IDENTIFYING RELEVANT MARKETS IN THE EU ENERGY SECTOR: EXPERIENCE AND PROSPECTS

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Abstract

The application of EU competition law to the European energy sectors has proved to be complicated, because of the characteristics of electricity and natural gas markets, such as price inelasticity, low levels of liquidity and limited storability. The complexity of the problem is fur-ther elevated by transmission constraints and lack of market integrity, which result in different market conditions and definitions across the EU. This paper is derived from research specifically discussing the extent to which the EU competition rules apply to EU energy markets at both EU-wide and national level. As identifying relevant markets is an important element in establishing whether a market conduct can be deemed anti-competitive or an abuse of market power, the paper conducts a detailed case law analysis to demarcate relevant markets identified in the EU and evaluate legal methodologies employed for that purpose.

Keywords: Energy law, Competition law, European Union.

Avrupa Birliği Enerji Sektöründe İlgili Pazarların Belirlenmesi: Tecrübe ve Öngörüler

Özet

Ham maddelerde kısıtlılık, fiyata yönelik talep esnekliğinin yoksunluğu ve maddi olarak yüksek miktarlarda depolamanın fiziki olarak mümkün olmaması veyahut pahalı olması gibi sadece energy sektörüne özgü olan özellikler sebebiyle, Avrupa Birliği rekabet hukukunun Avrupa enerji piyasalarına uygulanması, gerek Avrupa Birliği Komisyonu kararlarında gerek de yargı kararlarında oldukça karmaşık bir yapıda gelişmiştir. Buna iletim hatlarındaki yetesiz kapasite sorunları, iletim kısıtlarının eklenmesi, enerji piyasalarında rekabet hukukuna ilişkin genel ve tutarlı bir yaklaşımın oluşmasını gittikçe güçleştirmektedir. Bu makale Birlik kurumları ve üye devletler nezdinde enerji piyasalarında rekabeti temin etmeye yönelik uygula-malara ilişkin detaylı bir çalışmanın ürünüdür. Rekabet hukuku metodolojisi herhangi bir piyasa faaliyetinin rekabete aykırı veyahut hâkim durumun kötüye kullanılması olarak değerlendirilmesi için, öncelikle söz

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konusu faaliyetlere ilişkin olarak ilgili pazar analizinin yapılmasını gerekli kılmaktadır. Bu makale, Avrupa enerji piyasalarında ilgili pazar kavramını, bu kavramı belirleyen ana faktörleri ve spesifik olaylarda bu doğrultuda gerçekleştirilmiş hukuki analizleri detaylı olarak incelemektedir.

Anahtar Kelimeler: Enerji hukuku, Rekabet hukuku, Avrupa Birliği.

Introduction

In antitrust laws, defining the relevant markets is an important part of the legal assess-ment. Seeking to locate conduct, which distorts competition, the European Commission is obliged to circumscribe the scope of the markets that the competition takes place within. In so doing, the Commission employs market investigations, analysing the substitution between products from both supply and demand sides. While demand side substitution focuses on cus-tomer behaviour or choice with respect to price changes, supply side substitution refers to the producers' ability to switch production of various goods. To what extent these substitutions can be regarded as evidence indicating the existence of a single relevant market is established through a number of methods applied by the Commission throughout the case law. "Small but Significant and Non-transitory Increase in Price" (SSNIP) is a quantitative test applied by the Commission, which investigates customer activity in reaction to a small price increases (up to 5-10 per cent). However, the SSNIP test is hard to apply due to the lack of available data that helps the Commission efficiently establish the existence of substitutions. When it is concluded that the SSNIP test does not provide enough guidance to identify relevant markets, the Com-mission adopts a qualitative criteria examining the characteristics, prices, and intended uses of the relevant products to see if they can be qualitatively substituted for each other.

Defining the relevant markets in the electricity and natural gas markets, however, requires a different approach due to the complexities inherent in these markets. It had been previ-ously established in case law that electricity and natural gas are two distinct products and diversity of products or production is not one of their features. In most cases, there is a lack of alternatives that can be substituted for electricity and natural gas products. Therefore, the mar-ket analysis based on supply and demand substitution is of little practical value. Instead, the Commission undertakes to investigate the barriers that prevent the entry of potential competitors into the market. When it is found that the behaviour of an incumbent undertaking constitutes a barrier to other market players entering the market, the Commission identifies the relevant markets in

relation to the potential competition. The absence of electricity or natural gas potentially produced by the new market entrants does not mean that these players exert no competitive pressure on the prices. Therefore, the existence of potential competitors is relevant for the definition of markets.

Trading relationships are an important feature for the definition of relevant markets in the energy sector. They can be differentiated based on the level of market players, who produce or supply the electricity and natural gas. Accordingly, the electricity produced and sold to the wholesalers belongs to a different market than that sold to final consumers. Likewise, natural gas procured by the power generators constitutes a different market from the one supplied to industrial users or households. The differentiation between relevant markets on the basis of the characteristics of buyers and sellers of energy products is further complicated by the fact that market conditions and level of national liberalisation vary across the member states. A relevant market identified in certain market conditions and levels of liberalisation may not be may not be identical in other member states with different market conditions and regulatory environments. The Commission, however, provides limited guidance for national or regional competition authorities to evaluate the scope of relevant markets.

Following the introduction in section one, in section two, this paper discusses approaches taken by the Commission regarding the definition of relevant markets in the energy sector. Section three identifies the factors that affect the Commission's practice in case law, and then focuses on the integration of energy markets across the EU and controversies emerging due to the current transition period. In the fourth section, the paper focuses on energy markets from a fragmented and national perspective to evaluate how and to what extent the differences in national approaches affect the market conditions and relevant market definitions. The paper undertakes a country-specific analysis comprising Lithuania, Germany and the UK, indicating that differences in market conditions and levels of liberalisation play a significant role in the determination of priorities in the national approaches about the application of competition law in the energy sector. The fifth section constitutes the conclusion.

1.The European Commission's Approach to Energy Market Definition

The European Commission has identified several relevant markets in the electricity and natural gas markets. Its commitment decisions were based on Articles 7 and 9 of Regulation (EC) No 1/2003

(Regulation 1/2003) as well as Article 8 of Regulation (EC) No 139/2004 (Merger Regulation), according to which the Commission is charged with deciding whether or not the conduct of one or more undertakings or a concentration affecting trade in the EU, is anticompetitive and thus prohibited under the EU antitrust provisions. The majority of energy market decisions are adopted under the Merger Regulation assessing whether the concentrations in these cases are in compliance with EU antitrust rules, the Commission has undertaken extensive market investigations, circumscribing the scope of markets in which parties operate as well as the level of economic power held by the parties in the identified markets. The Commission also discussed several behaviours relating to the procedures under Article 102 TFEU[1]. However, the relevant market analyses in these cases are limited to markets where the effects of the behaviours at issue are present or felt. Therefore, an extensive market identification including several layers of the energy supply chain is absent.

