/38.700 – *Greek lignite and electricity markets*; inspections in the German market - IP/06/483, 12 December 2006 and Commission Decision of 26 November 2008 in case COMP/39.388 – *German electricity wholesale market*; Commission Decision of 26 November 2008 in case COMP/39.389 – *German electricity balancing market*; Commission Decision of 18 March 2009 in case COMP/39.402 – *RWE gas foreclosure*; Commission Decision of 8 July 2009 in case COMP/39.401 – *E.ON/GDF* (prohibition decision); Commission Decision of 3 December 2009 in case COMP/39.316 – *GDF foreclosure*; Commission Decision of 17 March 2010 in case COMP/39.386 - *Long term electricity contracts in France*; Commission Decision of 14 April 2010 in case COMP/39.351 – *Swedish Interconnectors*; Commission Decision of 4 May 2010 in case COMP/39.317 – *E.ON gas foreclosure*; COMP/39.315 – *ENI* (opening of proceedings, 20 April 2007; market test of commitments - Market Test Notice of 5 March 2010, OJ C 055, 2010, pp. 13-15); COMP/39.387 - *Long term electricity contracts in Belgium* (opening of proceedings, 18 July 2007 – IP/07/313); COMP/39.442 – *French electricity wholesale market* (inspections, 11.03.2009 – IP/09/104); inspections in the Czech electricity sector (24 November 2009 – IP/09/518).

² N. Kroes, 'Introductory remarks on Final Report of Energy Sector Competition Inquiry', SPEECH/07/4 (2007). Full liberalization of markets for electricity and gas has been introduced as from 1 July 2007, see Article 21 of Directive 2003/54/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC, OJ L 176, 15 July 2003, pp. 37-56; Article 23 of Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC, OJ L 176, 15 July 2003, pp. 57-78.

³ Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors. The underlying methodology and the outcomes of the inquiry are set out in the DG Competition report on energy sector inquiry (the "Final Report"), SEC(2006)1724, 10 January 2007. The sector inquiry assessment is supported by an in-depth quantitative analysis of six European electricity markets (incl. Germany) carried out by external consultants at the request of the Commission. For the results see London Economics, "Structure and performance of six wholesale electricity markets in 2003, 2004 and 2005", 2007 (the "LE Study") and the Final Report, paras. 997-1020, for the summary.

⁴ Germany and France, later joined by Austria, Bulgaria, Greece, Luxemburg, Latvia and Slovakia formed a strong opposition towards the Commission's proposal of ownership unbundling of energy production and distribution assets.

⁵ Due to resistance of eight 'blocking' countries, the political compromise on the final shape of the 3rd Energy Liberalization Package reached in 2009 was far less ambitious than initially expected: ownership unbundling is not mandatory; the companies are allowed to opt for two less radical unbundling models, one of which has been supported by the eight 'blocking' countries; IP/09/622, 22 April 2009.

Liberalization and competition policy pursue effectively coinciding goals with respect to the European energy markets. Liberalization removes monopolies and exclusive rights and fosters competitive forces up to a point where they, alone, can exercise disciplining pressure on the market players.⁶ Competition policy ensures that these competitive forces are not disrupted, impacting either on the market structure or the firms' conduct. Hence, competition policy plays crucial role in the liberalization process. Seen from this angle, it seems there is nothing wrong in harnessing antitrust rules to accomplish the objective of energy liberalization. Further, the 2004 reform introduced changes to antitrust enforcement substantially facilitating the application of antitrust rules in the energy sector. First of all, the new EC Regulation 1/2003 empowered the Commission to launch sector inquiries in markets where competition appears to be restricted or distorted.⁷ Secondly, Article 9 provided for a relatively simple and quick settlement procedure for antitrust cases, where the remedy package is negotiated between the Commission and the firm (commitment procedure).⁸ Finally, pursuant to Article 7 and Recital 12, the Commission can impose structural remedies in antitrust cases.⁹ Hence, under the new antitrust enforcement regime, the Commission is well-equipped to intervene in the energy sector and negotiate structural solutions directly with the energy incumbents.

Even though the idea of using antitrust policy to foster energy market liberalization appears sound from a teleological and legal point of view, its application may raise concerns. The new pattern of antitrust enforcement marked by a widespread use of commitment procedure and increased intervention on the market structure has two serious implications.

First, to increase its bargaining power and negotiate far-reaching commitments, the Commission may come up with a number of serious anticompetitive allegations. However, Article 9 allows the Commission to close antitrust investigations with no finding of an infringement, significantly lowering the standard of proof. Since neither the dominant position, nor the abuse requires further evidence, the Commission's preliminary concerns are not further investigated rendering the assessment far more perfunctory that it would be under a standard infringement procedure. Settled cases may be thus 'weak' cases, based on far-fetched allegations.

Second, the commitments, often extensive structural measures, are not designed to address the antitrust concerns but are rather an outcome of negotiations and horse-trading between, on the one hand, the Commission, concerned with the slow pace of the energy liberalization process and, on the other hand, the firm, possibly having its own, not always that obvious, interest in the ultimate shape of the commitment package.

To illustrate these arguments, the paper takes a closer look at the E.ON case – an 2008 investigation under Article 102 TFEU¹⁰ mainly into price manipulation on the German wholesale electricity market.¹¹ In this case, in spite of no convincing evidence and a questionable theory of harm, the Commission has negotiated with E.ON far-reaching structural commitments.¹² The commitments,

⁶ M. Armstrong and D. Sappington, 'Regulation, Competition, and Liberalization', *Journal of Economic Literature* 44 (2006): 359.

⁷ Article 17 of Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty, OJ L 1, 4 January 2003, 1-25.

⁸ Article 9 of Regulation 1/2003, note 7 above.

⁹ Article 7 and Recital 12 of Regulation 1/2003, note 7 above.

¹⁰ Treaty on the Functioning of the European Union, OJ C 83, 30 March 2010.

¹¹ Case COMP/39.388 – *German electricity wholesale market*, note 1 above.

¹² The analysis of the E.ON case presented in this paper is based on the publicly accessible case documents. However, one cannot exclude that the Commission might have been in possession of a 'smoking gun' evidence that induced E.ON to offer substantial commitments just to avoid a high fine in an alternative scenario under the Article 7 infringement procedure. Whatever was the E.ON's motivation to enter the settlement with the Commission, it is irrelevant for the hereby presented argumentation and can be left out of the scope of the paper.

requiring E.ON to sell 20% of its generation capacity and hence substantially diminishing its market share, altered the structure of the German electricity wholesale market, yet not necessarily addressing the concerns with respect to the E.ON's abusive behaviour. Building on the insights from economic theory, the case study provides a twofold underpinning for the argument of this paper. First, it emphasizes the weak points in the Commission's cursory analysis of the E.ON's alleged anticompetitive behaviour. Second, it demonstrates that the commitments accepted in this case are not tailored to address the Commission's concerns with regard to the alleged price manipulation. Instead, they are designed to accomplish wider policy objectives of energy market liberalization and, on the top of that, they are swayed by the E.ON's own strategic interests.

II. Far-fetched concerns

Commitment procedure provides for a quick and efficient closing of antitrust cases. Instead of launching a standard infringement procedure under Article 7 of the EC Regulation 1/2003 the Commission may settle an antitrust case on the basis of a preliminary assessment and with no need to find an infringement of competition rules. Hence, in case of an (alleged) abuse of a dominant position, neither the dominant position nor the abuse needs to be demonstrated. Instead, pursuant to Article 9, if an undertaking offers commitments addressing the anticompetitive concerns expressed in the preliminary assessment, the Commission may issue a decision that makes those commitments binding on the undertaking. Such a commitment decision closes the case, stating that there are no longer grounds for the Commission to take action.

The efficiency gains of the commitment procedure come at the cost of an in-depth analysis of the case. The fact that no infringement decision is made allows the Commission to focus its resources on the negotiation process and the outcome of the settlement whereas its preliminary anticompetitive concerns do not undergo any in-depth economic analysis. The lack of this 'reality check' combined with the Commission's fervour to open up the energy markets entails a risk of far-fetched competition assessment. Namely, to increase its bargaining power and to negotiate extensive commitments in line with its liberalization plans, the Commission may deliberately extend the scope of the anticompetitive concerns in the preliminary assessment. Since commitments are supposed to meet the Commission's concerns, the more substantial these concerns are, the more radical commitments the Commission may expect from the undertaking. This would not be possible under a standard infringement procedure, where any alleged abuse of dominant position must be eventually found. Commitment procedure, enabling such easy proliferation of anticompetitive concerns which are not subsequently verified or further analysed, promotes 'weak', unconvincing cases. The E.ON case provides a good example to demonstrate that under Article 9 anticompetitive concerns may be stretched beyond their proper limits.

