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Improving Competition in European Energy Markets Through Effective Unbundling

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Abstract

This Article is structured as follows: first, it summarizes the European approach to developing integrated and well-functioning electricity and gas markets, giving an overview of the opening of energy markets through Community legislation and the development of the current unbundling regime. It puts the European approach in perspective, outlining experiences with unbundling in the United States. Secondly, the malfunctioning of European energy markets is analyzed, presenting the findings of the Sector Inquiry. It then explains how the problems identified can be addressed using instruments at the Commission's disposal, namely competition law enforcement and legislation. In this context, the main elements of a new package of legislative proposals, which was put forward by the Commission on September 19, 2007, are discussed. The particular focus of this Article is on effective unbundling, where the advantages and (alleged) drawbacks of ownership unbundling are presented as well as a model of an Independent System Operator ('ISO'). It should be noted that this Article focuses on effective unbundling of Transmission System Operators ("TSOs"). Even though problems caused by insufficient unbundling have been found to exist in other segments, such as distribution networks or gas storage markets, they are not discussed in this Article. The Article concludes that ownership unbundling of transmission networks is the simplest, most effective and most stable solution to improve competition in European energy markets and that in order to be equally effective an ISO must be "deep" in the sense that the system operator must be in full control not only of network operations but also of investments, and must be accompanied by detailed regulation and close regulatory oversight. A "shallow" ISO, which only has the power to operate the network, is not effective given the substantial grid investments needed to establish a true internal energy market in the EU. This conclusion is in line with the legislative proposals of the Commission, which aim to create integrated and competitive energy markets in the EU.

IMPROVING COMPETITION IN EUROPEAN ENERGY MARKETS THROUGH EFFECTIVE UNBUNDLING

*Neelie Kroes**

INTRODUCTION

Energy policy is one of the European Union's ("EU") main priorities for the coming years.¹ The creation of a well-functioning competitive internal energy market is essential to complete an important part of the EU single market. The importance given to energy issues in the EU is demonstrated by various actions which have been taken at the European level: the European Commission's recent Final Report on the Energy Sector Inquiry ("Sector Inquiry" or "Final Report") under competition law into these sectors,² numerous enforcement actions under the Community competition rules,³ and last but not least new legislative initiatives to address malfunctioning of energy markets.

The EU has already undergone important changes in the energy sector in the last decade. However, much remains to be done. Despite considerable progress in liberalization of the energy market in recent years, the goal of an integrated and competitive single European market for electricity and gas has not yet been achieved.

This Article is structured as follows: first, it summarizes the European approach to developing integrated and well-functioning electricity and gas markets, giving an overview of the opening of energy markets through Community legislation and the development of the current unbundling regime⁴. It puts the European approach in perspective, outlining experiences with un-

* Commissioner for Competition, European Commission, Brussels.

1. E.U. BULL., no. 6, at 121 (2007).

2. See Commission of the European Communities, Communication from the Commission, Inquiry Pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report), COM (2006) 851 Final (Jan. 2007) [hereinafter Final Report].

3. See, e.g., Commission Press Release, IP/03/547 (Apr. 16, 2003); see also Commission Press Release, IP/04/573 (Apr. 30, 2004).

4. Unbundling refers to the effective separation between the operation of electricity and gas networks from supply and generation activities. See Europa Glossary, Un-

bundling in the United States. Secondly, the malfunctioning of European energy markets is analyzed, presenting the findings of the Sector Inquiry. It then explains how the problems identified can be addressed using instruments at the Commission's disposal, namely competition law enforcement and legislation. In this context, the main elements of a new package of legislative proposals, which was put forward by the Commission on September 19, 2007,⁵ are discussed. The particular focus of this Article is on effective unbundling, where the advantages and (alleged) drawbacks of ownership unbundling are presented as well as a model of an Independent System Operator ("ISO").

It should be noted that this Article focuses on effective unbundling of Transmission System Operators ("TSOs"). Even though problems caused by insufficient unbundling have been found to exist in other segments, such as distribution networks or gas storage markets, they are not discussed in this Article.⁶

The Article concludes that ownership unbundling of transmission networks is the simplest, most effective and most stable solution to improve competition in European energy markets and that in order to be equally effective an ISO must be "deep" in the sense that the system operator must be in full control not only of network operations but also of investments, and must be accompanied by detailed regulation and close regulatory oversight. A "shallow" ISO, which only has the power to operate the network, is not effective given the substantial grid investments needed to establish a true internal energy market in the EU. This conclusion is in line with the legislative proposals of the Commission, which aim to create integrated and competitive energy markets in the EU.

bundling, http://ec.europa.eu/comm./competition/general_info/u_en.html (last visited Apr. 8, 2008).

5. See generally Commission Press Release, IP/98/1060 (Dec. 19, 2007) (discussing the Commission's package of proposed regulations and directives to further liberalize the EU's energy markets).

6. The legislative proposal is "aimed at *transmission* networks, which are the high voltage or high pressure main lines connected to other Member States. By contrast, *distribution* networks consist of local grids which operate at lower voltages and pressures, which typically do not have cross border connections." Delegation of the European Commission to Japan, Energising Europe: A Real Market With Secure Supply, MEMO/07/361 (Sept. 19, 2007), available at http://jpn.cec.eu.int/home/news_en_newsobj2485.php (emphasis added).

I. LIBERALIZATION OF EUROPEAN ENERGY MARKETS

The EU embarked upon a course of energy market liberalization ten years ago.⁷ The aim was, and still is, to spur competition, increase efficiency and bring Europe's energy prices to competitive levels. Liberalization of the EU electricity and gas sectors has focused on key issues such as the separation of operators of networks and other essential infrastructure from energy producers and suppliers, non-discriminatory access for third parties to networks and other infrastructure, gradual removal of exclusive supply rights, and the establishment of independent regulators with effective powers.⁸

Initially, industrial energy consumers, which were the first to become free to switch suppliers, benefited from significant price decreases. However, more recently, Europe has seen prices rise across the board. At the same time, the Commission has become increasingly concerned about the way many Member States have gone about introducing competition under the existing legislation. This was often done in a minimalist manner, which meant that the position of incumbent companies could not be realistically challenged. Since then, the evidence that there is a need for fundamental structural change in the electricity and gas industry in the form of effective unbundling has been building up.

A. *Development of Legislative Framework in the EU*

In the pre-liberalization phase (1990-1996), a directive introducing a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users was adopted to help determine the price differences between Member States and hence the level of market integration in the gas and electricity sectors.⁹ In 1990 and 1991 directives on electricity and gas transit were adopted to provide a framework for the exchange of electricity and gas between incumbent operators to strengthen security of supply and reduce costs.¹⁰ These direc-

7. See Council Directive No. 98/30, O.J. L 204/1, at 1-3 (1997).

8. See generally CHRISTOPHER W. JONES & WILLIAM WEBSTER, *EU ENERGY LAW*, VOLUME 1: THE INTERNAL ENERGY MARKET 4-11 (2d ed. 2006).

9. See Council Directive No. 90/377, O.J. L 185/16, at 16-17 (1990) (concerning a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users).

10. Council Directive No. 90/547, O.J. L 313/30, at 30 (1990) (on the transit of

tives obliged Member States to facilitate transit of electricity and gas, but statutory monopolies on the supply of electricity and gas to end-consumers were unaffected.¹¹

Within the first liberalization package, the so called first Electricity Directive was adopted in December 1996 and had to be transposed by February 1999.¹² The first Gas Directive was adopted in June 1998 and had to be transposed by August 2000.¹³ The aim of the first liberalization Directives was to move from a system of vertically integrated (or vertically demarcated) companies, often with legal supply monopolies, to a system that distinguished between areas where competition was possible and areas of natural monopoly to which other undertakings would have access at a reasonable cost.¹⁴ Already at that early stage, the Community legislator identified the risk that vertically integrated incumbents could use their monopolies over the transmission networks to stifle the emergence of competition in the supply business.¹⁵ Rules were established to mitigate that risk, including the introduction of a Third Party Access ("TPA") regime and unbundling provisions to ensure that vertically integrated operators would not discriminate against new entrants or create other entry barriers.¹⁶

It is to be noted that in the first Electricity and Gas Directives the requirements for unbundling were limited to accounting and management unbundling for electricity and only accounting unbundling for gas.¹⁷ With respect to gas, there was no obligation to nominate an identifiable transmission system oper-

electricity through transmission grids); Council Directive No. 91/296, O.J. L 147/37, at 37-38 (1991) (on the transit of natural gas through grids).