The relevant market analysis is an important part of the legal analysis carried out by the Commission in merger cases, in which the Commission examines the merger of two or more undertakings operating in various segments of the energy sector to evaluate whether or not the relevant concentration distorts competition within the energy markets. In order to delineate the true extent of the effects of the concentration, the Commission is first obliged to define the relevant markets. Accordingly, the concentration may occur either horizontally, where the parties of the merger operate within the same segment of the markets, or vertically, where the parties operate in different segments of the markets or both. In this part of the analysis, the Commission investigates the products that can be substituted for each under, from either the demand[2] or supply side[3]. After determining the relevant markets where the concentration is taking place, the Commission pursues an analysis of the prospective effects of the concentration on the identified markets

[1] For the European Commission's analysis relating to procedures under Article 102 TFEU, see Case AT.39727 – CEZ, Case AT.39984 – Romanian Power Exchange/OPCOM.

[2] Demand-side substitution means the extent of customers' switching in the relevant products in reflection of price changes. See: Commission Notice on the definition of the relevant market for the purposes of Community competition law [1997] O.J. C372/5 para 15.

[3] Supply-side substitution relates to the substitution in the production stage of the relevant products to see whether the suppliers can easily switch between relevant products, in the short term, without significant costs. See ibid, para 20.

and whether the current market situation or competition in the market would be distorted by the specific merger.

The Commission has noted that it considers electricity and natural gas to be separate products and thus subject to different relevant market assessments. Even though electricity and natural gas can be perceived as substitutes for each other, especially in the heating markets, the high switching costs which prevent or hinder customers from altering their energy source renders the two products completely distinct[4]. Switching costs are the costs that consumers of the products have to bear for changing to another product. In paragraph 42 of the notice on the definition of the relevant markets, the Commission stressed that;

"*There are a number of barriers and costs that might prevent the Commission from considering two prima facie demand substitutes as belonging to one single market."*[5]

Since the costs for customers to switch from electricity to natural gas or vice versa are regarded as a barrier to substitution, the Commission established that the relevant market analysis should cover the electricity and natural gas markets separately. In our analysis, we follow the Commission's practice and discuss the electricity and natural gas markets separately.

2.The Electricity Markets

In its investigations, the Commission identified several product and geographic markets in the electricity sector involving generation, supply, transmission and distribution. These markets generally relate to the nature and extent of the services provided by undertakings operating in the different segments of the energy supply chain. It is important to note that electricity cannot be physically stored. It requires specific provisions and services to balance the demand and supply in electricity and those services are also identified as separate markets[6]. The fact that electricity cannot be stored, unlike natural gas and other energy resources, has serious legal implications for the Commission's relevant market analysis. The Commission distinguishes the following markets in the electricity sector.

- Generation and wholesale services

[4] *EDP/ENI/GDP* (Case COMP/M.3440) Commission Decision 2005/801/EC, [2005] OJ L302/69, pg. 5.

[5] Commission Notice on the definition of the relevant market for the purposes of Community competition law [1997] O.J. C372/5 para. 42.

[6] Cameron, P. D. (2007). *Competition in the Energy Markets; Law and Regulation in the European Union,* New York, NY: Oxford, pg. 289.

- Transmission services
- Distribution services
- Retail services

2.1.Generation and Wholesale Markets

2.1.1.Product Market

The Commission has consistently regarded the generation and wholesale supply of electricity as one single market, since the producers are able to switch between these markets in relation to permanent price differences[7]. The generation and wholesale markets in the electricity sector involve;

- the production of electricity in power plants,
- the import or export of electricity via interconnectors and
- selling on the wholesale market to
  - traders,
  - regional distribution companies and,
  - occasionally large industrial final users, but only if they are directly connected to the transmission grid and able to be directly supplied on the wholesale market.

Electricity is a secondary commodity produced through primary products such as oil, coal, natural gas, or solar power, in power plants and generation facilities. The generated energy is then transported through transmission networks to the wholesale buyers or distribution companies who acquire the electricity and sell it on to other end users in the retail market. With respect to the energy mix utilised by the undertakings for the electricity production in merger cases[8], the Commission has made no distinction with respect to the resources from which electricity is generated in the power plants.[9]

[7] See: *Sydkraft/Graninge* (Case COMP/M.3268) Commission Decision 2003/297/EC OJ C 297/22; EDP/ENI/GDP (Case COMP/M.3440) Commission Decision 2005/801/EC, [2005] OJ L302/69; *E.ON/MOL* (Case COMP/M.3696) Commission Decision 2006/622/EC OJ L253/20; *RWE/Essent* (Case COMP/M.5467) Commission Decision 23/06/2009 OJ C222/1; *EDF/British Energy* (Case COMP/M.5225) Commission Decision 22/12/2008 OJ C38/8.

[8]See *RWE/Essent* (Case COMP/M.5467) Commission Decision 23/06/2009 OJ C222/1; *EDF/British Energy* (Case COMP/M.5225) Commission Decision 22/12/2008 OJ C38/8; *TenneT/Elia/Gasunie/APX-Endex.* (Case COMP/M.5911) Commission Decision 15/09/2010.

[9]*Iberdrola/Scottish Power* (Case COMP/M.4517) Commission Decision 26/03/2007 OJ C110/.

The Commission has identified three ways that electricity is traded in the wholesale market:[10]

i. bilateral contracts;
ii. brokers or;
iii. power exchanges.

In bilateral contracts, buyers and sellers of the traded volume are directly involved in the transactions of energy trading. In brokered electricity trade, brokers provide a service matching the potential buyers and potential sellers for which they charge a commission. Finally, electricity can be traded in power exchanges in which multiple buyers and sellers are present at the same time. The first two types of electricity trading are called 'Over-The-Counter' (OTC) markets where the transaction is carried out through a directly or indirectly contact between buyers and sellers. In those markets trade of electricity can take place without the notice of other market players. Therefore, in comparison with the exchanges, the OTC markets are less transparent and less regulated.