The German electricity wholesale market is broadly divided between four large electricity suppliers: E.ON, RWE, Vattenfall and EnBW. In 2007 the Commission launched an antitrust investigation into this market on the basis that E.ON may have abused its dominant position for the most part by price manipulation through strategic capacity withholding.¹³ In that respect the preliminary assessment refers to the general findings of the energy sector inquiry.¹⁴ According to them, the German electricity wholesale prices include noticeable mark-ups over and above the competitive benchmark.¹⁵ Strategic withholding of capacity may be one of the reasons for high electricity prices.¹⁶ 'Load factor' calculations for German plants demonstrated significant

¹³ See Annex. The case involves also deterrence of investment in generation by third parties.

¹⁴ The Final Report, note 3 above, para. 427 and p. 150, Conclusions.

¹⁵ The LE Study, note 3 above, Executive summary, p. 17.

¹⁶ The Final Report, note 3 above, paras. 428-448. Suppliers can influence electricity prices in two ways, either by reducing output below the competitive, price-taking level (physical withholding) or by raising the price above the marginal cost (economic or financial withholding). S. E. Stoft, *Power System Economics: Designing Markets for Electricity* (IEEE

discrepancies between the load factors of plants having similar marginal costs below the market price level, indicating that some plants did not operate at their full nameplate capacity at times when they were supposed to.¹⁷ However, there might be several other plausible explanations for a lower capacity factor, i.e. equipment failure, routine maintenance, cogeneration, emissions quota used up or transmission constraints limiting the economic dispatch. Further, whether a given generator is actually willing and able to behave strategically and reduce its capacity to manipulate the market price depends on many factors, like the size and structure of the market, technology mix employed, demand level, eventual capacity and transmission constraints, the amount of capacity covered by bilateral contracts and market architecture.¹⁸ The general conclusions of the energy sector are thus far from conclusive and need to be further investigated on a case-by-case basis. This however is not required in a settlement procedure.

Dominance

Article 102 TFEU deals with abuses of market power by dominant firms. Accordingly, in the first step the Commission focuses on the E.ON's alleged dominant position on the German electricity wholesale market. Already at this initial stage the Commission's assessment raise questions.

First, the analytical techniques used by the Commission for the assessment of dominant position are based solely on traditional concentration indices, despite the fact that these are widely considered inadequate for measuring market power in generation markets. Market shares can only give a first proxy (negative test) of potential market power in electricity wholesale markets and must be accompanied by further electricity specific indices.¹⁹ According to structural market concentration indices, E.ON in fact owned at that time a moderate (as for energy sector) share in the German electricity wholesale market (20-30% of generated capacity between 2002 and 2006).²⁰

Second, and because the calculation of E.ON's market share did not point to a dominant position²¹, the Commission used a concept of collective dominance to be able at all to invoke Article 102 as the legal basis of the charge. Instead of using electricity specific indices to measure E.ON's market power (and in this way prolong the investigation), the Commission preferred to state that *'the German*

(Contd.)

Press / Wiley Interscience, 2002): 454 (Glossary); D. S. Kirschen and G. Strbac, *Fundamentals of Power System Economics* (Wiley, 2004): 40.

¹⁷ The term 'load factor' is somewhat misleading, since in the electrical engineering it represents the ratio between the average load and peak load [see e.g. Stoft, note 16 above: 13]. What is actually calculated here applies to the supply side and is the ratio between the actual generation of a plant over a period of time and its output if it had operated at its full nameplate capacity for the time considered. For details see Final Report, note 3 above: paras. 439-446 and the LE Study, note 3 above: 389-394.

¹⁸ Based on the unilateral profit maximization logic of a withholding generator by P. Joskow and E. Kahn, 'A Quantitative Analysis of Pricing Behavior in California's Wholesale Electricity Market During Summer 2000: The Final Word', *The Energy Journal*, 23, 4 (2002). See Annex, Figure II and accompanying text.

¹⁹ D. Harbord and N. Fabra, 'Market Power in Electricity Markets: Do Electricity Markets Require Special Regulatory Rules?', *Market Analysis Ltd.* (2000): 66; D. Perekhodstev, L. B. Lave and S. Blumsack, 'The Model of Pivotal Oligopoly Applied to Electricity Markets', *Carnegie-Mellon Electricity Industry Center Working Paper*, CEIC 02-06 (2002): 14; F. Wolak, 'Diagnosing the California Energy Crisis', *The Electricity Journal*, August / September, 11, 37 (2003): 15; OECD, *Competition Issues in the Electricity Sector*, Background Note, *OECD Journal of Competition Law and Policy* Volume 6-4 (2005): 109-112; B. Willems and E. De Corte, 'Market power mitigation by regulating contract portfolio risk', *Energy Policy* 36 (2008): 3788; G. Federico and others, 'Competition and Regulation in the Spanish Gas and Electricity Markets', *Reports of the Public-Private Sector Research Centre 1, IESE Business School – University of Navarra* (2008):12.

²⁰ Commission Decision of 26.11.2008 in case COMP/39.388 – *German electricity wholesale market*, Table 1 at p. 5. The accurate market share could not be disclosed due to confidentiality requirements.

²¹ The crucial range for establishing dominance is 40-50%: A. Jones and B. Sufrin, *EC Competition Law* (Oxford University Press, 2004): 399. Taking into consideration E.ON's strong competitors (RWE: 20-30%; Vattenfall: 10-20%) it would be extremely difficult for the Commission to find E.ON individually dominant in this market.

wholesale electricity market is collectively dominated by the three operators E.ON, RWE and Vattenfall Europe within the meaning of Article 82 [Article 102 TFEU] of the Treaty.²² The concept of joint (or collective) dominance has been developed by the European Courts to allow Article 102 application to abusive practices in oligopolistic setting. According to the settled case law, economically independent firms may be found collectively dominant if they are ‘sufficiently linked between themselves to adopt the same line of action on the market’.²³ Thus the Commission referred to the characteristics of the German wholesale electricity market (high concentration, high entry barriers, homogeneous product, transparency) and the existence of structural links between the generators (network of supply agreements) to justify the finding of collective dominance. The joint market share of the three firms rises to 67% (and 77% in German base-load generation only – hydro, nuclear and lignite).²⁴

It is true that the characteristics of the electricity wholesale markets and the repetitive interaction of the generators makes these markets prone to collusive outcomes.²⁵ The Commission was clearly right to take account of this possibility. However, particularly for that reason, it should have used other techniques to measure market power than simple market share calculation. Evidence of market power on the basis of electricity specific indices (PSI, RSI)²⁶ which would indicate actual price-setters, would be particularly adequate to support any theory of collusion.

Last but not least, the Commission’s argumentation lacks coherence. After having quoted all the findings of the preliminary assessment with regard to the joint dominant position of all three generators, the Commission raises doubt whether Vattenfall, due to structural and cost differences reported in the market test and the decisional practice of the German courts, could belong to the collectively dominant group. The question was left open, since ‘under both alternatives E.ON would be considered part of the collective dominant position’.²⁷ Yet throughout the decision only one alternative was considered, that is the joint dominance of the three generators. The Commission disregarded the fact that exclusion of one big player from the group changes the dynamics of the oligopolistic interaction. If the asymmetries between Vattenfall and the two remaining operators were indeed so apparent that it could not be part of the collectively dominant group, E.ON and RWE might not have pursued any common policy at all, either because it was less attractive in the first place or the collusion was unsustainable.

Establishing collective dominance is often a very demanding exercise involving models of oligopoly interaction. Considering that the settlement procedure does not require any infringement to be found, finding of dominance is also not necessary. For that reason, a simple market share calculation supported by the Commission’s arguments on the existence of collective dominance was sufficient to adopt a commitment decision in the E.ON case.

Abuse

Further inconsistencies emerge in the Commission’s assessment of the abuse. The logic behind a profitable capacity withdrawal suggests that it is a unilateral exercise of market power and does not

²² Commission Decision, note 20 above, p. 4.

²³ Case C-393/92 *Almelo* [1994] ECR I-1477, para. 42 (concerning the electricity market); Joined cases T-191/98, T-212/98 to T-214/98 *Atlantic Container Line AB and Others v. Commission* [2003] ECR II-3275, para. 595. For the overview of collective dominance cases see Jones and Sufrin (2004), note 21 above: 827-841.

²⁴ Commission Decision, note 20 above, Table 1 and para. 15, p. 5.

²⁵ D. Newbery, ‘Electricity Liberalization in Britain: the Quest for a Satisfactory Wholesale Market Design’, *The Energy Journal* 26, Special Issue (2005): 57; OECD, note 19 above: 85; B. Willems and E. De Corte, note 19 above: 3787, note 3; Federico and others, note 19 above: 10.

²⁶ Residual Supply Index, Pivotal Supplier Indicator.