11. See JONES & WEBSTER, *supra* note 8, at 57 ("The Directives provided neither for unbundling nor for any effective regulation and had little real effect.").

12. Council Directive No. 96/92, art. 27, O.J. L 27/20, at 29 (1997) (concerning common rules for the internal market in electricity) [hereinafter First Electricity Directive].

13. Council Directive No. 98/30, art. 30, O.J. L 204/1, at 12 (1998) (concerning common rules for the internal market in natural gas) [hereinafter First Gas Directive].

14. See First Electricity Directive, O.J. L 27/20 (1997); First Gas Directive, O.J. L 204/1 (1998); see also JONES & WEBSTER, *supra* note 8, at 13-14, 22.

15. See First Electricity Directive, ¶ 37, O.J. L 27/20 (1997); First Gas Directive, ¶ 28, O.J. L 204/1, at 3 (1998).

16. See First Electricity Directive, arts. 16-22, O.J. L 27/20 (1997); First Gas Directive, arts. 14-23, O.J. L 204/1, at 7-10 (1998).

17. See First Electricity Directive, arts. 13-15, O.J. L 27/20 (1997); First Gas Directive, arts. 12-13, O.J. L 204/1, at 6-7 (1998); see also JONES & WEBSTER, *supra* note 8, at 10.

ator.¹⁸ In the years immediately following the implementation of these Directives, it became clear that the requirements were inadequate. The Commission carried out a number of benchmarking exercises, which demonstrated clearly that in Member States where limited unbundling took place, competition was severely restricted and discrimination was common.¹⁹

Given the substantial problems with competition in the electricity and gas sectors in spite of the transposition of the first liberalization package, and at the request of the European Council of March 2000 "to speed up liberalisation" in these sectors with the aim of achieving "a fully functional operational internal market" in these areas, the Commission proposed a second liberalization package covering both the electricity and gas sectors.²⁰ The main aims were to strengthen the unbundling requirements on network operators, to strengthen the rights of access to the networks, to remove the remaining exclusive supply rights and to establish independent sectoral regulators.²¹ With this new legislation Member States agreed on a timetable to open electricity and gas markets fully to competition.²² In addition to the second Electricity and Gas Directives²³ and the Regulations on cross-border exchanges in electricity and access to gas transmission networks,²⁴ the EU also adopted other legislation that has an important impact on the development of well-functioning competitive markets in these sectors.²⁵

18. See JONES & WEBSTER, *supra* note 8, at 71.

19. See *id.*

20. Commission of the European Communities, Proposal for a Directive of the European Parliament and of the Council amending Directives 96/92 and 98/30 concerning common rules for the internal market in electricity and natural gas, O.J. C 240E/60 (2001) [hereinafter Proposed Directive].

21. *Id.* ¶ 5, O.J. C 240E/60, at 60 (2001).

22. *Id.* ¶ 3, O.J. C 240E/60, at 60 (2001).

23. Council Directive No. 2003/54, O.J. L 176/37 (2003) [hereinafter Second Electricity Directive]; Council Directive No. 2003/55, O.J. L 176/57 (2003) [hereinafter Second Gas Directive].

24. Commission Regulation No. 1228/2003, O.J. L 176/1 (2003) (on conditions for access to the network for cross-border exchanges in electricity); Commission Regulation 1775/2005, O.J. L 289/1 (2005) (on conditions for access to natural gas transmission networks).

25. These include: (i) the public procurement directives, Council Directive No. 2004/17, O.J. L 134/1 (2004); (ii) two directives to ensure minimum standards for security of supply, Council Directive No. 2004/67, O.J. L 127/92 (2004) and Council Directive No. 2005/89, O.J. L 33/32 (2006); (iii) trans-European energy networks, Council Decision No. 1229/2003/EC, O.J. L 176/11 (2003); and (iv) environmental

The creation of a regulatory framework to improve the functioning of the internal market for electricity and gas is ongoing. On January 10, 2007, the Commission published a comprehensive Energy Package comprising inter alia the Final Report on the Energy Sector Inquiry²⁶ and a Communication on prospects for the Internal Market.²⁷ The Package included concrete suggestions to improve inter alia the structural and regulatory framework for energy liberalization, including options for achieving effective network unbundling.²⁸ The European Council of March 8-9, 2007 and the European Parliament report on the Energy Package in July 2007 broadly supported the need for effective unbundling.²⁹ On September 19, 2007, the Commis-

provisions including legislation on energy efficiency, Council Directive No. 2006/32, O.J. L 114/64 (2006), promotion of electricity generation from renewable energy sources, Council Directive No. 2001/77, O.J. L 283/33 (2001), and an emissions trading scheme, Council Directive No. 2003/87, O.J. L 275/32 (2003).

26. Commission of the European Communities, Communication from the Commission to the Council and the European Parliament, An Energy Policy for Europe, COM (2007) 1 Final (Jan. 2007) [hereinafter Energy Policy].

27. Commission of the European Communities, Communication from the Commission to the Council and the European Parliament, Prospects for the Internal Gas and Electricity Market, COM (2006) 841 Final (Jan. 2007) [hereinafter Prospects for the Internal Gas and Electricity Market].

28. See Energy Policy, *supra* note 26, COM (2007) 1 Final, at 3.1.1. The other proposals focused on: harmonization of the powers and independence of the regulators; the promotion of the European market by establishing a new single body at EU level or through a network of European regulators; harmonization of the technical standards necessary to enable cross-border trade; the establishment of a Community mechanism and structure for Transmission System Operators ("TSOs"); tabling in 2007 of minimal standards on transparency; a Customers' Energy Charter; and further progress on new interconnectors, including the appointment of European coordinators to take forward priority projects and the fixing of a five year maximum duration within which the planning and approval procedures of projects of European interest should be completed. *Id.* at 3.1.1-3.1.7. Due to the different focus of this Article, these aspects are not elaborated in detail in this Article.

29. See E.U. BULL., no. 3, at 1 (2007) ("Taking note of the Commission's internal market report and the final report following the sector inquiry on the gas and electricity markets, with the aim of increasing competition, ensuring effective regulation and encouraging investment to benefit consumers, the European Council . . . taking account of the characteristics of the gas and electricity sectors and of national and regional markets, agrees on the need for[] effective separation of supply and production activities from network operations (unbundling), based on independently run and adequately regulated network operation systems which guarantee equal and open access to transport infrastructures and independence of decisions on investment in infrastructure."). In its Resolution on prospects for the internal gas and electricity market adopted on July 10, 2007, the European Parliament considered "transmission ownership unbundling to be the most effective tool to promote investments in infrastructures in a non-discriminatory way, fair access to the grid for new entrants and transparency in

sion put forward legislative proposals to implement these agreed aims.³⁰

B. *Unbundling Regime in the EU*

The EU has decided that effective unbundling is essential for the development of well-functioning, liberalized energy markets, which is one of its key goals.

Since the beginning of the liberalization process there were indications that a significant degree of unbundling is needed in order to ensure non-discriminatory access to the networks and to avoid conflicts of interest within vertically integrated energy companies. So far the EU has concentrated on management and accounting unbundling,³¹ and subsequently legal unbundling. Ownership has been left untouched and therefore most transmission networks are still owned by the vertically integrated utilities.

The current Electricity and Gas Directives impose minimum obligations on energy network operators with regard to legal and functional unbundling between transmission/distribution networks on the one hand and upstream (generation or production and downstream supply) functions on the other.³² In particular, the Electricity and Gas Directives required Member States to ensure that TSOs from July 1, 2004 and Distribution System Operators ("DSOs") from July 1, 2007, are independent at least in terms of their legal form, organization and decision making (in addition to accounting unbundling—and management un-

the market." European Parliament Resolution on Prospects for the Internal Gas and Electricity Market, Eur. Parl. Doc. (A6-0249/2007), ¶ 2 (2007) (Provisional Edition) [hereinafter European Parliament Resolution].