The power exchanges, on the other hand, provide greater transparency as well as flexibility in the electricity markets. In exchanges, the trading is generally done anonymously without buyers and sellers knowing each other. It is important to note that the products exchanged in this type of trading are commodity products and what is actually traded is electricity contracts with their varied clauses and terms. Electricity contracts are further divided into short-term and long-term contracts. Short-term contracts generally refer to day-ahead or intraday electricity trading. Since electricity cannot be stored, the balance between electricity supply and demand is of great importance for the functioning of the electricity market. The purpose of the short-term trading contracts is to provide great flexibility and enable market participants and service providers to adjust the volume of necessary electricity in the light of current market information. Long-term electricity trading contracts on the other hand are used to hedge the prices for future demands and thus reduce price risks in relation to differentiations on demand.

The Commission in its earlier decisions did not differentiate between short- and long-term electricity trading when it came to defining relevant markets. The Commission first addressed this issue in a decision on a merger involving electricity markets in the

[10] *OPCOM/Romanian Power exchange* (Case AT.39984) Commission Decision 5/3/2014 OJ C 314.

Netherlands and Belgium[11]. The question as to whether the electricity traded via short-term contracts was in the same market as that traded through long-term contracts was left open. The Commission later addressed the same issue in an Article 102 case.[12] Even though the Commission did not directly decide that the short-term and long-term contracts constituted separate product markets, the facilitation services[13] for the trading of two products were considered separate markets as the facilitation services for short-term and long-term contracts are different and cannot be substituted for each other.

2.1.2.Geographic Market

The Commission adopted a transitory market approach in paragraph 32 of the Notice. Accordingly, defining the geographic scope of the relevant electricity markets, the Commission had to take into account certain elements to determine the level of market integration between member states[14]. In *ENI/EDP/GDP,* the Commission adopted an extensive market investigation including both the Spanish and Portuguese electricity markets, to see whether an Iberian wholesale electricity market exists or will exist in the reasonably foreseeable future[15]. In its analysis, the Commission identified several evaluation criteria for the relevant geographic market, such as:

- The share of imports in the total demand;
- The interconnection capacity at the peak demand periods;
- The level of congestion at the interconnectors;
- The price correlations between markets;
- The regulatory differences;
- The generation mixes.

[11] Finding that the short-term contracts are generally concluded physically, while long-term contracts can also be settled also financially, the Commission takes the view that the distinction has hardly any practical value for the merits of the case. See; *TenneT/Elia/Gasunie/APX-Endex.* (Case COMP/M.5911) para. 34.

[12] OPCOM/Romanian Power exchange (Case AT.39984), para 79.

[13] The facilitation services consist of trading platforms, and clearing services provided by the operators of the exchanges or brokers in the OTC trading to facilitate the conclusion of contracts. In both *TenneT/Elia/Gasunie* and *OPCOM/Romanian Power Exchange,* the Commission found that the facilitation services for the trading of contracts constitute separate markets, since they are distinguished from the trading of contracts in the wholesale markets. See; *TenneT/Elia/Gasunie/APX-Endex.* (Case COMP/M.5911) para. 37.

[14] Commission Notice on the definition of the relevant market for the purposes of Community competition law [1997] O.J. C372/5 para. 32.

[15] *EDP/ENI/GDP* (Case COMP/M.3440) para 76.

The Commission's market investigation indicated that the available capacity and congestion levels at the interconnection points between Spain and Portugal hinder the adoption of wider geographic markets. The available interconnection capacities accounted for only 7-13 per cent of capacity needed at peak demand times in Portugal. Moreover, the congestion rates in the existing capacities were in the range of 25 per cent, reaching 66 per cent in July when the demand for electricity reaches its peak level. Since the two markets are separated by a lack of efficient interconnection, the price correlation also does not exist. Together with the differences in the regulatory framework governing the electricity trade and generation mixes, (e.g. Portugal's high dependence on hydro-power creates further congestion in the interconnectors especially in the summer), the Commission found that the competitive environments in Spain and Portugal are different and thus prevent creation of a single Iberian electricity market[16].

The Commission has established wider geographic markets in differing situations. In *Sydkraft/Graninge,* the Commission found that apart from the peak demand times, the electricity wholesale market in the Nordic Countries, (Norway, Sweden, Denmark and Finland) constitute one price area.[17] In addition to the sufficient interconnection capacities available between these countries, the Commission also stressed the fact that the majority of electricity trading is operated by the same service provider, Nord Pool (Nordic Power Exchange), which was the central market place for sales and purchases of electricity in the Nordic region. Therefore the relevant geographic market was established as Nordic. At peak times, however, the price levels differed across the region in relation to the congestion levels in the flow of electricity and therefore geographic markets remained national in scope[18]. This peak – off peak demand differentiation in the wholesale electricity market was also addressed later in the *RWE/Essent* case, in which the Commission cited the Dutch Regulator's (NMa) conclusion, which was objected to

[16] Ibid., para. 235. In *CEZ*, the Commission, finding the relevant market to be national also established that the differences in fuel mix for power plants in the Czech Republic and neigbouring countries lead to congestion at interconnection points and thus affect the ability of power producers outside the national border to exert competitive pressure against the incumbent suppliers. *CEZ* (Case AT.39727) Commission Decision 10/04/2013 OJ C 251, para. 12. For further detail; Conte G., etc. (2005). EDP/ENI/GDP: the Commission prohibits a merger between gas and electricity national incumbents. *Competition Policy Newslatter.*

[17] *Sydkraft/Graninge* (Case COMP/M.3268) , para.12.

[18] Mateus, A. M., etc. (2008). How to integrate the European Energy Markets: A New Vision. *Annual Proceedings-Fordham Corporate Law Institute*, *Kluwer Academic Publishers.*

by the German regulator, Bundeskartellamt. According to the NMa, while the electricity wholesale market covers both the Netherlands and Germany due to the high interconnection capacity with low congestion levels in off peak hours, the geographic market is no wider than national during the peak hours where price differentials between the countries emerge[19]. The Commission, however, left the question open in this case.

2.2.Transmission and Distribution Markets

2.2.1.Product Market

Transmission services are provided by Transmission System Operators (TSOs). Operators undertake to transport electricity on the basis of a regulated tariff from power plants and other generators through high or medium voltage transmission grids to the wholesalers, distribution companies or large industrial customers, which are directly connected to the transmission networks. The Commission consistently notes in its decisions that the transmission networks constitute natural monopolies and no competition takes place within the area confined to the networks[20]. However, access to these networks is essential to introduce further competition into whole levels of the energy supply chain. In order to secure the ability of producers or traders to obtain access to the transmission networks in a non-discriminatory manner, the European Union adopted a set of rules including directives and regulations. The last of the regulatory frameworks was published in 2009 and is called the "Third Energy Package"[21]. It deals with measures, in particular those on access to the electricity and natural gas transmission networks.