²⁷ Commission Decision, note 20 above, paras. 23-24.

require collusion among generators.²⁸ This does not mean, however, that several generators could not collude and reduce their capacities in concert in order to make one of them pivotal. As a result of strategic output reduction of its competitors, a pivotal generator may explore capacity constraints and bid above its marginal costs with no risk of being excluded from the dispatch. The higher market-clearing price goes for the benefit of all colluding generators.²⁹

Even though the Commission found E.ON, RWE (and Vattenfall) jointly dominant in the German electricity wholesale market, it still argued that only E.ON pursued the strategy of capacity withdrawal. According to the settled case law, the concept of joint dominance does not require the undertakings to exercise market power collectively. It may well be a unilateral abuse as long as it is committed to protect the joint dominant position.³⁰ However, according to the Commission's finding in the preliminary assessment, E.ON, RWE (and Vattenfall) could have pursued a common policy to raise prices given the structural links on production and the high degree of transparency allowing the operators to detect and counter possible deviations.³¹ To quote the Commission, '*in terms of production, if an undertaking carrying out a withdrawal of capacity identifies that another one is increasing its production, given transparency the first undertaking could immediately react by doing the same. In terms of prices, the undertakings can immediately react to price offers on OTC markets and wage a price war*'. This suggests that withdrawal appertained to the common policy adopted by the three (or two) operators and should not be assessed as a unilateral exercise of market power. However, for the purposes of commitment decision, the Commission did not have to go beyond the concerns expressed in the preliminary assessment. They in turn echoed the results of the sector inquiry and depicted E.ON's capacity withdrawal as a unilateral profit maximizing strategy of a dominant generator.³² Hence, the only valid argument for the adoption of a common policy to raise prices by all three (or two) generators remains the advantage they take from the price increase. However, the price increase brings a windfall profit for all the generators in the market and as such cannot constitute a stand-alone ground for developing a theory of coordination with respect to the three of them.

The E.ON case does not deal only with price manipulation. According to the Commission's findings, E.ON abused its (collective) dominant position on the German electricity wholesale market through '*withholding of capacity and deterrence of investment in generation by third parties*'.³³ The latter element of the charge points at an exclusionary strategy that only complements the exploitative behaviour and as such seems to be of secondary relevance. The Commission does not elaborate on this abuse in its decision. It takes solely four short paragraphs to explain that the short-term capacity withdrawal might be complemented by '*a medium and long-term strategy of deterring actual or potential competitors from entering the generation market and thereby limiting the market volume in electricity generation*'.³⁴ The exclusion consists of long-term electricity supply contracts and offering new competitors a participation in an E.ON power plant. According to the findings of the Commission, the deterrence of investments enabled E.ON to maintain the excessive price achieved by output reduction.

²⁸ See Annex. Joskow and Kahn, note 18 above, consider a case where only one generator withdraws capacity whereas all the other generators submit bids equal their marginal costs. The authors show that the rational capacity withdrawal is a unilateral exercise of market power and does not require collusion among generators.

²⁹ G. S. Crawford, J. Crespo and H. Tauchen, 'Bidding Asymmetries in Multi-Unit Auctions: Implications of Bid Function Equilibria in the British Spot Market for Electricity', *International Journal of Industrial Organization* 25 (2007): 1258, note 48.

³⁰ Case T-228/97 *Irish Sugar plc v. Commission* [1999] ECR II-2969, para. 66.

³¹ Commission Decision, note 20 above, para. 20.

³² *Ibid.*, paras. 27-40.

³³ *Ibid.*, para. 1.

³⁴ *Ibid.*, paras. 41-44.

Again, the Commission's concerns with respect to E.ON's exclusionary abuse build upon the findings of the sector inquiry. According to that, long-term power purchase agreements (PPAs) might reduce liquidity of the wholesale electricity markets, depending on the nature of such contracts.³⁵ The Commission studies this effect in nine Member States, yet for some reason this analysis has not been done for Germany.³⁶ This raises doubts as to the validity of the charge and suggests a deliberate attempt of the Commission to extend the scope of concerns to include the allegations of exclusionary nature. First of all, by multiplying its concerns in the preliminary assessment, the Commission may hope for far-reaching remedies in the settlement.³⁷ Secondly, an exclusionary abuse shifts the legal basis to section (b) of Article 102 and in this way the Commission avoids criticism of pursuing purely exploitative "section (a)" abuses.

One more remark must be made with respect to the link between the exploitative and exclusionary abuses which the Commission piled up in the E.ON case. According to the Commission, E.ON's long-term supply contracts complemented the output limiting strategy, as they effectively reduced the liquidity of the German electricity wholesale market and enabled E.ON to maintain the higher price resulting from capacity withdrawal. It is true that the long-term electricity supply agreements dry out spot markets, but at the same, by limiting the volume that contributes to the price formation process, they actually mitigate the potential pricing abuse on these markets.³⁸ If a big share of E.ON's capacity is tied up by contracts (excluded from the pool) its incentive and ability to reduce output in order to manipulate the price decreases, since less volume is traded in the pool and the higher price accounts only for the uncontracted capacities. Once the gain from the price increase does not offset E.ON's output reduction, the strategic capacity withdrawal ceases to be profitable. The Commission did not mention in the decision the volume of E.ON's generation sold under fixed-price supply contracts. Paradoxically, supporting the case with alleged foreclosure effects of long-term supply contracts, the Commission undermined the theory of a profitable capacity withdrawal. Since the decision was adopted under Article 9, further explanation of the Commission's concerns in that regard was not required.

III. Far-reaching remedies

The negotiatory character of the commitment procedure entails an inherent risk of accepting commitments disproportionate or even congruent to the (alleged) abuse they are supposed to eliminate in the first place. The remedies imposed by the Commission in an Article 7 infringement decision³⁹, either behavioural or structural, must be '*proportionate to the infringement committed and necessary to bring the infringement effectively to an end.*' Article 9 of EC Regulation 1/2003, unlike Article 7,

³⁵ The question is whether they are purely domestic, or import / export contracts. Domestic contracts and export contracts indeed reduce volumes of electricity traded on the wholesale market. Long-term import contracts, on the contrary, increase the liquidity of the domestic market. See also OECD, note 19 above: 115.

³⁶ Final Report, note 3 above, paras. 467-473 and Figure 57 at p. 158.

³⁷ For example, as explained in Section 0 below, the Commission's concerns with regard to foreclosure effects of E.ON's long-term PPAs might justify the choice of structural remedies instead of simply accepting less onerous behavioural forward contract commitments.

³⁸ Joskow and Kahn, note 18 above: 24; S. Borenstein and others, 'Measuring market inefficiencies in California's restructured wholesale electricity market', *American Economic Review* 92-5 (2002): 1376-1405; Newbery (2005), note 25 above: 48; OECD, note 19 above: 144-145; E. Armington, E. Emch and K. Heyer, 'The Year in Review: Economics at the Antitrust Division, 2005-2006', *Review of Industrial Organization* 29 (2006): 320; F. Wolak and S. McRae, 'Merger Analysis in the Restructured Electricity Supply Industries: The Proposed PSEG and Exelon Merger', Department of Economics, Stanford University (2007), forthcoming in: Kwoka J. and White L., *The Antitrust Revolution: Economics, Competition and Policy* (Oxford University Press, 2008): 16-18. See also M. A. De Frutos and N. Fabra, 'How to Allocate Forward Contracts. The case of electricity markets', Universidad Carlos III de Madrid Working Paper (2009), for an analysis of pro-competitive allocation of forward contracts.

³⁹ Article 7 of EC Regulation 1/2003, note 7 above.