30. See Commission of the European Community, Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/54/EC concerning common rules for the internal market in electricity, COM (2007) 528 Final (Sept. 2007) [hereinafter Third Electricity Directive]; Commission of the European Community, Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/55/EC concerning common rules for internal market in natural gas, COM (2007) 529 Final (Sept. 2007) [hereinafter Third Gas Directive].

31. For more details, see generally DIRECTORATE-GENERAL ENERGY & TRANSPORT, NOTE OF DG ENERGY & TRANSPORT ON DIRECTIVES 2003/54/EC AND 2003/55/EC ON THE INTERNAL MARKET IN ELECTRICITY AND NATURAL GAS: THE UNBUNDLING REGIME (Jan. 2004), available at http://ec.europa.eu/energy/electricity/legislation/doc/notes_for_implementation_2004/unbundling_en.pdf.

32. See Second Electricity Directive, arts. 10, 15, O.J. L 176/37, at 45-46 (2003); Second Gas Directive, arts. 9, 13, O.J. L 176/57, at 64-65 (2003).

bundling for TSOs—as already required), without creating an obligation to separate the ownership of assets of the transmission system from the vertically integrated undertaking.³³ These Directives set out detailed rules on management unbundling, including the establishment of a compliance program to avoid discrimination.³⁴ However, it indicates that this “should not prevent the existence of appropriate coordination mechanisms to ensure that the economic and management supervisions rights of the parent company in respect of return on assets . . . in a subsidiary are protected.”³⁵ In order to ensure that the unbundling obligations are respected, the Directives require “information unbundling” through the creation of information barriers between supply and network activities.³⁶ In practice, significant differences persist as regards the level of the implementation of the unbundling provisions. In a number of Member States, the unbundling provisions are still missing due to the lack of timely, complete or correct transposition of the Directives into national law.³⁷ In some instances the process of unbundling has not yet been finalized by network operators, partly as a result of the late implementation of the Directives by Member States.³⁸ This applies, in particular, to gas transmission but also to DSOs.³⁹ It could be argued that different degrees of

33. Member States are authorized to exempt integrated gas and electricity distributors supplying less than 100,000 customers, or small isolated networks, from the legal unbundling requirements. *See* GOMEZ-ACEBO & POMBO ABOGADOS, S.L. & CHARLES RUSSELL LLP, UNBUNDLING OF ELECTRICITY AND GAS TRANSMISSION AND DISTRIBUTION SYSTEM OPERATORS: FINAL REPORT 3 (2005), available at http://ec.europa.eu/energy/electricity/publications/doc/2006_03_08_final_common_report.pdf.

34. *See* Second Electricity Directive, art. 10, O.J. L 176/37, at 45 (2003); Second Gas Directive, art. 9, O.J. L 176/57, at 64 (2003).

35. *See* Second Electricity Directive, art. 10(c), O.J. L 176/37, at 45 (2003); Second Gas Directive, art. 9(c), O.J. L 176/57, at 64 (2003).

36. *See* Second Electricity Directive, arts. 12, 16, O.J. L 176/37, at 46-47 (2003); Second Gas Directive, arts. 10, 14, O.J. L 176/57, at 64-66 (2003).

37. As a consequence, the Commission initiated infringement proceedings in April 2006 by sending letters of formal notice to Austria, Czech Republic, France, Ireland, Italy, Poland, Slovakia and Spain. In these Member States, legal and/or functional unbundling is not yet complete. In addition, five Member States benefit from derogations under the provisions of the Second Gas Directive or do not have a functioning gas market. Reasoned opinions, the second step in the infringement procedure, were sent in December 2006. *See* Commission Press Release, IP/06/1768 (Dec. 12, 2006).

38. *See* GOMEZ-ACEBO & POMBO ABOGADOS, S.L. & CHARLES RUSSELL LLP, *supra* note 33, at 15, 19-20.

39. Regarding distribution, when implementing the unbundling provisions of the

unbundling exist between Member States, undermining the creation of a level playing field in energy markets.

On the other hand, there are a significant number of companies in the EU that have gone further than the minimum requirements of the Directives and have already successfully undergone the ownership unbundling process:

In the electricity sector, 13 Member States have gone beyond the requirements of legal and functional unbundling of the present Directive by implementing full ownership unbundling of the transmission networks. In the gas sector, 6 out of the relevant 21 Member States have opted for ownership unbundling of the TSOs. While ownership unbundling of TSOs has often taken place as part of the privatisation process of state owned monopoly companies, some countries such as the Netherlands, Italy and Spain have, in recent years, carried out full ownership unbundling of largely privately owned energy companies. In Spain and Italy, ownership unbundling was achieved by gradually restricting the shareholding of the integrated companies in the network operators. In the Netherlands, a law passed in the year 2000 required state ownership of all essential grids which resulted in the full separation of the electricity and gas networks.⁴⁰

The choice of these Member States to adopt ownership unbundling was triggered by various considerations, mainly stemming from the expected strategic benefits. In some cases separation has been the result of national legislation. In other cases, the undertakings were heavily influenced by the regulatory environment and the fact that a bundled organization structure was failing to meet the expectations of customers or shareholders, and so opted for a voluntary ownership separation (e.g. British

directives most Member States made full use of all the possible derogations by exempting smaller distributors from both legal and functional unbundling and postponing legal unbundling for larger distributors until July 2007. *Id.* at 20.

40. Commission of the European Communities, Commission Staff Working Document Accompanying the Legislative Package on the Internal Market for Electricity and Gas—Impact Assessment, SEC (2007) Final 1179, at 22-23, ¶ 4.1.1.1 (Sept. 2007) [hereinafter Impact Assessment]. EU member states with full ownership unbundling for their electricity TSOs are: Czech Republic, Denmark, Finland, Italy, Lithuania, the Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the U.K. In the gas sector, the TSOs of Denmark, the Netherlands, Portugal, Romania, Spain, Hungary and the U.K. are ownership unbundled. It should be noted that six Member States have a derogation from the unbundling requirements, i.e. Cyprus, Finland, Greece (until end 2006), Latvia, Lithuania and Malta. *Id.* at 22 n.6.

Gas).⁴¹

C. Experience With Unbundling in the United States

The EU is not the only part of the world to introduce competition in gas and electricity markets. Similar efforts have been undertaken in other regions including the United States. The fact that independent operation of the transmission system is crucial for the creation of efficient energy markets is fully recognized on both sides of the Atlantic.

Although any comparisons between the European Union and the United States must be drawn with great care, given the regulatory and structural differences, U.S. experiences in the gas and electricity sectors are interesting as regards unbundling measures.

In the United States the transmission system has been regulated at the federal level by the Federal Energy Regulatory Council ("FERC") for both gas and electricity.⁴² Over the past fifteen to twenty years, FERC has sought to open transmission networks to third party access and to encourage competition at the wholesale level.⁴³ It has taken a slightly different approach for electricity than for gas at the transmission level.⁴⁴ However, the ultimate objective of a non-discriminatory and open regime for access to the network is common to both sectors.

The electricity sector in the United States was historically organized on the basis of local vertically integrated companies serving rather small areas, each with their own transmission network.⁴⁵ These local monopolists might supply customers directly, or alternatively would supply a local municipality which

41. See *id.* at 35-36.

42. See Department of Energy Organization Act, 42 U.S.C. §§ 7171-7172 (2006) (establishing and defining function of the Federal Energy Regulatory Commission ("FERC")).

43. See Paul Joskow, *Transmission Policy in the United States* 17-18 (Cambridge-MIT Inst., Working Paper No. 54, 2004).

44. As regards distribution networks, they are regulated purely at state level and there is no obligation on state authorities either to open the retail market to competition or to introduce any unbundling requirements for the distribution network. Many states (about twenty of the fifty) have, however, opened the retail market to competition and introduced requirements at state level regarding unbundling of distribution networks. See JONES & WEBSTER, *supra* note 8, at 378.