After the electricity is transported through high or medium voltage transmission net-works, the distribution companies acquire the traded electricity volumes in the wholesale markets and transport them using low voltage grids in the retail market to the final users such as small commercial or residential consumer. The Commission also regarded those low voltage distribution networks as natural monopolies provided that they do not overlap in confined

[19] *RWE/Essent* (Case COMP/M.5467) para. 30-32.

[20] E.ON/MOL (Case COMP/M.3696) para 97; Case No COMP/M.3440 – EDP/ENI/GDP (Case COMP/M.3440) para 34; Case No COMP/M.3268 – Sydkraft/Graninge, para. 73

[21] Third Energy Package involves Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas, Directive 2009/72/EC of the Euro-pean Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in elec-tricity, Regulation (EC) 2009/715 on conditions for access to natural gas transmission networks, Regulation (EC) 2009/714 on conditions for access to the network for cross-border exchanges in electricity.

regions[22]. Accordingly, the distribution networks supply electricity to specific customers in specific regions and distribution via one grid, which is not substitutable by another.

2.2.2.Geographic Market

Transmission networks across the EU are generally operated by national TSOs which have exclusively provided management and balancing services to the third parties who want to sell the electricity, which they have produced or imported. They are natural monopolies due to the economics of scale and each network area constitutes a separate market place where the relevant geographic markets for transmission networks are defined as grid-wide[23]. As national markets may constitute one single transmission market, like the majority of transmission markets in the EU, there may also be multiple transmission markets in a single national market, when the existing transmission network operators operate the networks exclusively to an allocated zone without competing with each other (e.g. Germany). Whether the generation/wholesale markets constitute a national entity is irrelevant for the evaluation of transmission markets, because even in wider geographic wholesale markets, the transmission markets may be limited to smaller geographic regions[24].

Distribution networks are operated by regional distribution companies which receive electricity from wholesale markets to sell to commercial or residential end-users within an identified local distribution area. For any given customer, the distribution services received via one grid cannot be substituted for distribution services received via another[25]. Consumers of the distribution markets are unable to choose any particular distributor present in the market from whom they would like to receive services. Therefore, each distribution network constitutes a single geographic distribution market in the grid-wide scope[26].

2.3.Retail Markets

2.3.1.Product Markets

Retail markets consist of end-customers, whose electricity is sold to them through distribution networks. The Commission identified several markets under the heading of retail electricity supply, in

[22] Case No COMP/M.3440 – EDP/ENI/GDP, para 34.
[23] Schaub, A. (2000). 'Competition Policy and Liberalisation of Energy Markets' pg. 4. Retrieved from http://ec.europa.eu/competition/speeches/text/sp2000_023_en.pdf
[24] *Sydkraft/Graninge* (Case COMP/M.3268) para. 75.
[25] *E.ON/MOL* (Case COMP/M.3696)para 217.
[26] *Sydkraft/Graninge* (Case COMP/M.3268) paras, 74,75.

accordance with market investigations on the existing consumption patterns, commercial profiles and approaches to in electricity procurement and prices. In *EDF/Segebel*[27] case, the Commission found that the retail markets consist of three product markets:

- Domestic customers,
- Smaller industrial and Commercial customers, who do not use half-hourly rates,
- Large industrial and commercial customers, who do use half hourly rates.

The electricity consumption of end-users who do use the half hourly rates is measured every half hour due to the high consumption of electricity in these facilities, which is different from the consumption patterns of other end-customers.

In *ENI/EDP/GDP*[28], the Commission distinguished two retail markets for Spain and Portugal:

- Large industrial customers, who are connected to a high and medium voltage grid;
- Smaller industrial, commercial and domestic customers, who are connected to a low voltage grid.

The identification of large industrial customers, who are connected to a high or medium voltage grid caused some confusion. To what extent can these customers be regarded as being in the generation/wholesale market and to what extent they can be categorised as part of the retail markets. The Commission did not clarify this issue in its judgments, however, in *EDF/British Energy*[29], it stated that market investigations supported the three subdivisions in the retail markets. Accordingly, the Commission focuses on whether the large industrial customers are supplied by the traders or companies at the wholesale level, or by the distribution companies in the retail markets. If they are provided for by the retail market, then the Commission identifies the relevant product markets based on their use of half-hourly rates and their consumption patterns[30].

2.3.2.Geographic Markets

With the adoption of the Third Energy Package, the current liberalization process in the energy markets enabled most of the end-

[27] *EDF/Segebel* (Case COMP/M.5549) Commission Decision 12/11/2009 pg 25-28.
[28] *EDP/ENI/GDP* (Case COMP/M.3440) pg, 11-15.
[29] *EDF/British Energy* (Case COMP/M.5224) Commission Decision 22/12/2008, OJ C38/8.
[30] I*bid;* para 86.

users in the retail markets to procure electricity from either RDCs active at a sub-national level or from traders, who were active nationally or regionally depending on market integration. The level of liberalization in the national regulatory regimes is of great importance with respect to defining the geographical scope of retail markets[31]. In *E.ON/MOL*[32], the Commission found that the Hungarian retail electricity market was divided into eligible and non-eligible consumers. While the former were able to choose their electricity supplier in a competitive market, the latter had to be supplied under the public service system. In these cases, the Commission regarded the geographic markets as sub-national until they are opened to competition through the liberalisation process. Once the Commission found that the end users were able to choose their national suppliers freely,[33] then the geographic scope of the retail markets covered wider areas.

3.Natural Gas

The natural gas market in the EU has certain characteristics, which distinguish it from the electricity markets and are of great importance in the assessment of relevant markets in the sector[34]. The EU is a net importer of natural gas[35]. The majority of gas it consumed is produced and transported from non-member states. Since the gas trade involves undertakings from countries outside the EU, the competition conditions in the European natural gas markets are vulnerable to changes in external conditions. Transportation of natural gas across long-distances entails the construction of high pressure transmission pipelines, which are capacity restricted as well as being extremely capital intensive projects.

As shown below the Commission has generally assessed the natural gas markets under two headings with multiple sub-headings[36]:

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[31] Energy Charter Secretariat, (2004). The Concept pf Relevant Market and Market Power in the Electricity Sector. *Occasional Papers,* pg. 5.