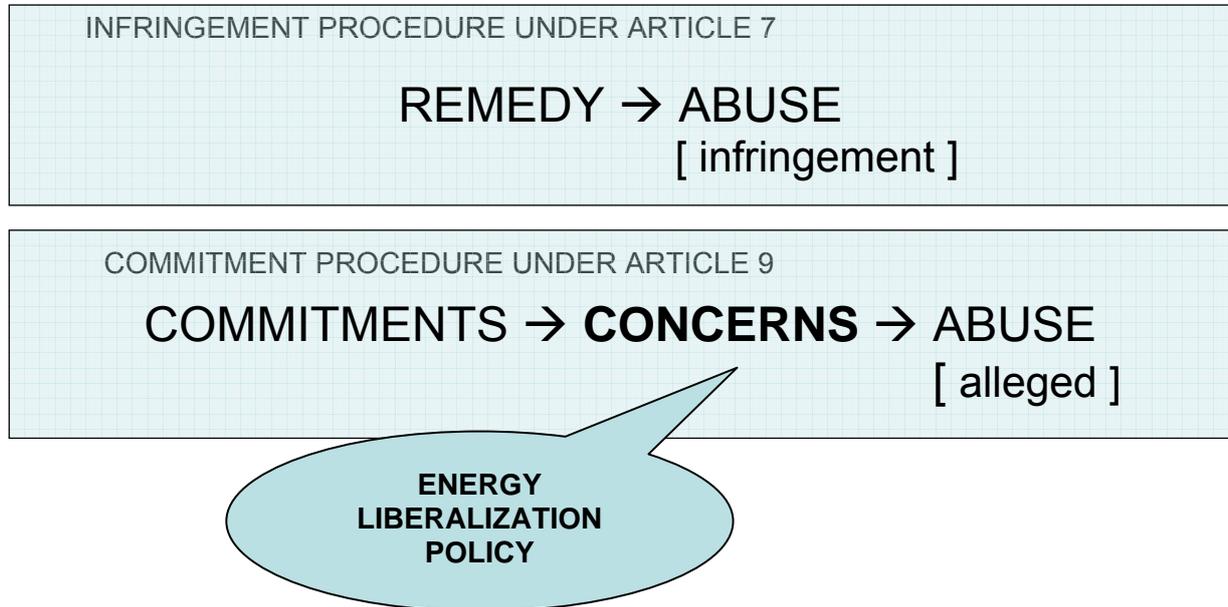
does not refer expressly to proportionality. As a fundamental principle of EU law, however, the principle of proportionality applies to all measures adopted by the European institutions, including Article 9 commitments.⁴⁰ Hence, as all the other measures, the commitments '*must not exceed what is appropriate and necessary for attaining the objective pursued*.'⁴¹ Apparently, the legal framework of the EC Regulation 1/2003 grants the Commission much more leeway as to the shape of accepted commitments than it enjoys when designing remedies in its infringement decisions. The proportionality test formulated in Article 7 demonstrates a clear direct link between the infringement (e.g. an abuse of dominant position through strategic capacity withholding) and the remedy imposed. The Commission can impose only such remedies which contribute to bringing the infringement to the end (abuse-remedy match). To the contrary, Article 9 setting allows for an abuse-remedy mismatch. The principle of proportionality does not require the commitments to match the abuse but rather to be consistent with the *objective* pursued by the measure in question (objective-remedy match). The wording of Article 9 provides further information as to the objective of commitments; they are offered by the undertakings '*to meet the concerns expressed to them by the Commission in its preliminary assessment*.' It is true that the concerns of the Commission expressed in the preliminary assessment do refer to the alleged abuse. However, these concerns can well be of a more general nature, for example referring to the lack of competition in the market or to several possible abuses. As the name indicates, the Commission's assessment is only preliminary.

Concluding, the legal framework grants the Commission more latitude when accepting commitments under Article 9 than when imposing remedies under Article 7. The link between the abuse and remedy in Article 7 decisions is straightforward and leaves no discretion for the Commission in the assessment of proportionality of the remedies imposed. To the contrary, the principle of proportionality applied to commitments makes an indirect link between the (alleged) abuse and the commitments and allows the Commission, by extending the scope of concerns, to pursue wider liberalization goals through antitrust actions in individual cases [Figure 1].

⁴⁰ Recital 12 of EC Regulation 1/2003, note 7 above.

⁴¹ Case 265/87 *Schröder* [1989] ECR 2237, para. 21; Case T-260/94 *Air Inter v Commission* [1997] ECR II-997, para. 144; case T-65/98 *Van den Bergh Foods v Commission* [2003] ECR II-4653, para. 201 [underline mine].

Figure 1: The concept of proportionality under Article 7 and Article 9 of EC Regulation 1/2003 – comparison



A more elastic concept of proportionality under Article 9 makes procedural sense. First of all, antitrust settlements free of unnecessary red tape, are supposed to offer an attractive alternative to lengthy procedures under Article 7. In this respect requiring the Commission to carry out an extensive investigation into the proportionality of the offered commitments would run contrary to the very spirit and purpose of Article 9. Secondly, a commitment package is an outcome of negotiations, not a unilateral measure imposed by the Commission. Entering into settlement (voluntarily) and offering the commitments, the firm implicitly agrees on their final shape. Its active role in the settlement deprives the principle of proportionality of its protective value. Finally, a strict proportionality test under Article 9 would substantially complicate the negotiations, as the firms may often have their own (not always case-related) strategic interest in offering certain commitments in antitrust deals. In these cases, imposing a strict proportionality requirement on commitments would make Article 9 settlements considerably less attractive for the firms.

In spite of what suggests the wording of the EC Regulation, until very recently it was not clear whether there should be a difference in the application of the proportionality test to the remedies imposed in Article 7 cases and the application of the principle of proportionality to the commitments accepted in antitrust settlements. As Article 9 brought a new phenomenon to the European competition law, the Commission, as yet, has lacked supporting case law to precede in settlement cases. However, in June 2010 the European Court of Justice (the ECJ) took a clear and conclusive stance on that matter, setting aside the General Court's (the EGC) judgment in the *Alrosa* case.⁴² The ECJ recognized

⁴² The question of proportionality of commitments emerges into the limelight in the context of the *Alrosa* saga. In 2007 the EGC quashed the Commission's decision in the *Alrosa/De Beers* case, one of the two commitment decisions eventually on appeal, on the grounds that the accepted commitments were disproportionate to the alleged infringement. The EGC made clear that the proportionality test applied to the commitments does not differ from the assessment of remedies imposed in an infringement decision. The case was long time pending before the ECJ (Case C-441/07 P; appeal brought on 26 September 2007 by the Commission). The Advocate General's Opinion issued in September 2009 proposed to set aside the EGC judgment (Opinion of Advocate General Kokott delivered on 17 September 2009 in case C-441/07 P

that the commitments provide a more rapid solution resolving competition problems than the remedies imposed under Article 7 and hence their assessment in the light of the proportionality rule differs from the proportionality test applied in the infringement procedure. According to the Court, ‘[Article 9] does not require the Commission to make a finding of an infringement, its task being confined to examining, and possibly accepting, the commitments [...] in the light of the problems identified by it in its preliminary assessment and having regard to the aims pursued. Application of the principle of proportionality by the Commission in the context of Article 9 [...] is confined to verifying that the commitments in question address the concerns it expressed to the undertakings concerned and that they have not offered less onerous commitments that also address those concerns adequately.’⁴³ By acknowledging this, the ECJ clearly gave the Commission a judicial ‘green light’ to implement the energy liberalization policy through antitrust settlements.

The E.ON investigation provides an interesting case study to find out whether the Commission takes advantage of a greater margin of assessment left to it under Article 9 and negotiates commitments that are not designed to fit the abusive behaviour but are supposed to achieve wider policy objectives. In the light of the German government’s opposition towards the 3rd energy liberalization package, especially in the context of ownership unbundling, one might conjecture that the Commission will try to negotiate structural commitments from a German energy incumbent, having a clear energy liberalization objective in mind. And indeed, to address the Commission’s concerns E.ON offered to sell off about one-fifth of its generation capacity.⁴⁴ The attempt of this section is to examine, in a two-step proportionality test, whether the divestiture imposed in the E.ON case matched the alleged abuse (strategic capacity withdrawal) or not. A negative outcome of this test (abuse-remedy mismatch) would mean that the settlement procedure allows the Commission to accept remedies which it could not otherwise impose in an Article 7 infringement decision.

- **Step 1: alternative behavioural commitments?**

According to the principle of proportionality, the Commission should not require divestment in circumstances in which a less onerous but equally effective behavioural remedy is available.⁴⁵ Obviously, controlling E.ON’s bids and constant monitoring of its power plants to prevent eventual capacity withdrawal would be indeed burdensome both for the Commission and for the operator.⁴⁶ Even though monitoring remedies are easily reversible, once sloppily implemented, they would remain ineffective. By contrast, forward contract commitments might effectively reduce E.ON’s incentives and the ability to use its capacities strategically. E.ON could offer to sell a sufficient amount of its generation under fixed-price contracts so that further capacity reduction in the pool would cease to be a profitable strategy to manipulate the market-clearing price.⁴⁷ Such a remedy however would run contrary to the Commission’s concerns of exclusionary nature, as it would further decrease the volume of electricity traded in the pool. For the same reason capacity divestment commitments, i.e. virtual

(Contd.) _____

Commission v Alrosa) AG Kokott argued that the Commission should be granted “the same margin of assessment in the context of Article 9 of Regulation 1/2003 which it enjoys, according to case-law, in connection with the assessment of commitments in merger control” (at para. 72). Finally, in June 2010, the ECJ followed the AG’s Opinion and overruled the EGC judgment (ECJ judgment of 29 June 2010 in case C-441/07 P, *Commission v Alrosa*, not yet reported).

⁴³ Case C-441/07 P, *Commission v Alrosa*, note 42, *in fine* paras. 40-41 [underline mine].

⁴⁴ Report on Competition Policy 2008: 50; Press Release IP/08/1774, 26 November 2008.

⁴⁵ See case law at note 41 above.

⁴⁶ The legal test in Article 7 suggests that the competition authority (CA) cannot impose a structural remedy just because an equally effective behavioural remedy is more burdensome (in monetary terms but not only) for the CA to implement. Recourse to structural remedies is only justified if an equally effective behavioural remedy is more burdensome for the undertaking at issue. In the same line A. Tajana, ‘Structural Remedies and Abuse of Dominant Position’, Tilburg University, TILEC Discussion Paper, DP 2005-033 (2005): 12.