45. See Joskow, *supra* note 43, at 3.

would deal with customers.⁴⁶ The main piece of regulatory action to separate transmission networks in the electricity sector was the so-called FERC Order 2000, which was adopted by FERC in the year 2000.⁴⁷ The 2000 Order required transmission companies to make submissions to the FERC concerning how they intended to ensure regional transmission operation.⁴⁸ TSOs were also required to make a submission to FERC if they did not intend to join one of the proposed Regional Transmission Operators ("RTOs"), and to justify the reasons why.⁴⁹ The incentive given to vertically integrated companies to join RTOs was the prospect that FERC would be more likely to lift direct price controls over the wholesale electricity market where they could demonstrate functioning competition.⁵⁰ This, in turn, would be more likely when the relevant market was a large integrated region. Accordingly, a number of RTOs have now been set up.⁵¹

The FERC Order 2000 left a large degree of flexibility as to what was meant by a regional transmission operator. It left it up to the participants to decide whether the RTO would comprise both the owner and operator of the system (the so-called "Transco" model) or whether the ISO model would apply whereby a single ISO would co-ordinate the operation of several grids still owned by vertically integrated companies.⁵² However, the Order did specify that the operator should be independent

46. See generally *id.* In this respect, there are several parallels with the pre-liberalization position in many EU Member States. Most, however, nationalized and merged their energy companies at some stage and so, with the notable exception of Germany, prior to liberalization most EU energy companies were largely national. *Id.* at 6.

47. See 18 C.F.R. § 35.34 (2007).

48. See *id.* § 35.34(c).

49. See *id.* § 35.34(g); see also Joskow, *supra* note 43, at 28.

50. See JONES & WEBSTER, *supra* note 8, at 380.

51. In the United States, seven Independent Systems Operators ("ISOs")/Regional Transmission Operators ("RTOs") currently operate. The RTOs include: California Independent System Operator (California ISO); ISO New England (ISO-NE, an RTO); Midwest Independent Transmission System Operator (Midwest ISO, an RTO); PJM Interconnection (PJM, an RTO); and Southwest Power Pool (SPP, an RTO). The ISOs include: New York Independent System Operator (NYISO); and Electric Reliability Council of Texas (ERCOT, an ISO). See ISO/RTO Council, ISO RTO Operating Regions, <http://www.isorto.org/site/c.jhKQIZPBImE/b.2604471/k.B14E/Map.htm> (last visited Apr. 8, 2008). California, New England, and the Pennsylvania, New Jersey, and Maryland (PJM) markets were the first three U.S. markets to undergo regulatory restructuring. See James B. Bushnell, Erin T. Mansur & Celeste Saravia, *Vertical Arrangements, Market Structure, and Competition: An Analysis of Restructured U.S. Electricity Markets 2* (Yale Sch. Mgmt., Working Paper No. ES-40, 2005).

52. See Joskow, *supra* note 43, at 30 n.26.

in ownership terms from the market participants in the region covered. Most of the regional transmission operators established since the 2000 Order have the characteristics of an ISO. They are largely of the “shallow” ISO type⁵³ since they have limited control over investments.

There appears to be a general acceptance that ISOs have substantially improved the network access arrangements, allowed for the integration of markets and enhanced the degree of transparency available to market participants. However the ISO model is not without its critics, particularly with regard to the fact that, since ownership of the assets still remains with vertically integrated companies, the incentives for investment are often reduced. RTOs have been accused of having an “identity crisis” since they do not have the incentives and motivation of a pure transmission company, nor do they have the competence and responsibility of a public transmission owner.⁵⁴

The FERC itself has repeatedly emphasized the problem of under-investment in transmission in the last twenty years.⁵⁵ In the 2004 Report on the State of the Markets it noted that “[a]t

53. For more details on “shallow” ISO model, see Section V of this paper.

54. See TRANSMISSION ACCESS POLICY STUDY GROUP, EFFECTIVE SOLUTIONS FOR GETTING NEEDED TRANSMISSION BUILT AT REASONABLE COST 6 (2004), available at <http://www.tapsgroup.org/sitebuildercontent/sitebuilderfiles/effectivesolutions.pdf>. The Transmission Access Policy Study Group (“TAPS”), an informal association of independent producers, have argued that vertically integrated companies have failed to invest in transmission assets either due to competition for investment funds within the group with regulated returns seen as too low by the integrated board or due to avoidance of investment to protect the market share of their generation. *Id.* at 6. It argued that ownership of the transmission company should be widened so that all suppliers in the area in question have a small percentage ownership of the grid company. This, it is argued, changes the incentives and gives other companies a “seat at the table” as far as decision making is concerned. *Id.* at 9-10. They point to the successful example in Wisconsin where the four existing transmission companies ceded their asset to form the “American Transmission Company” (“ATC”). They each received fifty percent of this value back in shares in ATC and the rest in cash. The remaining part was then sold on to other market participants and there are now twenty-eight shareholder members. While this company owns the assets, the operation of the system is undertaken within the wider Midwest Independent ISO. According to the TAPS report, the ATC company has a very high credit rating (A- Standard and Poor) and has been able to increase transmission investment from US\$246 million planned to US\$646 million actual during 2001-2004. *Id.* at 10-11. A similar exercise in Vermont, where each supplier owns a proportion of the transmission company in relation to the load served, has also created good results. *Id.* at 11. TAPS also points to an alternative structural arrangement where two or more transmission owners agree to jointly operate and plan investments in their networks. *Id.* at 12-13.

55. See FERC, 2004 STATE OF THE MARKETS REPORT, OFFICE OF MARKET OVERSIGHT

the end of 2003, stand-alone transmission companies . . . continued to pursue investment levels that far exceeded what they had pursued when they were part of integrated utilities.”⁵⁶ However, the FERC does not dispose of sufficient powers to impose such a solution without such a decision being challenged in court and held up for a long period of time.⁵⁷ This is one reason why the RTO Order was, in some ways, a rather soft law solution, which left it open to some companies not to participate.

RTOs have also been accused of becoming self-perpetuating bureaucracies, with built-in incentives to block eventual evolution of the energy industry structure towards independent transmission companies. It should also be emphasized that RTOs are voluntary agreements where new members may join and leave their RTO, and which were developed because their member companies are relatively small in their region and so have an interest in participating in a joint market pool.⁵⁸ In fact, the U.S. RTOs were not created as a remedy to avoid market foreclosure. Instead, they provided cost saving opportunities for network operators that they were free to pursue, unhindered by the supply interests of the companies to which they belong.⁵⁹

As regards the gas sector, the more sparsely populated nature of much of the United States, the restriction of gas use largely to urban areas, and the fact that the industry has never been under nationalized control, has resulted in a structure where there is range of competing gas pipelines which link up production and import centers and load areas. This has resulted in a different regulatory framework for gas.

Gas transmission pipelines have been required to offer TPA since FERC Order 636 in 1992.⁶⁰ This has allowed for competition at the wholesale level and there is a high level of liquidity

AND INVESTIGATIONS 26-28 (2005), available at <http://ferc.gov/EventCalendar/Files/20050615093455-06-15-05-som2004.pdf> [hereinafter STATE OF THE MARKETS REPORT].

56. *Id.* at 28.

57. See, e.g., *Md. People's Counsel v. FERC*, 761 F.2d 768 (D.C. Cir. 1985) (limiting FERC's authority); see also Federal Power Act, 16 U.S.C.A. §791a (West 2007); Laura Dietz & Theresa Lemming, *Public Utilities*, 64 AM. JUR. 2d *Pub. Utils.* § 229 (2007) (giving overview of FERC's authority).

58. There are approximately 490 owners of transmission assets in the United States compared with some thirty-seven in the EU.

59. See Seth Blumsack, *Measuring the Benefits and Costs of Regional Electric Grid Integration*, 28 ENERGY L.J. 147, 149-55 (2007).