[32] *E.ON/MOL* (Case COMP/M.3696), para. 89.

[33] *EDP/ENI/GDP* (Case COMP/M.3440) para. 77.

[34] For further details as to the characteristics of natural gas as a commodity see; van Vactor, S. (2004) Flipping the Switch: The Transformation of Energy Markets. *Ph.D. Thesis, Cambridge University* pg. 99.

[35] More than 80 per cent of natural gas consumed EU-wide is originated from suppliers located outside. See DG Energy of the European Commission, (2014). Quarterly Report on European Gas Markets. *Market Observatory for Energy* 7/4, pg. 8.

[36] *Gazprom/Wintershall/Target Companies* (Case COMP/M.6910) Commission Decision 03/12/2013; *E.ON Gas* (COMP/39.317) Commission Decision 4/5/2010 OJ C278/9; *Gaz de France* (COMP/39.316) Commission Decision 03/12/2009; *ENI* (Case COMP/39.315) Commission Decision 29/12/2010.

- Gas Supply Markets
  - Supply of gas to dealers
  - Supply of gas to gas-powered electricity plants
  - Supply of gas to large industrial customers
  - Supply of gas to small industrial and commercial customers
  - Supply of gas to household customers
- Gas Infrastructure markets
  - Transmission
  - Distribution
  - Storage.

With the creation of the wholesale natural gas markets, and volumes of natural gas being traded without the disclosure of long term supply contracts, the European natural gas markets entered into a new period of market structure including natural gas hubs/virtual trading points (VTP) along with the entry-exit system and the advent of unconventional natural gas.[37] It is reasonable to expect that the developments in the sector's structure will have legal implications in the relevant market analysis. However, the Commission's approach to date is not very illuminating as to what the structure of natural gas markets will look like in the post-liberalisation era. In this section, the paper distinguishes from the method that the Commission used in its analysis of relevant market analysis. Accordingly, the markets in the natural gas sector will be divided into three headings;

A. Upstream Markets

i. Exploration and production services

ii. Upstream gas supply

iii. LNG

iv. L-gas/H-gas

B. Midstream Markets

i. Transmission of natural gas

[37] *See;* Hunt, P. (2008). Entry-Exit Transmission Pricing With Notional Hubs: Can It Deliver a Pan-European Wholesale Market in Gas?. *OIES* NG23.

ii. Distribution of Natural gas

iii. Storage

C. Downstream Markets

i. Wholesale markets

ii. Retail Markets

3.1.Upstream Natural Gas Markets

3.1.1.Product Markets

In the upstream markets, the natural gas produced from reserve areas is transported through upstream networks to wholesale markets which acquire the volumes of gas for onwards selling into either retail markets or other wholesale markets for reselling. Accordingly, the upstream markets in the natural gas sector consist of exploration and production services as well as upstream supply of natural gas to large importers or wholesalers. In *Gazprom/Wintershall/Target,* the Commission established that the market investigation indicated that upstream production markets and upstream supply markets are two distinct product markets[38]. With respect to exploration and production services, the Commission considered oil and natural gas production together, since the underground reservoirs cannot be known at an early stage. This approach can be interpreted as meaning that the Commission is likely to find different product markets when the methods of production differ. This is of great importance with respect to the introduction of shale gas into the European markets, since the production of shale gas requires specific extraction techniques such as horizontal fracking which is completely different from the conventional production process. Therefore the market for exploration and extraction services of shale gas must be distinguished from the conventional exploration and extraction markets. The Commission has left this question open so far.

With respect to the upstream wholesale market, the Commission has distinguished two distinct product markets according to qualitative criteria. There are two types of natural gas traded in the EU, 'Low value gas' (L-gas) and 'High value gas' (H-gas)[39]. The production and transportation of these types of gas require

[38] *Gazprom/Wintershall/Target Companies* (Case COMP/M.6910) pg. 10.

[39] The differentiation of natural gas with respect to qualitative criteria is dependent on the country of origin. Low value gas has generally been produced in North West Europe, particularly in the Groningen gas field. High value gas was later introduced into the European gas markets through imports from Norway and Russia.

completely different facilities. Despite being possible, the conversion between these two products is usually costly and requires additional facilities with enough capacity to make them mutually compatible. This is one of the cases where supply-side substitution plays a key role in the natural gas sector. The Commission, here, has undertaken to explore whether the upstream supply companies can provide both products without significant costs. In contrast to the previous practice, the Commission, in *Gazprom/Wintershall/Target,* found that H-gas and L-gas belong to the same product market in Germany on the grounds that the conversion capacities increased, costs are socialised and therefore fee reduced and there is a reduction of the production of L-gas is reducing which overall renders the relevant products interchangeable[40].

As far as the demand-side substitution is concerned, the Commission has made no distinctions within the scope of upstream supply markets. In *Gazprom/Wintershall/Target* parties' argument that LNG and piped gas should be regarded as distinct products was declined by the Commission on the grounds that where import infrastructures for LNG are present, LNG can be in direct competition with the gas acquired through pipelines[41]. Furthermore, the Commission also established that the country where the natural gas is imported is irrelevant for the purposes of defining product markets, since from the perspective of the downstream market, the demand for natural gas can be satisfied irrespective of the country of origin.

3.1.2.Geographic Markets

With respect to the exploration and production of oil and natural gas markets, the relevant geographic markets tend to be global, since the companies engaged in these activities are not constrained to a specific area[42]. In the assessment of geographic markets for upstream, the Commission generally investigates the market players' capability to trade natural gas across borders. If the Commission decides that upstream suppliers are able to divert their volumes of natural gas to other regional markets or that upstream customers are able to reach other upstream producers without significant barriers, it will decide that the geographic scope of the upstream gas supply could be wider, involving multiple national markets.

[40] *Gazprom/Wintershall/Target Companies* (Case COMP/M.6910) para. 80.
[41] Ibid., pg. 17.
[42] Talus, K. (2013) *EU Energy Law and Policy: A Critical Account.* Oxford pg. 114.