⁴⁷ See note 38 above and accompanying text.

power plants (VPPs), could not be considered an effective remedy in the E.ON's case where one of the alleged abuses lies in strategic deterrence of investment in generation, in particular by offering new entrants to participate in E.ON's power plants. Leaving aside the question, whether a 'virtual' divestment is equally effective in terms of mitigating market power in the pool to a "physical" one, it will deter rather than foster investments in generation (at least in the short run)⁴⁸ and therefore, it might not address the alleged exclusionary abuse. For this reason only it would not constitute an equally effective behavioural remedy to the divestiture of assets.⁴⁹ It appears that by extending the scope of its concerns to exclusionary abuses, the Commission precludes any potentially equally effective behavioural remedies and justifies recourse to a structural solution. Accordingly, it states in its decision that there exists no equally effective behavioural remedy to the asset divestment to address its concerns for the German electricity wholesale market. Further, it argues that '*a substantial risk of a lasting or repeated infringement by the alleged withholding of capacity [...] derives from the very structure of the undertaking*' and that '*withholding was possible due to the nature of E.ON's electricity generation portfolio*'.⁵⁰ Clearly, these lines reflect the Commission's plans to restructure the energy industry according to its liberalization agenda.

Assuming that a structural solution is justified in the light of the Commission's preliminary assessment, that is, no equally effective behavioural remedy is available in the present case, it is still to be asked whether there is a less onerous but equally effective structural measure that would address the Commission's anticompetitive concerns.

- **Step 2: appropriate and necessary structural commitments?**

The following paragraphs take a closer look at E.ON's generation portfolio and the selection of divested power plants in terms of fuel and technology.

Table 1 below presents E.ON's total generation capacity in the German wholesale electricity market short before the divestiture. The calculated percentage shows which technologies play a major part in the E.ON's generation portfolio.

⁴⁸ They may, however, stimulate investments in generation indirectly (in the long term, as a part of the Commission's two-stage strategy). See L. Hancher and A. de Hauteclocque, 'Manufacturing the EU Energy Markets: The Current Dynamics of Regulatory Practice', *Competition and Regulation in Network Industries* 11, 3 (2010): 327.

⁴⁹ There are few economic studies attempting to measure the effectiveness of VPPs. Boisseleau and Giesbertz study the impact of VPPs on competition and liquidity in the Dutch electricity market: F. Boisseleau and P. Giesbertz, 'Assessing Regulatory Measures in Electricity Markets: The Case of VPP in the Netherlands', 29th IAEE International Conference, 7-10 June (2006), Potsdam; Federico and López study alternative market power mitigating measures and argue that an optimal divestiture of assets can be significantly more pro-competitive than the sale of capacities. According to their results, Virtual Power Plants (VPPs) can be at best as effective in bringing the prices down as divestiture of baseload generation of the same size, whereas divesting high-cost generation would mitigate market power more effectively. See G. Federico and A. L. López, 'Divesting Power', Public-Private Sector Research Centre, IESE Business School – University of Navarra, Working Paper 812 (2009).

⁵⁰ Commission Decision, note 20 above, paras. 81-82.

Table 1
E.ON's generation capacity by sources – Germany, 2007.

ENERGY SOURCE	C ^S (MW)	C ^S /TC (%)
hydro (incl. pump storage)*	3153	12%
nuclear	8548	33%
lignite coal	1314	5%
hard coal	7466	28%
gas	4219	16%
oil	1145	4%
others (wind, biomass et al.)	406	2%
TOTAL CAPACITY	26251	100%

C^S – capacity by source

TC – total capacity

* Pumped storage hydroelectric power plants provide peak load power.

Source: Own calculation on the basis of data from E.ON, 'Strategy and Key Figures', 2008: 39-42.

The first three technologies (hydro⁵¹, nuclear, lignite) represent E.ON's base-load generation. Together they account for half of E.ON's total capacity. Hard coal, the next cheapest fuel source along E.ON's merit-order curve, amounts to 28% of its generation. The smallest, but still not negligible share of E.ON's production covers peak demand (especially gas and oil – 20%). Thus, E.ON generation portfolio reflects a cross-section of technologies covering all demand levels with a substantial share of low-cost generation, nuclear in particular. According to the Commission's preliminary assessment, E.ON had both the 'incentive' to withdraw capacity (substantial number of low-cost power plants) and the 'availability' to implement this strategy (a number of higher-cost plants in the middle of the merit-order curve).⁵² Due to the lack of information on E.ON's contract coverage, this analysis assumes that E.ON's total capacity is traded in the pool in which case its incentive (and ability) for unilateral capacity withdrawal is the biggest.

To examine whether the structural remedy imposed in the E.ON's case was designed to address the alleged abuses, Table 2 lists the divested assets by fuel sources. The calculated percentage demonstrates what share of each technology has been divested.

⁵¹ E.ON's hydroelectric business consists of conventional power plants (mostly run-of-river) providing constant supply of electricity and pumped-storage peak-load power plants. Due to the lack of data, this calculation does not differentiate between hydro base-load and hydro peak-load generation.

⁵² Commission Decision, note 20 above, paras. 40 and 82.

Table 2
E.ON's divested capacity by sources – November 2008.

DIVESTED ENERGY SOURCE	CD^S (MW)	CD^S/C^S (%)
hydro (run-of-river)	359,3	11%
nuclear	1500	17%
lignite coal	604,5	46%
hard coal	1744,6	23%
gas	491	11%
oil	0	
hydro (pump-storage)	347	11%
others (wind, biomass et al.)	0	
TOTAL CAPACITY DIVESTED	5046	19%

CD^S - capacity divested by source

C^S - capacity by source (see Table 1)

Source: Own calculation on the basis of Commission Decision (Fn .20), Annex 'Commitments to the European Commission' (Schedule 1 and 3) and E.ON, 'Strategy and Key Figures', 2008: 39-42.

E.ON offered to divest a big share of its base-load generation. These divestitures include hydroelectric run-of-river power plants (approx. one-tenth of its total hydro generation⁵³), nuclear (also nearly one-fifth) and lignite (almost half of its brown coal generation).⁵⁴ Moreover, E.ON offered additional divestitures further up the merit order: disposal of 20% of its coal-based generation, one gas-fired power plant (approx. one-tenth of E.ON's gas-fuelled business) and two pump-storage hydro power plants. The offered commitments prompt two general observations. First, the divestiture reduced E.ON's capacity in absolute terms (by 20%). Second, it did not change its portfolio structure. Following the divestiture, the shares of the technology sources in the E.ON's total generation remained virtually unchanged. To demonstrate this, Table 3 reflects E.ON's generation structure post-divestiture and juxtaposes it with its pre-divestiture production.

⁵³ Incl. pump-storage, see note 51 above. In reality, divestiture of run-of-river plants accounted for a higher share of E.ON's hydro base-load generation.

⁵⁴ However it must be borne in mind that the biggest share in E.ON's base-load generation goes to nuclear technology, whereas lignite-fired power plants account only for 5% of E.ON's total generation capacity.

Table 3
E.ON's generation portfolio post- vs. pre-divestiture.

ENERGY SOURCE	POST-DIVESTITURE		PRE-DIVESTITURE
	C ^S (MW)	C ^S /TC (%)	C ^S /TC (%)
hydro (incl. pump storage)*	2446,7	12%	12%
nuclear	7048	33%	33%
lignite coal	709,5	3%	5%
hard coal	5721,4	27%	28%
gas	3728	18%	16%
oil	1145	5%	4%
others (wind, biomass et al.)	406	2%	2%
TOTAL CAPACITY	21204,6	100%	100%

C^S – capacity by source

TC – total capacity

* Pumped storage hydroelectric power plants provide peak load power.

Source: Own calculation on the basis of Commission Decision (Fn.20), Annex ‘Commitments to the European Commission’ (Schedule 1 and 3) and E.ON, ‘Strategy and Key Figures’, 2008: 39-42.

- **Commitments and exploitative concerns**

As mentioned in section II, the profitability of capacity withholding to drive up prices depends on many factors.⁵⁵ It appears from the reasoning in the E.ON decision that the Commission attached the greatest importance to the size and the structure of the generation portfolio, claiming that it created both the incentive and the possibility for E.ON to pursue the abusive strategy.⁵⁶ The accepted divestiture indeed scaled the generator's production portfolio down in terms of figures but did not change its structure. In fact, each technology owned by E.ON accounts for the same proportion of its total production as it did pre-divestiture.