60. See 18 C.F.R. § 284.7 (2007).

with a range of regional hubs, whose prices are set with reference to the main "Henry Hub" in Louisiana.⁶¹ At retail level, the decision to open markets, as for electricity, is left to individual states.⁶² Those states which have opened the retail market for electricity have also done so for gas.

This has all been achieved within a framework of just legal unbundling. However, an important difference from the European Union to date is that, following Order 636, all supply/transmission contracts between producers and local distributors/suppliers, which used to comprise both the commodity and point to point transmission to the "city gate," were required to be renegotiated as transmission only contracts, with the primary capacity holder being the local distributor/supplier and not the producer.⁶³ These local supply/distribution companies were then also permitted to sell unused capacity in secondary markets.⁶⁴ Previously, any unused capacity would be returned to the pipeline operator for re-sale.⁶⁵ These two changes resulted in a large amount of transmission capacity being released to the market and led to a large increase in capacity utilization.

This restructuring of contracts, which amounts to a cancellation and restructuring of long term transmission contracts, was made possible by ensuring instead that gas pipelines are able to recover a rather high regulated return on these assets and all of the costs associated with introducing TPA. New investment in pipelines is now largely on a regulated basis and once projects are approved by the FERC and completed, they are bought into the tariff calculations. The fact that pipelines are no longer blocked by old contracts (contractual congestion) and the relative ease in constructing new facilities means that transmission companies have been prepared to delegate a large part of the system operation to so-called "Hubs" on a voluntary basis.⁶⁶

61. See Monika Ehrman, *Competition Is a Sin: An Evaluation of the Formation and Effects of a Natural Gas OPEC*, 27 *ENERGY L.J.* 175, 195-96 (2006) (describing how price of gas is set in the United States).

62. See JONES & WEBSTER, *supra* note 8, at 378.

63. See 18 CFR § 284.7-8 (2007).

64. See *id.*

65. See ENERGY INFO. ADMIN., *NATURAL GAS 1994: ISSUES AND TRENDS*, 45, DOE/EIA-0560(94) (1994), available at http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/natural_gas_1994_issues_trends/pdf/056094.pdf.

66. See *id.* at 15. Hubs are not just financial market places; they also manage the co-ordination of the nomination and dispatch of the pipelines in their vicinity. *Id.*

The FERC report on the State of Markets in 2004 noted that the gas industry was continuing to invest in infrastructure capacity with overall spending of US\$3.75 billion in 2003 and US\$2.18 billion in 2004.⁶⁷ Most of the investments were short distance improvements. FERC noted that price differences between regions were not high enough to justify many long distance investments. They are of the view that, "overall, gas infrastructure investment in North America has been an important market success story for many years."⁶⁸

The extent to which the U.S. experiences are applicable to the European Union is unclear.⁶⁹ Certainly the contract structure in the EU is very different to that imposed by Order 636 since the main gas producers and importers currently also often hold capacity rights and own the gas in the network up to the "city gate," i.e. the distribution area. And it seems that the existing pipeline companies are not as ready to invest in increased capacity since they will effectively be allowing competitors in to compete against their own gas.⁷⁰ As regards electricity, regional market governance, with the appropriate stakeholder involvement, is being considered and a whole variety of economic issues in applying RTO concepts could be of relevance.

("Hubs provide both physical and transactional services. Physical services include gas wheeling, parking, transportation, storage, compression, and processing. Transactional services being offered consist of title transfer, buyer-seller matching, balancing, and electronic bulletin board ("EBB") information."). For example, the Nicor Hub has affiliates in gas trade and supply services in the Chicago area and provides a market for transmission services on seven major interstate pipelines. It is effectively a Gas ISO. The hub also manages under-utilized storage capacity on behalf of seven underground storage facilities belonging to Nicor Gas (its supply affiliate) based on regulated tariffs. Gas hubs in the United States therefore effectively amount to independent gas TSOs that have been set up on a voluntary basis.

67. STATE OF THE MARKETS REPORT, *supra* note 55, at 139.

68. *Id.* at 145.

69. "[T]he U.S. is a country whose electricity sector is stuck somewhere between the old regime of state regulated vertically integrated monopolies and a regime of liberalized wholesale and retail markets and supporting institutions and regulatory mechanisms for supporting them efficiently." Joskow, *supra* note 43, at 52.

70. See ORG. FOR ECON. CO-OPERATION & DEV., ANNUAL REPORT ON COMPETITION POLICY DEVELOPMENTS IN ITALY 2006, 15-16, DAF/COMP(2007)24/12 (2007), available at [http://www.oecd.org/olis/2007doc.nsf/7b20c1f93939d029c125685d005300b1/f9393b4e78cf7fd4c12573750058f3c9/\\$FILE/JT03233959.PDF](http://www.oecd.org/olis/2007doc.nsf/7b20c1f93939d029c125685d005300b1/f9393b4e78cf7fd4c12573750058f3c9/$FILE/JT03233959.PDF) (noting the Italian Competition Authority's case against ENI concerning the decision not to enlarge the Trans Tunisian Pipeline Company ("TTPC") pipeline).

II. *MALFUNCTIONING OF EUROPEAN ENERGY MARKETS*

In recent years the Commission has been faced with the fact that despite liberalization of the EU energy markets, the markets remained largely national and dominated by traditional suppliers. As a result, the benefits of well-functioning, competitive and integrated markets, including increased choice and lower prices for consumers, have not been achieved in many places. The Commission has become increasingly aware that the existing legal rules and regulatory measures are not sufficient to bring decisive change to gas and electricity markets.

A. *Competition Sector Inquiry Findings*

In 2005, the Commission launched the Sector Inquiry into the European gas and electricity sectors, which was the largest ever exercise in information gathering and analysis of the EU energy markets. It aimed at identifying the obstacles that were holding back effective competition. The evidence gathered shows that the market structure remains largely non-competitive, in spite of the repeated efforts in areas such as legal and functional unbundling and access to networks. At the beginning of 2007, the Commission published the Final Report on the Sector Inquiry,⁷¹ which highlighted a number of structural problems in energy markets that remain from the pre-liberalization period. The main findings of the inquiry indicate that European energy markets are too highly concentrated and not liquid enough, there is insufficient unbundling of network and supply activities, and there is an absence of cross-border integration and cross-border competition.

Firstly, as regards market concentration, the Sector Inquiry shows that incumbents continue to have very high market shares in their respective national markets. Gas and electricity markets remain concentrated at the national level and this creates a severe obstacle to develop competition. These markets in most of the Member States are dominated by a single undertaking and there is often inadequate import capacity for cross border competition to act as a significant constraint. All this gives too much

71. See Final Report, *supra* note 2; Commission of the European Communities, DG Competition Report on Energy Sector Inquiry, SEC (2006) 1724 (Jan. 2007) [hereinafter Technical Annex to Final Report]. The Final Report summarizes the results of the inquiry, which are presented in more detail in the Technical Annex to the Final Report.

leeway to incumbents to exercise market power, and so impose high prices.⁷²

Secondly, European energy markets are characterized by a high degree of vertical integration, in other words, insufficient unbundling of network and supply activities. The problem identified stems from the fact that the EU energy companies not only control essential facilities, such as electricity transmission systems and gas transport networks, but also enjoy significant market power in the downstream energy markets. The centralized production, transmission and distribution structures characterizing the European electricity and gas system have led to extremely high entry barriers for newcomers.

Similarly, vertical integration between upstream (e.g. electricity generation) and downstream (e.g. electricity supply) mean that turnover on wholesale markets is limited due to intra-group sales and so wholesale energy markets are not as liquid as they need to be to provide reliable and trustworthy price signals for market participants (e.g. to provide reliable price signals for new investments). Long-term contracts contribute to locking-in the markets—for instance they prevent alternative suppliers from supplying customers on the retail markets. Europe needs more interconnection capacity. But at the moment, there is insufficient investment to build additional new capacity. This is particularly worrying because it is mainly the vertically integrated companies, i.e. those active in the supply and network areas, that failed to invest in network expansion.⁷³

72. See Final Report, *supra* note 2, at 5, ¶¶ 14-17; Technical Annex to Final Report, *supra* note 71, at 37-39, 130-142, ¶¶ 76-86, 393-427. The more concentrated electricity wholesale markets are the higher the price-cost mark-up. See LONDON ECONOMICS, STRUCTURE AND PERFORMANCE OF SIX EUROPEAN WHOLESALE MARKETS IN 2003, 2004 AND 2005, at 784 (2007), available at http://ec.europa.eu/comm/competition/sectors/energy/inquiry/electricity_final_part4.pdf.