3.2.Midstream Natural Gas Markets

3.2.1.Product Markets

As a network-bound sector, the midstream segment of the energy supply chain is of great importance for natural gas markets. For the purposes of liberalization, the Commission noted that access rights to the natural gas infrastructures by the third parties who seek to supply their customers efficiently without anti-competitive constraints are fundamental for the efficient functioning of the sector[43]. In order to ensure that the access rights to these fixed infrastructures are not distorted, the EU has adopted a certain set of rules such as unbundling measures, tariff regimes and entry-exit system zones[44]. Along with the objective of non-discriminatory access to networks, the Commission also submitted an initiative to foster market integration between the member states by increasing and developing the interconnector capacities, which affect the scope of market definition in the infrastructure markets. The activities in this market involve:

a. Transportation of natural gas through high pressure transmission pipelines,

b. Distribution of natural gas through low or medium pressure distribution networks and,

c. Storage facilities.

Transmission pipelines assure that the volumes of both domestic and imported natural gas are transported at high pressure over long distances to provide natural gas to wholesale markets, regional distribution companies, gas-fired power plants and large industrial customers. These pipelines are owned and operated by Transmission System Operators (TSOs), which provide Third Party Access under a regulated tariff regime.

Distribution networks serve to transport the gas to other end users such as commercial and household customers. These networks are owned and operated by local/regional distribution companies who acquire the gas at wholesale markets or directly from upstream suppliers for onward reselling. Distribution networks are not subject to unbundling measures as strict as those for the transmission

[43] *See;* Communication from the European Commission (COM(2006) 851 Final), "the Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (the Final Report)". ("The Energy Sector Inquiry").

[44] Article 32 of Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas.

networks.[45] Regional distribution companies are entitled to have distribution and supply, as well as trading licenses. Each company serves a determined distribution area and there is no competition between the distribution networks.

The Commission made a distinction in both transmission and distribution networks on the basis of the quality of the gas transported through the infrastructures. It is noted that, both H-gas and L-gas require different transportation means and that they are not interchangeable unless parties establish that there is enough capacity in the conversion facilities and the conversion can be carried out without significant costs[46]. As they are not interchangeable from the supply-side substitution, the networks for H-gas and L-gas are considered to belong to different markets and access conditions to these markets are assessed differently.

The allocation of existing capacity to third parties is fundamental for introducing competition into the natural gas markets. In Directive 2009/73/EC, TSOs are held responsible for the allocation of transmission capacity in an anti-competitive manner[47]. Accordingly, the transmission capacities are divided into multiple sub-capacities on the basis of firm and interruptible access. TSOs are obliged to provide capacity to third parties on the basis of auctions and, once they are reserved, the TSOs cannot refuse the transportation of gas flow on the basis of network congestion. This is not the case for interruptible capacities. The TSOs may refuse the transport of booked interruptible capacities, once they notice capacity congestion. In *39.3147 E.ON*, the Commission concluded that firm and interruptible capacities are not substitutable on the grounds that there are significant differences from the perspective of third parties who seek access to the networks between interruptible and firm capacities[48]. Therefore, from the demand-side substitution and firm and interruptible capacity allocations constitute two different product markets.

The Commission defined the storage facilities as distinct product markets[49]. The existence of available storage capacity is fundamental

[45] 2009 Directive for natural gas adopted that "(t)*he scope for discrimination as regards third party access and investment, however, is less significant at distribution level than at transmission level where congestion and the influence of production interests are generally greater than at distribution level."* I*bid*, para 25.
[46] *E.ON Gas* (COMP/39.317), para., 15.
[47] Article 6(3) of Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas.
[48] *E.ON Gas* (COMP/39.317), para. 14.
[49] *Gazprom/Wintershall/Target Companies* (Case COMP/M.6910), para. 30.

for upstream suppliers who bring great amounts of natural gas from upstream markets under the Take-or-Pay contracts. In order to avoid unnecessary payment, upstream wholesale suppliers need sufficient storage capacity to store excessive volumes of natural gas. Downstream suppliers, such as traders and regional distribution companies, may also need to store their natural gas to fulfil their contractual obligations and balance between gas demand and supply in the retail market.

Aware of the fact that the management of storage capacity is important for the efficient functioning of natural gas markets, the Commission also adopted a regulatory framework governing third party access to storage facilities[50]. As in the transmission market, storage capacity is also allocated on the footing of firm and interruptible basis. The Commission found that firm and interruptible capacity allocation accounted for two different product markets and was thus considered separately in competition assessments. However, access to these facilities is governed on the basis of negotiated rather than regulated access[51].

The Commission identified two further distinctions in the gas storage markets. The first distinction is based on the characteristics of storage structure. Accordingly, the storage facilities can either be pore or cavern storage facilities. Pore storage facilities are the underground fields of depleted natural gas reserves. After technical conversion, these fields are commissioned for gas storage. Cavern storage facilities are artificial facilities that are specially constructed for storage. The question as to whether these types of storage facilities constitute separate markets or not has been left open by the Commission.[52] The second distinction is that the storage facilities can also be differentiated as storage for H-gas and storage for L-gas.[53] The Commission again assesses the relevant product market from the supply-side substitution. Accordingly, if it is concluded that the conversion costs and therefore switching costs between H-gas and L-

[50] Access conditions to transmission/distribution networks and storage facilities are addressed separately in the 2009/73/EC Natural Gas directive. The operation and management of storage facilities is dealt with in Article 13, which holds the TSOs also responsible for the task. The third-party access rights to the storage facilities are addressed in Article 33 of the Directive, while the access to transmission/distribution networks is dealt with in Article 32 of the Directive.

[51] Article 33(3) of Article 6(3) of Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas.

[52] *Gazprom/Wintershall/Target Companies* (Case COMP/M.6910), para. 32.

[53] I*bid;* para. 33.

gas are high, then these storage facilities constitute two separate markets.

3.2.2.Geographic Markets

As in the electricity infrastructure markets, both transmission and distribution networks in the natural gas sector are so called natural monopolies and thus geographical markets are defined as grid-wide scope. Transmission markets are generally considered to be national, since transmission networks are generally operated by TSOs at the national level and interconnectors across the EU lack sufficient capacity and are mostly congested. The geographic markets in the distribution network, on the other hand, are considered sub-national. Accordingly, each distribution area supplied by a distribution system operator is a geographic market. In this manner, the Commission assesses whether customers in the retail markets can reach suppliers in different distribution areas. If the level of liberalisation is at a level that allows any consumer to reach any consumer in the national markets, then the geographic scope of the distribution networks can be concluded wider.