Economic literature provides some guidelines as to the remedy design addressing the exercise of market power in the electricity wholesale markets. To start with, it is widely accepted in the literature that the ownership of marginal generation confers greater market power than the ownership of base-load plants, even though both types of assets contribute to the presence of market power.⁵⁷ In line with this argument, some recent economic studies suggest that divestiture of high-cost (marginal) assets is more effective in mitigating market power than the divestment of base-load generation. Crawford, Crespo and Tauchen (2007) used the BFE approach to model the British electricity wholesale market. According to their results, divestiture of higher-cost generation was more effective in bringing the

⁵⁵ Based on the unilateral profit maximization logic of a withholding generator by Joskow and Kahn (note 28 above). See Annex, Figure 2 and accompanying text.

⁵⁶ Commission Decision, note 20 above, paras. 82 and 84.

⁵⁷ Newbery, note 25 above: 68; OECD, note 19 above: 116-117; M. Arellano and P. Serra, ‘A model of market power in electricity industries subject to peak load pricing’, *Energy Policy* 35, 10 (2007): 5130-5135; Federico and others, note 19 above: 13; Federico and López, note 49: 4; A. Banal Estañol and A. Rupérez Micola, ‘Composition of Electricity Generation Portfolios, Pivotal Dynamics, and Market Prices’, *Management Science*, 55, 11 (2009): 1813-1831.

prices down than divestiture of base-load generation.⁵⁸ Wolak and McRae (2008) came to the same conclusion when discussing the remedies imposed in a U.S. merger case between Exelon and PSEG (2005/06).⁵⁹ The U.S. DoJ ordered divestiture of assets with the lowest opportunity cost of withholding them from the market, that is, with marginal costs close to the market-clearing price. The U.S. DoJ argued in this case that the remedy would effectively reduce the incentives of the merging firms to manipulate electricity wholesale prices. No divestiture of the parties' numerous nuclear assets was required, since withholding them would be too costly. Wolak and McRae welcomed the remedy package in the Exelon/PSEG case and reasoned that the divestiture of high-cost generation, affecting the shape of the marginal cost function (rendering it flatter), diminished the incentives to exercise market power more effectively than selling off base-load plants.⁶⁰ More recently, the paper by Federico and López (2009) produced similar results. The authors found that for sufficiently large divestments, a divestment of higher-cost capacity⁶¹ can be several times more effective in bringing the prices down than a divestment of base-load generation of the same size. More specific with regard to the E.ON case is a model of capacity withholding equilibrium designed by Lave and Perekhodtsev (2001) and applied to the California electricity market. In their setting an eventual divestiture reducing withholding incentives would involve gas-fired price-setting generation.⁶²

The insights from the economic literature on the electricity markets suggest that a targeted divestiture reduces prices more effectively than an across-the-board divestiture. Disposal of high-cost generation flattens the individual merit order curve of a portfolio generator and thus reduces its incentive to use its assets strategically. It does not mean, however, that the remedy imposed on E.ON was not pro-competitive. In the electricity wholesale market, these are the assets with similar marginal costs that exercise competitive constraint at a given demand level. This competitive pressure is gone, once the assets belong to one and the same generator. Thus, it can raise the price with no risk of being undercut by competitors' generation. A pivotal generator does not even have to strategically reduce its output to be able to raise the price. If, however, the assets with similar marginal costs belong to competing generators, the submitted bids are lower reflecting the attempts of the generators to undercut each other. In other words, the E.ON's across-the-board divestiture does mitigate market power in the German wholesale electricity market, as it assures that E.ON faces competition at each demand level, reducing its pivotalness.⁶³ It does not, however, address the alleged strategy of

⁵⁸ Crawford, Crespo and Tauchen, note 29 above: 1257-1258: *'This difference in results highlights the importance of the location of divested capacity in marginal cost order for the consequences of divestiture: when intermediate load generation is divested there is less inframarginal capacity and the foregone markup from pricing out units is higher. When base load is divested, there is less inframarginal capacity over which markups can accrue, but the foregone revenues from pricing out intermediate units remains little changed.'*

⁵⁹ *United States v. Exelon Corporation and Public Services Enterprise Group, Inc.* Wolak assisted the U.S. DoJ in the competitive assessment of this merger. See also Armington and others, note 38 above: 320-322, for the description of remedies.

⁶⁰ Wolak and McRae, note 38 above: 28-30. The authors use the residual demand analysis framework to study the impact of different technologies on wholesale prices. They demonstrate that the shape of the marginal cost curve of a generator affects its incentives to exercise unilateral market power.

⁶¹ Federico and López, note 49 above, argue that an optimal divestment (resulting in the greatest price reduction) includes plants that become marginal post-divestment, that is, whose range of costs encompasses the post-divestment competitive price (implying that some but not all of the divested capacity produces in post-divestment equilibrium). Extending their model, in 2010 the authors used the data from the Italian electricity wholesale market to design a single divestment package capable of reducing market power across multiply demand levels; see G. Federico and A. L. López, 'Selecting Effective Divestments in Electricity Generation Markets', Public-Private Sector Research Centre, IESE Business School – University of Navarra, Working Paper 845 (2010), forthcoming in *European Transactions on Electrical Power*.

⁶² L. B. Lave and D. Perekhodtsev, 'Capacity Withholding Equilibrium in Wholesale Electricity Markets', Carnegie-Mellon Electricity Industry Center Working Paper, CEIC 01-01 (2001): 19.

⁶³ Armington and others, note 38 above: 317; Wolak and McRae, note 38 above: 28-30.

unilateral capacity withdrawal directly, the risk of which the Commission wanted to eliminate in the first place.

The Commission reaffirmed in its decision that *'the commitments shall address specific concerns of an abuse expressed in the preliminary assessment and not the dominant position of the undertaking concerned'*.⁶⁴ Accordingly, with respect to the proportionality of remedy in the E.ON case, the Commission stated that the divestiture proposed by E.ON *'removes the incentive to withdraw generation capacity profitably'* and that *'the selection of power plants in terms of fuel and technology [...] was necessary and proportionate to meet the concerns on the wholesale market for electricity'*.⁶⁵ This would suggest that the amount of divested generation was sufficient to prevent further withdrawals of capacity. The Commission seems to have taken it for granted, since no calculation has been done to assess whether the capacity withdrawal was profitable for E.ON in the first place, nor whether it ceased to be profitable post-divestiture. Such exercise was not required in a preliminary assessment under Article 9. Assuming that it was profitable enough for E.ON to pursue the alleged strategy, it remains doubtful whether the divestiture of higher-cost generation effectively eliminated the risk of further withdrawal. The divested generation, aside of low-cost plants, included one-fifth of E.ON's hard coal generation, one peak-load gas power station (one-tenth of E.ON's gas generation) and two pump-storage hydro power plants. The disposal of hard coal- and gas-fired power plants lessens the volume of 'generation to withdraw' but does not remove it, since post-divestiture E.ON is left with the remaining 83% of its high-cost generation (hard coal, gas- and oil-fired generation together). Moreover, E.ON could have some interest in divesting certain uncompetitive or older assets. For example, the nowadays heavily subsidized hard coal power plants are supposed to be closed by the end of 2018.⁶⁶ In these circumstances it might have been convenient for E.ON to divest one-fifth of its loss-making business in an antitrust deal. With regard to the pump-storage hydro assets, their divestment is clearly pro-competitive. A competitor owning such assets would be able to 'store' electricity and sell it on the market during peak demand periods mitigating E.ON's market power. However, it is questionable whether these plants could play part of a profitable withdrawal strategy, since their production depends highly on the changeable weather conditions. Taking into consideration their specific function (balancing market, energy reserves), they do not provide capacities that could be withdrawn from the market.

- **Commitments and exclusionary concerns**

The concerns of the Commission related also to E.ON's deterrence of investment in the power generation business. In that respect the Commission argued that *'the divestiture commitment is necessary and proportionate as it also addresses the concerns with regard to deterrence of investment'*. Again, the literature on electricity markets would rather suggest a disposal of high-cost generation, since price-setting capacity exercises a greater competitive constraint than the one imposed by base-load generation. The entry of independent marginal generation can be much more pro-competitive than the entry of low-cost plants.⁶⁷ However, as observed in the sector inquiry, the

⁶⁴ Commission Decision, note 20 above, para. 60.

⁶⁵ *Ibid.*, paras. 80 and 84.

⁶⁶ Council Decision of 10 December 2010 on State aid to facilitate the closure of uncompetitive coal mines, OJ L 336, 21 December 2010, pp. 24–29.