73. For example, the Technical Annex to Final Report, *supra* note 71, at 178-79, ¶541, tbl. 26, shows that a selected group of TSOs collected significant congestion revenues. These revenues are generated by auctioning off the scarce interconnector capacity. The total amount of revenues collected by these TSOs between 2001 and 2005 was about €1.3 billion. However, only €250 million of these revenues, i.e. less than twenty percent, was invested back into increased capacity. See Neelie Kroes, Eur. Comm'r for Competition Policy, Introductory Remarks on Final Report of Energy Sector Competition Inquiry (Jan. 10, 2007), <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/07/4&format=HTML&aged=1&language=EN&guiLanguage=EN> [hereinafter Neelie Kroes, Introductory Remarks].

Article 6 (6) of Commission Regulation No. 1228/2003 states that revenues resulting from the allocation of congested interconnector capacity shall be used for: (a)

Thirdly, there is very little cross-border integration and cross-border competition. Incumbents largely keep to their traditional markets, and rarely enter other national markets as large-scale competitors. For instance, in 2004 cross-border flows of electricity represented around 10.7% of total consumption, which is an increase of only around two percentage points compared to 2000.⁷⁴ In addition, energy prices for commercial users vary significantly from Member State to Member State.⁷⁵ Price differences for electricity for industrial customers in the EU, for instance, are more than one hundred percent in some cases.⁷⁶ These differences are not eroded through import competition. Different market designs between Member States contribute to the gloomy picture rendering it difficult to move energy from one point in Europe to another. The lack of market integration is largely due to the fact that the interconnection capacity available to the market between many Member States is still insufficient to allow proper integration of national markets and competitive pressure from imports. Congestion is frequent at many borders in the EU.

On top of this outdated market structure, there is a lack of transparency, for example with respect to available network capacity and the forecast and actual demand and supply balance, resulting in disadvantages for everybody except the incumbents who are present in many of the trades and have access to this information. As a result, there is little trust in market prices and new entrants find it difficult to understand how the markets work and what risks they are taking on.⁷⁷ It therefore discour-

guaranteeing the actual availability of the allocated capacity; (b) network investments maintaining or increasing interconnector capacities, or; (c) as an income to be taken into account by the regulatory authorities when approving the methodology for calculating network tariffs, and/or in assessing whether tariffs should be modified. *See* Commission Regulation No. 1228/2003, art. 6, O.J. L 176/1, at 5 (2003).

74. Commission of the European Communities, Communication from the Commission to the Council and the European Parliament, Report on Progress in Creating the Internal Gas and Electricity Market, COM (2005) 568 Final, at 5 (Nov. 2005) [hereinafter Report on Progress].

75. *See id.* at 4; Neelie Kroes, Introductory Remarks, *supra* note 73.

76. *See* Report on Progress, *supra* note 74, COM (2005) 568 Final, at 4.

77. *See id.* at 8-9; Neelie Kroes, Eur. Comm'r in Charge of Competition Policy, Towards an Efficient and Integrated European Energy Market—First Findings and Next Steps, Public Presentation of Preliminary Findings of Energy Sector Inquiry (Feb. 16, 2006), available at <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/06/92&format=HTML&aged=0&language=EN&guiLanguage=EN>.

ages participation in these markets by newcomers.⁷⁸ When prices do not react to changes in actual supply and demand, investment by newcomers is threatened, which reduces security of supply and the possibility of more environmentally friendly energy sources.

B. *Intrinsic Deficiencies of the Current Unbundling Regime*

As the results of the Commission's Sector Inquiry emphasize, one of the underlying problems in the sector is the lack of effective unbundling of vertically integrated networks. In addition, the evidence collected by the Commission in the follow up phase⁷⁹ confirms that the mere implementation of existing unbundling legislation is not sufficient and does not address the malfunctioning of the energy markets. Even where Member States have adopted the unbundling provisions required under the Electricity and Gas Directives, this does not necessarily mean that network operators comply with them.⁸⁰ Furthermore, even where the unbundling provisions are fully implemented, the Sector Inquiry has demonstrated that incentives for preferential treatment within vertically integrated operators remain.⁸¹

Fundamentally, the current unbundling regime does not suppress the inherent conflict of interest that stems from vertical integration of network and generation and/or supply interest. The incumbent suppliers view their networks as strategic assets that serve their commercial interests. Even when there is an at-

78. Energy consumers remain reluctant to exercise their right to switch energy providers. In the electricity sector, the percentage of large users that have actually changed supplier is relatively high (over 50%) in the U.K., whereas the switch rate in France is average for Europe at about 25% (in Germany this percentage is relatively low, about 10%). For gas, the range of figures raise from 0% for Poland, 7% for Germany towards more than 50% for the U.K., Belgium and other Member States. See Report on Progress, *supra* note 74, COM (2005) 568 Final, at 10.

79. The Commission carried out unannounced inspections at the premises of energy companies in Hungary, Germany, Italy, France, Belgium and Austria in 2006. See Commission Press Release, MEMO/06/203 (May 17, 2003) (reporting inspections in Germany, Italy, France and Belgium); Commission Press Release, MEMO/06/205 (May 17, 2006) (reporting inspection in Hungary). Due to ongoing investigation, the results of the opened cases are not further elaborated in this Article.

80. EUR. REGULATORS' GROUP FOR ELEC. AND GAS ("ERREG"), 3RD LEGISLATIVE PACKAGE INPUT PAPER 1: UNBUNDLING 23 (June 5, 2007), available at http://www.ergeg.org/portal/page/portal/ERREG_HOME/ERREG_DOCS/ERREG_DOCUMENTS_NEW/Energy%20documents/C07-SER-13-06-1-PD_3rdLegPackage_Unbundling_final.pdf [hereinafter ERREG PAPER].

81. *Id.* at 27.

tempt to abide by the letter and spirit of the current unbundling rules, the network company is often unclear of its objective and role. It cannot combine the diverging targets of offering non-discriminatory TPA and complying with the unbundling regime versus optimization of the return to the vertically integrated company. This leads to a high risk that the companies concerned will engage in anti-competitive strategies or, more generally, in sub-optimal behavior as a network operator.

In addition, the fact that the incumbent suppliers own the transmission network has a chilling effect on the investment strategy of third parties in markets open to competition. New entrants will hesitate to invest if they are not convinced that the network operator will treat them fairly. For instance, it is not attractive for new entrants to invest in a power plant or new gas import infrastructure if there is a risk that requests for connection to the network are met with unreasonable requirements such as unreasonable payments to remove the alleged congestion supposedly caused by the newly connected plant.

One might argue that these observations are rather theoretical. However, this line of argument was strongly supported by the European Regulator's Group for Electricity and Gas.⁸²

A number of drawbacks of the current unbundling regime have also been identified in practice inter alia in the Sector Inquiry. There are myriad possibilities for a vertically integrated company to discriminate against competitors, the main ones being discrimination with respect to TPA, information leakage and distorted investment incentives.