The level of interconnection and liberalisation is also important for the definition of geographic markets in storage facilities. The geographical scope of market participants who seek to use the existing storage capacities is dependent upon the existing integration capacities and regulatory frameworks. The Commission generally considers these markets to be either national or regional due to the limited availability of cross-border capacities, which distorts the ability of market participants from wider geographic regions to use the storage facilities.[54] The radius of the geographical market can change based upon the type of storage facilities. For example, in Germany, the Commission argued that while the geographic market for pore storages can be extended to 200km around the facility, it should be to 50 km for cavern storage.[55]

3.3.Downstream Market

Natural gas acquired from upstream markets and transported through the transmission lines is either traded in wholesale markets or directly delivered to the retail market under long-term supply contracts (LTCs). Accordingly the downstream markets consist of the supply of gas to wholesalers, including regional distribution companies as part of the downstream wholesale market, and the

[54] *E.ON/MOL* (Case COMP/M.3696), para. 130.
[55] *Gazprom/Wintershall/Target Companies* (Case COMP/M.6910), para. 35.

supply of gas to power plants, industrial consumers, commercial consumers, and household customers under the retail market.

3.3.1.Wholesale markets

3.3.1.1.Product Markets

In the downstream market, wholesalers procure the gas from upstream wholesale suppliers or producers and sell it directly to end customers or other resellers, who in turn sell the gas to their own end customers. This trade can take place through dealers including the supply of gas to local authority utilities or undertakings active in the supply business purchasing natural gas to sell to final customers. Given the adoption of the entry-exit system in 2007[56], the natural gas wholesale market entered into a new system design involving the creation of hubs and virtual trading points (VTPs). These hubs facilitate the gas trade between market players enabling them to have access to the short-term volumes of supplies they need to fulfil their contractual obligations or to sell the excess. A gas trading hub is a liquidity instrument in which exchanges between the buyers and sellers in the market take place. A gas hub may have a physical geographical location and be linked to a physical installation e.g. the Zeebrugge gas hub in Belgium. On the other hand, a gas hub can also be virtual without any physical installation, such as the National Balancing Point (NBP) in the United Kingdom or the Title Transfer Facility (TTF) in Netherlands. These hubs and VTP provide great flexibility to gas suppliers and help them anticipate the correlation between supply and demand before booking infrastructure capacity, which in turn ensures the effective flow of natural gas and effective allocation of existing capacity.[57] It is also important to note that most of the gas exchanges, which take place in the hubs are concluded on the basis of supply and demand. The indexation of price to market conditions has brought about price levels that are lower than traditional oil-price indexation included in LTCs[58].

The Commission's approach with respect to defining relevant markets in gas hubs and wholesale markets is controversial. In *Gaz*

[56] The entry-exit system stipulates a two contract model where the contracts for entry and exit capacities are concluded separately instead of point-to-point model where the transit route from supply to demand is determined under a single contract.

[57] The amount of natural gas traded in the hubs is growing very rapidly. While the share of physical volume delivered on the hubs in the total EU gas demand was 8 per cent in 2006, this rate reached 58% in 2011. *See;* International Energy Agency (2012). *Gas Medium-Term Market Report.* IEA, figure 62, p. 149.

[58] For a full account of switching from oil-indexation to market pricing, *see;* Stern, J., & Rogers, H. (2001) The Transition to Hub-Based Pricing in Continental Europe. *OIES* NG*49*.

de France/Suez[59], the Commission established that the gas hub created in Belgium constitutes a separate market from other supply markets at the wholesale level due to operational differences and arrangements governing the access to the hub. In *RWE/Essent*[60], however, the Commission remained silent in the face of the Dutch regulator's decision concluding that both gas hub and wholesale supply to traders belonged to one single market. How the Commission distinguishes between two separate markets, and under what conditions, or conversely, when these markets can be considered as one remains to be seen.

The Commission must examine several market conditions to find out whether the gas trade in the hubs can exert competitive pressure on suppliers of gas via bilateral contracts. For example, even though the price levels between these two markets are different, the market players conducted re-negotiations of these contracts due to the pressure from hub prices which resulted in a convergence process between the prices in two natural gas markets. The Commission should also look at the markets from a supply-side perspective focusing on a wholesale supplier's ability to trade its volumes of gas in the hubs without significant switching costs. If it is established that access to the gas hubs is easy for market parties who wish to trade their gas in the hub and the costs for switching between these markets do not constitute a barrier to competition, it must be concluded that the gas hubs/VTPs and wholesale gas supply markets belong to a single product market.

3.3.1.2.Geographic Markets

The establishment of gas hubs and VTPs across the EU changed the geographic dimension of the relevant markets. As these new market areas may constitute a part of a national natural gas market,[61] they may also involve other market areas including multiple national markets[62]. However, the incoherencies in the Commission's approach to the relevant product market analysis for the hubs and VTPs creates further ambiguities as to the scope of geographical markets.

[59] *Gaz de France/Suez* (Case COMP/M.4180), Commission Decision, 2007/194/EC, [2006], OJ L88/47, para. 72.
[60] *RWE/Essent* (Case COMP/M.5467), para. 121.
[61] NetConnect Germany (NCG) and Gaspool are two natural gas market areas located in Germany.
[62] The Single Central European Gas Hub covers a market area encompassing Austria, Hungary and Slovakia.

In *Gaz de France/Suez,*[63] the Commission established that the gas hubs, Zeebrugge (Belgium) and NBP (the UK), together constitute one single market as their competitive conditions are quite similar. The Commission identified that both hubs are highly interconnected and operated by the same service provider. Prices are significantly converged throughout the year and will converge further, thanks to growing market integration as a result of liberalisation process. However, the Commission excluded the "Title Transfer Facility" (TTF), a VTP established in the Netherlands, from the geographical market definition. Price differentiation during the winter season is important as gas demand reaches its peak point and congestion at the interconnector capacities occurs. The price differentiation between the TTF and other market areas is relatively high reaching, 7-8 per cent during the winter. Therefore, the TTF is excluded in the scope of the geographic market definition[64].

In *RWE/Essent,* the Commission did not identify the relevant geographic market. The geographic scope of the market depends on the way that the relevant product markets are identified. If it is concluded that the hubs/VTPs constitute separate markets, the geographic market may cover wider areas based on the levels of interconnection and price correlation between other hubs and VTPs. On the other hand, if the relevant product market encompasses hubs and wholesale supply markets together, the relevant geographic scope would be limited to national markets. As the EU single energy market policy adopted European gas hubs and VTPs as a designated system for market integration, the Commission should render public the legal analysis to be followed in defining the relevant markets for the newly created market zones.