⁶⁷ According to Federico and López, note 49 above, entry of price-setting plants can be significantly more effective in reducing prices than the entry of base-load plants, pp. 10-11: 'Entry of this type [high cost capacity] shifts the residual demand function of the dominant firm in the same way as a divestment but does not affect its cost curve. Its impact on prices is therefore the same as obtained with a divestiture, as long as the dominant firm prices on its pre-divestment cost function (i.e. its costs do not increase relative to the pre-divestment equilibrium). [...]Preposition 1 therefore indicates that marginal (or price-setting) entry is more effective than baseload entry in constraining market prices, assuming the cost of the new capacity is determined by the same cost function as the dominant firm.'

competitors actually do have access to peak-load generation. According to the findings, the investments in generation of the past few years focused on high-cost gas and wind technologies.⁶⁸ Similarly, the Commission mentions in the decision that *'in practice only more expensive gas-fired capacity was added to the market by the new entrants after 2001'*.⁶⁹ Base-load generation usually comes along with higher fixed costs and the new entrants find it more attractive to invest in peak generation. The Commission thus reasoned that *'the divested plants will help actual and potential competitors to get access to new plants and plants with technologies that they do not possess. The acquisition of such generation capacity will allow the competitors to have a more balanced portfolio and more capacity to exert competitive pressure on the incumbents in the wholesale electricity market'*.⁷⁰ Assuring the competitors' balanced portfolios justifies the divestiture of base-load generation characterised by higher economic barriers of entry and investment. Hence, the concerns of exclusionary nature appear to be an excuse for the across-the-board divestiture, as only in that way the Commission is able to explain the disposal of E.ON's base-load generation.

To sum up, it is highly questionable whether a divestment of power plants representing a cross-section of E.ON's generation portfolio is the best-suited remedy for a strategic capacity withdrawal. Nonetheless, the accumulation of anticompetitive concerns in the preliminary assessment, which went beyond the alleged capacity withdrawal abuse, allowed the Commission first to recourse to a structural solution disregarding alternative behavioural remedies and then to justify an across-the-board divestiture, reducing E.ON's market share in absolute terms. The ultimate shape of the commitment package was thus a result of negotiations between the Commission, pursuing a goal of energy market liberalization, and E.ON, acting in its own strategic interest.

IV. Conclusions

The attempt of this paper is to signal a risky development in the EU antitrust enforcement in the context of energy markets. Coming out with the sector inquiry report the Commission was plain-spoken about its plans to deploy competition rules as a vehicle for liberalizing the energy sector.⁷¹ The follow-up antitrust actions have been tailored to meet these plans. The new antitrust enforcement framework with commitment procedure and structural remedies enabled the Commission a quick intervention, flexible problem-solving and allowed for decisive changes in the energy market setting.

However these cases are not antitrust anymore. They constitute a new phenomenon, a peculiar 'negotiatory' antitrust, characterized by weak cases with extensive remedies. The Commission's reasoning in the E.ON decision is far-fetched and lacks consistency. These flaws in argumentation result from the fact that the outcome of negotiations between the Commission and E.ON has to comply with the standard Article 102 framework, according to which the Commission needs to express its concerns as to the alleged dominant position and its abuse and the commitments it accepts must address these concerns. One should bear in mind that the E.ON decision was issued in the end of 2008, which is a year after the General Court quashed the Commission's decision in the *Alrosa* case. At the time of the E.ON investigation, the *Alrosa* case was pending before the ECJ and the outcome was still far from clear.⁷² Accordingly, the Commission formulated the E.ON decision with a great caution trying to comply with the principle of proportionality and to defend the accepted divestitures with additional exclusionary concerns, sometimes resorting to strained arguments.

⁶⁸ Final Report, note.3 above, para. 407.

⁶⁹ Commission Decision, note 20 above, para. 39.

⁷⁰ *Ibid.*, para. 85.

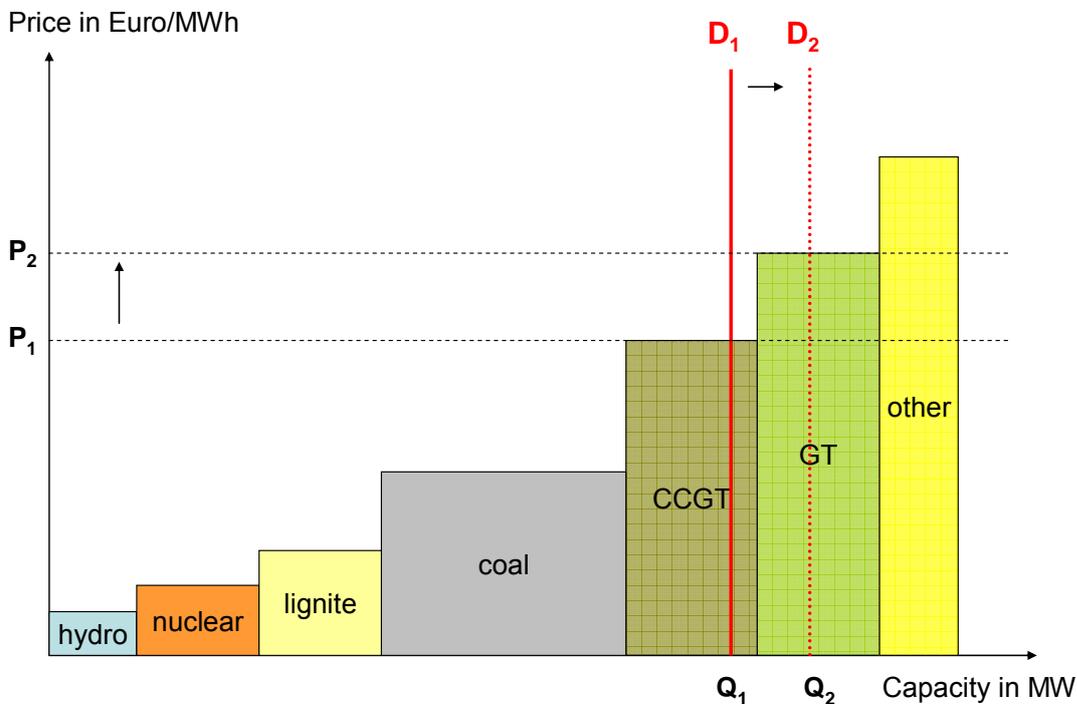
⁷¹ See, for instance, Kroes, note 2 above.

⁷² AG Kokott's favourable opinion, being the first positive signal from the ECJ, which could increase the Commission's self-confidence in Article 9 proceedings, has been issued much later, in November 2009.

Harnessing antitrust enforcement to pursue liberalization policy objectives ultimately causes harm to competition policy itself. Once governed by political choices of energy market liberalization, antitrust rules, bent and stretched beyond their proper limits, slip out of their own systemic framework. Where does competition policy end and where does liberalization policy begin? With the Courts' hands-off approach to commitment decisions as demonstrated in the *Alrosa* case, drawing a line between competition policy and liberalization policy ultimately remains with the Commission.