The current unbundling rules do not remove the incentives and possibilities for *discrimination with respect to TPA*. Often, changes to network access conditions have to be approved by the TSO's parent company where supply affiliates are represented. Network operators that have supply interests usually have both the ability and incentives to offer preferential treatment to that supply business and this leads to discrimination of their competitors. There are various means through which such discrimination may take place, some of which are difficult to detect and/or remedy and sanction, even for a specialized regulatory body: delaying or complicating the connection of new entrants' power plants to networks, maintaining artificially small balancing

82. See generally *id.*

zones, charging high balancing fees, which will in effect be primarily paid by new entrants, and not making available unused capacities or not using implicit auctions (which allow for energy and capacity to be traded together).⁸³

The Commission gathered various indications during its Sector Inquiry confirming the existence of discrimination with respect to TPA. Examples include:

(i) A TSO grants its affiliated supply company substantive rebates on the transportation fees as compared to non-affiliated network users. In doing so, the network operator directly supports the competitive position of the related supply company. This appears to be an overall business strategy carried out by some integrated gas companies and leads to excessive access tariffs, which raise competitors' costs;⁸⁴

(ii) A German gas incumbent was able to offer a gas delivery contract for a new power plant requiring substantial import capacity, to be shipped through the network of its "associated" network company. At the same time new entrants were not granted firm capacity on an almost identical pipelines path, although the capacities they requested were substantially lower than the ones granted to the power plant. Under the current provisions, such discrimination is difficult to detect;⁸⁵

(iii) The nomination procedure for gas transport capacities appears to be different vis-à-vis different shippers. "While the supply company of vertically integrated operators can nominate their capacities directly to the network's dispatching centre, third parties with short term interruptible contracts still have to nominate their capacities in advance to the [network operator] who aggregates them before sending them to the dispatching centre for execution."⁸⁶

Information leakage between the supply and network affiliates of legally unbundled, but still vertically integrated, network operators is possible, and given the clear advantages for the group as a whole, it is likely to be a common practice.⁸⁷ Despite informa-

83. See *id.* at 11-13, 26-28. In implicit auctions both the energy and the corresponding transmission product between bidding/price areas are traded simultaneously and are coupled. In explicit auctions, only the transmission product between the two areas is traded.

84. See Technical Annex to Final Report, *supra* note 71, at 58, ¶ 155.

85. See *id.* at 61, ¶ 168.

86. *Id.* at 60, ¶ 165.

87. See David Newbery, *Refining Market Design* 20 (Sept. 9, 2005) (paper presented

tion barriers, i.e. “Chinese walls,” put in place under the legal unbundling regime, information that facilitates discrimination is, in some cases, systematically shared between the network operator and the company’s competitive activities. This undermines the trust of alternative producers and suppliers in the functioning of the market:

In the Sector Inquiry, the TSOs were asked to provide information about their practical implementation of the unbundling requirements. Where this has not yet been fully completed, the process is allegedly under way. The TSOs replies, however, point to a certain number of admitted shortcomings as regards the current level of unbundling. For example, top management of the supply company [which are represented at the parent level] often have access to strategic business information of the transport company, either directly or as a result of their representation in the Supervisory or Administrative Board of the latter.⁸⁸

The same holds true for both transmission and DSOs where insights into the activities of competitors are made available to affiliate supply businesses.⁸⁹ The Sector Inquiry has also revealed that “special relationships” within vertically integrated structures lead to systematic copying of emails to the formally unbundled, but affiliated branches (lack of “information unbundling”), whilst third parties do not get access to this type of information at the same time.⁹⁰ For example, in some cases it appears that central functions, such as legal advice, are still provided by the group holding company to all members of the

at the Sustainable Energy Specific Support Assessment Conference: Implementing the Internal Market of Electricity: Proposals and Timetables), available at http://www.sessa.eu.com/documents/final/SESSA_report_wp3.pdf (“Vertically integrated transmission and generation companies can exploit informational advantages, discriminate in the provision of access, balancing and other ancillary services, and cross-subsidise competitive activities by inflating monopoly costs.”).

88. Technical Annex to Final Report, *supra* note 71, at 57, ¶ 153.

89. *See id.* The network operator is informed about the envisaged change of supplier, as this supplier has to have access to the network in order to supply the customer. Information provided in the sector inquiry shows that network operators may find a way to inform the management of a vertically integrated supply branch when a customer is considering switching suppliers. As a result, customers are prevented from switching suppliers; therefore, market entry for competitors becomes difficult. Moreover, network companies provide more detailed information on, for example, load, outages, and generation from wind turbines to their affiliate supply company to optimize their trading and production portfolio.

90. *See id.* at 59, ¶ 161.

group, which clearly reduces the scope for objective treatment of all market participants by the TSOs.

Most importantly, with the current state of unbundling, *investment incentives remain distorted*. The degree of autonomy over investment decisions taken by legally and functionally unbundled network operators tends to be too low vis-à-vis their parent companies, so that investment decisions in new infrastructure projects are in practice taken by the group as a whole.⁹¹ As such, investment decisions of vertically integrated undertakings are very often biased towards the needs of its supply affiliates.⁹² Since the vertically integrated incumbents normally have very strong market positions as suppliers in the area where they control the network, it is often in their interest not to invest in infrastructure that would bring additional competition to this area. The interest in protecting the market power and profitability of their supply business trumps the interest in increasing (regulated) network business. There are an increasing number of examples that illustrate this phenomenon. Indications of discriminatory behavior have been found with regard to investment decisions taken by the integrated gas companies. Certain investment decisions on network extensions of the transport company have to be approved by an investment committee of the parent company of the TSO. In a number of cases, companies have only invested in capacity expansions when their related supply arms have previously confirmed their interest for the bulk of the extra capacity. By contrast, investments do not take place when interests in extra capacity mainly come from competitors.⁹³ Investment figures from recent years show that vertically integrated companies have reinvested significantly less of their receipts from cross-border congestion rents in new interconnectors than fully unbundled ones.⁹⁴

91. See *id.* at 59, ¶ 160. Under the existing Electricity and Gas Directives, certain coordination mechanisms are still allowed to ensure supervision rights of the parent companies regarding the return on assets. For instance, parent companies are able to approve financial plans and set global limits regarding the indebtedness of subsidiaries. See *id.* at 56, ¶ 146.

92. See *id.* at 58, ¶ 157 (discussing investment decisions of integrated gas companies); *id.* at 162, ¶ 487 (discussing investment decisions regarding new power plants).

93. See *id.* at 58, ¶ 157.

94. Andris Piebalgs, Energy Comm'r, Speech at the European Union Energy Law Conference: Better Choice, Service and Prices in the New European Energy Market (Sept. 19, 2007), available at <http://europa.eu/rapid/pressReleasesAction.do?refer->

The limits of the current unbundling regime are exposed by the current governance of network operators vertically integrated with a supply activity, which demonstrates the conflict of interest between the supply and network business. Furthermore, this is a governance issue that regulatory oversight finds very difficult to address in a satisfactory manner despite its best intentions (due to a lack of monitoring, lack of powers, lack of resources, and a lack of cooperation between regional operators, regulators find it difficult to verify that the current unbundling regime is effectively implemented and respected on a day-to-day basis).

To address the malfunctioning European energy markets, the Commission can use its powers of competition law enforcement on the one hand, and exercise its right of legislative initiative on the other hand. The Final Report on the Sector Inquiry made it clear how urgent and important it is that the enforcement of competition law goes hand-in-hand with stronger regulatory framework.

III. *IMPROVING COMPETITION IN ENERGY MARKETS*

A. *Competition Law Enforcement*

The Commission is vested with powers to introduce competition into the energy market through competition law enforcement.⁹⁵ It has been developing competition cases that address competition problems along the gas and electricity supply chains and making use of its powers under antitrust rules (Articles 81, 82 and 86 of the EC Treaty), merger control rules (Regulation 139/2004), and state aid control (Articles 87 and 88 of the EC Treaty).⁹⁶ This comprehensive strategy puts the incumbents under a maximum amount of pressure to stop anti-competitive

ence=SPEECH/07/562&format=HTML&aged=0&language=EN&guiLanguage=EN
 ("The investment figures over recent years show this; in the past 5 years vertically integrated companies have reinvested significantly less of the receipts from cross-border congestion rents than fully unbundled ones, 17% compared to 33%.")

95. See Council Regulation No. 1/2003, arts. 1, 4, 20, 23, 24, O.J. L 1/1 (2003) (applying articles 81 and 82 of the European Community Treaty, discussing the powers of the Commission to apply articles 81 and 82, and discussing the power of the Commission to investigate, impose fines, and impose penalty payments).