3.3.2.Retail Markets

3.3.2.1.Product Markets

Retail supply is the market that delivers the natural gas to the end customers in the energy supply chain. The markets in the retail supply are distinguished on the basis of consumer profiles and consumption patterns. Each consumer group has a specific operational need and therefore requires separate supply characteristics[65]. Some customers may be supplied by different market players or through different network infrastructures. The changes in supply also result in changes in prices which heavily affect

[63] *Gaz de France/Suez* (Case COMP/M.4180), para. 99.
[64] *Gaz de France/Suez* (Case COMP/M.4180), para. 99.
[65] Cameron, P.D. (2007), pg. 290.

the scope of the markets. Accordingly, the Commission identified the following markets in the retail energy sector:

i) Gas-fired power plants;

ii) Large industrial customers

iii) Small-industrial and commercial customers;

iv) Household customers

Gas-fired power plants are the largest energy consumers in the retail sector. They consume large volumes of natural gas to generate electricity for further sale and supply their own operational needs[66]. Due to their scale of consumption, power plants enter into long-term supply contracts to secure future supplies. Substantial consumption requires an establishment of greater capacity and the allocation of the necessary capacity in the transmission and distribution networks is fundamental for the daily operation of these facilities.

With respect to large industrial customers, the Commission, in *E.ON/MOL,* set a 500 m^3/hour threshold, which corresponds to an annual consumption of 2 million m^3[67]. Accordingly, the industrial customers whose energy consumption exceeds the designated threshold are considered as large within the meaning of the relevant market. The Commission in *ENI/EDP/GDP,* established that the power plants and large industrial customers are subject to two distinct product markets due to the different type, duration and flexibility provisions of contracts[68]. In a more recent case, however, the Commission did not make a distinction between the two markets. Acknowledging that it had previously identified that large industrial customers and power plants belong to separate markets, the Commission pointed out that the market investigation indicated that all upstream and downstream wholesale supply competitors and retail competitors take the view that both retail supply markets constitute one single product market.

The retail supply markets to small industrial/ commercial consumers and household consumers are also distinguished in the Commission's decisions on the basis of consumer preferences and

[66] For example, the Dunamenti power plant consumes 1-1.5 billion m^3 natural gas consumption corresponding 10-15 per cent of total energy demand in Hungary. See; *E.ON/MOL* (Case COMP/M.3696), para. 112.

[67] *E.ON/MOL* (Case COMP/M.3696), para. 116.

[68] The Commission noted that the contracts for supply of gas to power plants exceed 15-25 years' duration excessively higher than the contracts for the supply of gas to industrial consumers. *EDP/ENI/GDP* (Case COMP/M.3440) pg. 53.

supply patterns. The market definition in these markets may differentiate due to levels of liberalisation. In several cases[69], the Commission concluded differences between eligible and non-eligible customers. In the retail gas markets, while some customers are able to choose their suppliers from anywhere across the relevant geographic scope, other customers are devoid of this ability, as market integration and liberalisation have not reached these customers yet. In these cases, the Commission distinguished the relevant markets as being either eligible or non-eligible customers. However, if it is established that the distinction between eligible and non-eligible customers is going to cease according to a scheduled timetable on the basis of the liberalisation agenda, then the Commission may decide that the two consumers groups should be considered as one[70].

3.3.2.2.Geographic Market

The geographic markets in the retail supply of gas markets are generally national. In its analysis, the Commission identifies the geographical scope in which the end customers are able to procure their demand in a given market. The ability of customers may depend on the regulatory environment, capacity limitations, or market integration. Accordingly, the geographical market can be regarded as wider than national, if it is established that the regulatory environment in a given member state allows customers in the retail sector to procure the necessary natural gas from suppliers outside the national market. However, the geographic market may remain national due to limited capacity or congestions levels at the interconnectors, even if the regulatory environment allowing the relevant transaction is present. The geographical markets may also be limited, especially for non-eligible customers who are obliged to procure gas only from specific distributors or suppliers under public service obligations. In these cases, the Commission generally considers the geographical scope of the relevant markets as regional, and limited to the area conferred to public service providers.

Conclusion

This paper sought to understand and elucidate the assessment of relevant markets in the EU energy sectors at both national and community level. The approach taken by the Commission was analysed on the basis of existing case law. This demonstrated that in

[69] *Grupo Villar Mir/ENBW/Hidroelectrica* (Case COMP/M.2434) Commission Decision 2004/135/EC, [2004] OJ L48/86; *EDP/ENI/GDP* (Case COMP/M.3440); *E.ON/MOL* (Case COMP/M.3696).
[70] *EDP/ENI/GDP* (Case COMP/M.3440) pg. 48.

designating the relevant markets, the Commission focuses on the behaviours and any concentrations considered to be barriers to the introduction of competition, while demand and supply substitution assessments are of little practical value. Due to the capacity-restricted nature of the energy markets, the Commission defines the relevant markets on the basis of market integration, levels of congestion and liberalisation and trading relations between market players. Accordingly, the conduct and the concentration that restrict potential competition in the relevant markets are concluded to be anti-competitive and in violation of EU competition law.

At the national level, the paper included three separate member states which represent the overall structure of energy markets across the EU. While Lithuania suffers from a lack of diversification in its energy resources and the ultimate concentration of both its electricity and natural gas markets, Germany and the United Kingdom are examples of relatively more competitive markets with higher liquidity and liberalisation. However, there are fundamental differences in each of the member states that affect the scope of relevant energy markets at national level. While the energy traded in Germany is supplied through long-term energy supply contracts with different price levels, the UK has the biggest energy hubs supplied from different supply sources at a certain price level. Due to high liquidity in the hubs, the relevant markets in the UK are determined on the basis of the contracts for energy such as derivatives and spot contracts, in which the energy products are traded under different terms and conditions. However, this is not true for either Germany or Lithuania as the trade in these member states is still carried out via conventional energy markets.

Even though, the energy sector is characteristically full of complexities, which differ for each member state, the Commission urges the national competition authorities to apply antitrust laws in the energy sector effectively, while in fact, providing little guidance as to what extent those laws can be applicable and how the relevant provisions can be interpreted. The disputes with respect to the relevant market analysis, so far, have been dealt with by the Commission through commitment decisions, which are non-transparent and dispute-specific documents whose legal guidance is limited, due to the extent of questions left open by the Commission. In order to ensure a uniform, transparent and effective application of antitrust laws as well as a level playing field across the member states, the Commission should provide necessary legal guidance to both national authorities and market players who are active in the energy sector. However legal practice developed so far with respect

to competitiveness in the energy markets has come too short to reveal these uncertainties and to ensure a harmonized, transparent antitrust approach in the EU.

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