Annex

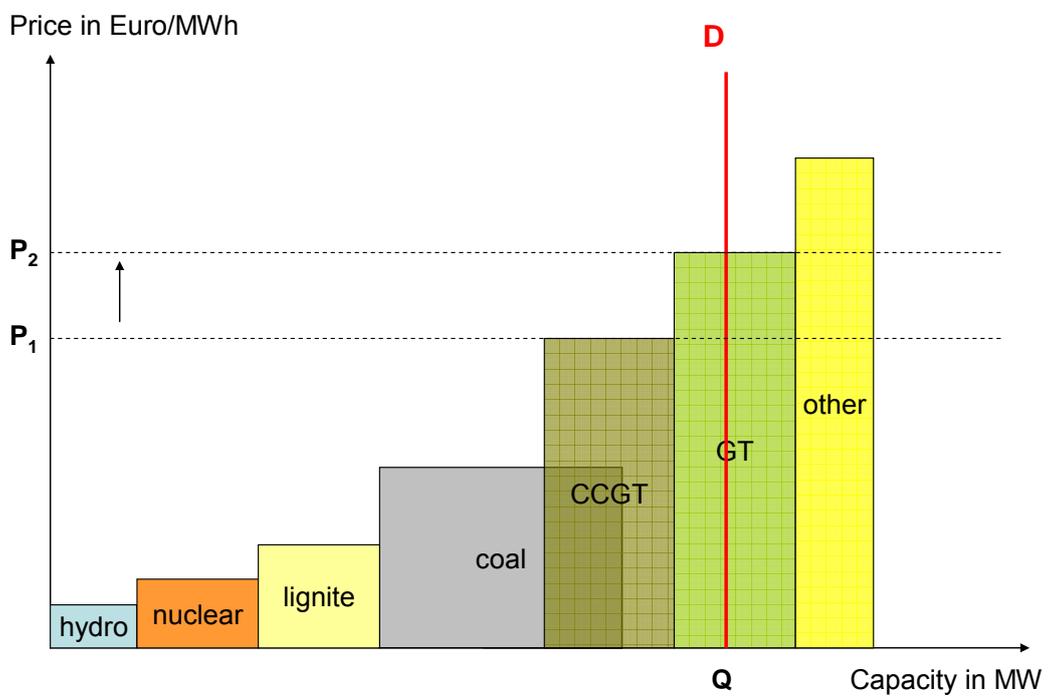
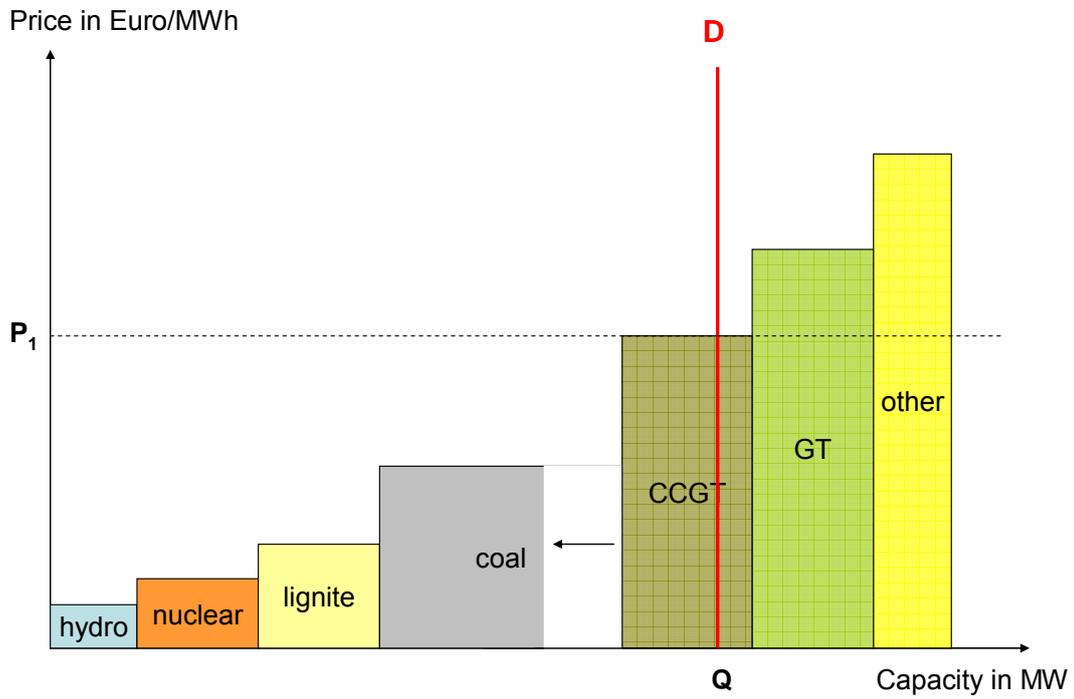
Figure 1
Price formation on a short-term competitive electricity market – schematic representation.



Source: own illustration

Figure 1 illustrates price formation on a competitive short term electricity market with no generation capacity constraints. It demonstrates the basic features of power markets. First of all, the elasticity of demand for electricity is very low. In fact, it comes close to zero in the short run. Hence, to keep things simple, it is depicted as a vertical line at the value of the load forecast for the given time period. Apart from that, demand is volatile over time, raising and falling in daily, weekly and seasonally patterns. Since electricity cannot be stored at a reasonable cost, its supply must be flexible enough to respond to the constant changes in demand. This means that some power plants operate on a constant basis, serving as baseload generation, whereas additional power plants will only go on stream in peak hours. Electricity can be generated using different production technology. The variety of power generation methods creates substantial discrepancies in production costs. For this reason it is efficient to use the low cost power plants (hydro, nuclear, renewable power) on a permanent basis, covering the base load demand as much as possible. By contrast, high cost plants are brought into production only during the peak hours and subsequently deactivated as soon as demand falls (so called ‘peak plants’). Following this logic, Figure 1 presents the aggregated supply curve in form of a ‘merit order’ curve which ranks plants with respect to their production costs (and the technology they use accordingly). The market price is determined by the crossing point of the supply and demand curves, which equals the level of short run marginal cost (SRMC) of the plant generating the last unit of electricity required to meet demand. In case there is an increase in demand (demand curve shifts to the right) the next most efficient power plant is called to generate and the price rises to the level of its SRMC. Consequently, the price decided by the SRMC of the last plant called to generate determines not only the revenues of the marginal generator but also the revenues of all the electricity producers owning plants on the left hand side of the merit order curve. As can be seen from the chart, the further away to the left the plant is ranked, that is, the lower variable costs it has, the higher is its mark up.

Figure 2
The effect of capacity withdrawal on price formation in a competitive short-term electricity market (schematic representation).



Source: own illustration

An increase in demand raises the market price. Just as decrease in supply. An electricity generator, withdrawing its plant from the market or running it below its full nameplate capacity, creates a shortage in supply which must be filled up with additional units of power provided by the plant standing just behind the marginal plant in the merit order, called to generate as a second-best. In this way the new plant becomes the marginal one and its marginal costs from now on determine the market price. It goes without saying that the new plant coming on stream does not have to belong to the withdrawing generator. All generators get the higher market price for the volume of electricity they supply, irrespective of who owns the price-setting capacity. Although the new market equilibrium increases the revenues of all producing generators, not all of them would actually opt for output limitation in order to enjoy a higher price. The strategy of capacity withdrawal implies a trade off between the planned, therefore certain, output reduction and the expected, therefore uncertain, increase in price. A generator finds it profitable to withdraw capacity only if the expected mark-up earned from the price increase exceeds the loss linked to the fall in output. Joskow and Kahn (2002), note 18 above, formulate the unilateral profit maximization logic of a withholding generator as follows:

$$\Delta \text{ Profit} = [(Q - \Delta Q) * \Delta P] - (\Delta Q * P) + \Delta c, \text{ where}$$

- Q - generator's capacity sold through the pool
- ΔQ - capacity withdrawn
- P - price level without withdrawal
- ΔP - price increase due to withdrawal
- Δc - (avoided) operating cost of producing ΔQ

From the equation it appears that the profitability of capacity withdrawal for a generator depends on several key factors.

(i) First of all, one must consider the generator's market share in the market [Q]. Generators controlling capacity that is small relative to the size of the market have no incentive to limit their output as such withdrawal would be unlikely to materially affect the market price. A generator must account for a significant proportion of total industry generation to allow for a withdrawal that brings about a price increase [Q with respect to ΔQ]. Further, the bigger the generator is, the greater is its incentive to withhold, as the mark-up over its remaining production will more than offset the loss in output. Relating to this, one must remember that Q stands not for the generator's total capacity, but the one sold on the power exchange. If a big share of the generator's total capacity is sold under contracts (therefore already excluded from the pool), the remaining output that can be strategically used by the generator is already limited. In such a case the incentive and the ability to make further withdrawals decreases accordingly.

(ii) Secondly, the incentive to withdraw increases with the price rise [ΔP]. A generator would not withhold capacity at any time (at any demand level), but rather in the periods of high demand, when even a small withdrawal results in a substantial price increase. In the periods of low demand, a withdrawal of the same size would result in a modest price increase, due to the flatter slope of the industry's merit order curve. Just for the record, the new market-clearing price is determined by the marginal costs of the next generating unit called on stream. It does not matter whether this unit belongs to the withholding generator or to one of its competitors as even in the latter case the generator is able to forecast the price increase with high accuracy. In peak hours due to capacity or transmission constraints the new marginal generator might be pivotal and set a market-clearing price above its marginal costs, as there will be no other capacities available on the market. Although capacity withdrawal is a unilateral exercise of market power, generators may well collude and reduce their capacities in concert in order to make one of them pivotal, able to explore the capacity constraints.

(iii) Third, since low-cost generation enjoys the highest price mark-up $[(Q - \Delta Q) * \Delta P]$, the profitability of capacity withdrawal hinges on the generator's asset portfolio, which must include a sufficient number of low-cost plants. At the same time, having only base-load-oriented portfolio is not enough, since withdrawing low-cost generation would appear too costly. The optimal candidate portfolio for a profitable withdrawal should also include 'plants to withdraw', which are more expensive in operation [higher Δc] and have lower shutdown opportunity costs [$\Delta Q * P$] than the base-load units. These higher-cost plants are not necessary peak plants, since these already operate in a limited period of time. Rather they can be characterized as high-cost inframarginal generation, to limit the cost of withdrawal but at the same time to be sure the strategy actually affects the market price. According to the Commission officials writing in a personal capacity, the optimal asset portfolio for limiting output strategy should, on the one hand, provide incentive to withdraw (a sufficient number of base-load generation units), on the other hand, guarantee the availability to withdraw (higher-cost plants in the middle of the merit-order curve) [P. Chauve and others, 'The E.ON electricity cases: an antitrust decision with structural remedies', Competition Policy Newsletter 1 (2009): 51-54]. This grouping of generation assets into "incentive assets" and "ability assets" helps to understand the logic behind the capacity withdrawal but it should not be used in the individual cases, as it oversimplifies the picture and might lead to errors in the assessment. Some plants, especially those in the middle of the merit order curve, might be categorized as "incentive assets" or "ability assets", depending on the generator and the load level.

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