96. See Commission Press Release, IP/07/26 (Jan. 10, 2007) (noting that a number of companies in the energy sector are being investigated by the Commission under anti-trust, merger control and state aid rules).

behavior. Competition problems exist throughout the gas and electricity supply chains. Therefore, when exercising its power, the Commission aims at ensuring that the impact of its action at one level is not diminished by conduct at other levels. The different levels of the energy supply chain include:

- i) Upstream supplies and production of gas and electricity: Obtaining gas and electricity supplies, either through the wholesale market, imports, or by acquiring production assets under competitive conditions is a necessary step in supplying customers. Conduct that seeks to deny access to these resources may involve, for instance, capacity hoarding in transit pipes, foreclosure through the conclusion of long-term contracts, hoarding of sites to build infrastructure (e.g. electricity generation or gas storage), or manipulation of the market by capacity withdrawal;
- ii) Networks and ancillary services: Access to gas and electricity supplies serves little purpose if there is no access to networks to transport the products to (final) customers or if access is only granted on anti-competitive conditions. Anti-competitive conduct related to these issues includes failure to expand networks in response to market demand, raising rivals costs through network tariffs, or unfavorable balancing conditions;
- iii) Access to downstream customers: The ability to obtain supplies of gas and electricity and transportation is futile if customers are not contestable. Conduct that seeks to restrict access to customers may include foreclosure by long-term contracts or the imposition of regulated tariffs that render the acquisition of new customers (or keeping already acquired ones) impossible without incurring losses.

There have been various competition cases pursued by the Commission and national regulatory authorities in the energy sector under Articles 81 and 82 EC.⁹⁷ For instance, an important case pursued by the Commission to ensure open access to networks was the *Marathon* case.⁹⁸ The case concerned the alleged refusal in the 1990s by five important gas transport companies to grant the Norwegian subsidiary of the U.S. gas producer Mara-

97. See Commission Press Release, MEMO/03/86 (Apr. 16, 2003) (discussing a series of cases where the Commission enforced its competition policies).

98. See Commission Press Release, IP/01/1641 (Nov. 23, 2001) [hereinafter *Marathon Press Release*].

thon access to gas transport networks.⁹⁹ Company by company, the Commission closed its cases when it received commitments to significantly improve access to gas transport networks.¹⁰⁰ The Commission closed the case with Thyssengas in 2001, with Gasunie and BEB in 2003, and with Gaz de France ("GDF") and Ruhrgas in 2004.¹⁰¹ The terms of the settlement were demanding for the companies: Gaz de France and Ruhrgas both agreed to have entry/exit model transport contracts and to reduce the number of balancing zones.¹⁰² Gaz de France also introduced a gas release program for three years.¹⁰³

In the *ENI* case of 2006,¹⁰⁴ the Italian Competition Authority fined ENI for abusing its dominant position by hindering the entry of independent operators into the Italian wholesale gas market.¹⁰⁵ ENI had stopped upgrading the Trans-Tunisian Pipeline Company ("TTPC") gas pipeline, which brought gas from Algeria across Tunisia, even though ENI had already signed ship-

99. See Commission Press Release, IP/03/547 (Apr. 16, 2003) [hereinafter Gasunie Press Release].

100. See Marathon Press Release, *supra* note 98 ("The European Commission has decided to close the Marathon case . . . after the German gas company committed itself to grant improved access to its pipeline work."); Gasunie Press Release, *supra* note 99 (closing the case and discussing the commitments by Gasunie to improve access to its pipeline network); Commission Press Release, IP/04/753 (Apr. 30, 2004) (stating that the Commission has closed its case, because "[a]fter long parallel negotiations . . . Gaz de France and Ruhrgas have made commitments to improve third party access . . .") [hereinafter Ruhrgas Press Release]; Commission Press Release, IP/03/1129 (Jul. 29, 2007) (declaring that the Commission has closed its probe because of commitments made by BEB on five points) [hereinafter BEB Press Release].

101. See Marathon Press Release, *supra* note 98; Gasunie Press Release, *supra* note 99; Ruhrgas Press Release, *supra* note 100; BEB Press Release, *supra* note 100.

102. See Ruhrgas Press Release, *supra* note 100 (noting that Gaz de France's tariff and balancing zones, which are based on France's entry/exit transport system, will gradually be reduced from seven zones to four, and stating that Ruhrgas' will reduce its zones from six to four).

103. See *id.* (noting that Gaz de France committed to implement a gas release program in southern France starting in January 2005).

104. See Italian Competition Authority Bulletin, n.5/2006, Provision No. 15174 (imposing a fine on ENI and Trans-Tunisian Pipeline Company), available at http://www.agcm.it/AGCM_ITA/DSAP/DSAP_287.NSF/6393dfc338215725c1256a41002b6228/95eaded91f188f9ac125711b0056a918?OpenDocument; see also Tribunale Amministrativo Regionale del Lazio, n. 3582/2006, available at <http://www.giustizia-amministrativa.it/ricerca2/index.asp> (confirming the sanction against Trans-Tunisian Pipeline Company).

105. See Press Release, Autorità Garante della Concorrenza e del Mercato, ENI Fined €290M for Abuse of Dominant Market Position in Wholesale Supply of Natural Gas (Feb. 15, 2006) (discussing the February 15, 2006 decision by the Italian Competition Authority to fine ENI for anti-competitive conduct in Italy's gas market).

ping contracts with independent shippers.¹⁰⁶ Apparently, ENI's network arm had found the upgrade of the TPPC pipeline to be commercially attractive, but ENI's supply arm feared the increase in supply competition in Italy that would result.¹⁰⁷

Under merger control rules, a number of decisions in the energy sector were made by the Commission in recent years. The review focused on addressing anti-competitive effects arising from the transaction via appropriate remedies on the affected markets. For instance, in the *E.ON/MOL* case of 2005, the Commission approved the acquisition by E.ON Ruhrgas ("E.ON"), one of the two largest electricity and gas companies in Germany, of the gas wholesale trading and storage activities of MOL Földgázellátó Rt. ("MOL"), the incumbent oil and gas company in Hungary.¹⁰⁸ The Commission was concerned that the acquisition would affect competition on the markets in Hungary for the supply of electricity and gas to final customers, and for the generation and wholesale supply of electricity.¹⁰⁹ To address these concerns it required inter alia ownership unbundling of gas production, and transmission activities (retained by MOL) from wholesale and trading activities acquired by E.ON, through the divestiture of MOL's remaining minority interest in MOL Wholesale, Marketing, and Trading ("MOL WMT") and MOL Storage.¹¹⁰

In the *Gaz de France/Suez* case of 2006, the Commission approved the merger between GDF and Suez subject to certain conditions.¹¹¹ Initially, the Commission found that the merger

106. See *id.* (noting that ENI had begun upgrades on the Trans-Tunisian Pipeline Company pipeline under transport contracts signed with a number of shippers but subsequently discontinued work on the upgrades).

107. See Press Release, Autorità Garante della Concorrenza e del Mercato, The Competition Authority has commenced an investigation into an alleged abuse of dominant position by ENI on the gas market (Feb. 15, 2006) (noting that between 2002 and 2003 the Trans-Tunisian Pipeline Company decided to increase the transport capacity of its gas pipeline but that its parent company, ENI, viewed such an increase in capacity as a potential oversupply of gas which could threaten its financial interests).

108. Commission Decision No. COMP/M.3696/E.ON.MOL (Dec. 21, 2005) (unofficial version).

109. *Id.* ¶¶ 280-83.

110. *Id.* ¶¶ 735-37.

111. See Commission Decision No. COMP/M.4180, ¶ 1229 (Nov. 14, 2006) (unofficial version). *Gaz de France* is the incumbent gas supplier in France and is one of the main competitors on the Belgian gas and electricity markets, partly via Société de Production d'Électricité, which it jointly controls with Centrica and which is the second largest electricity generator in Belgium. The Suez group includes Electrabel, the in-

would have anti-competitive effects on the gas and electricity wholesale and retail markets in Belgium, and on the gas markets in France, because of significant barriers to entry and decreased competition between GDF and Suez.¹¹² To address these concerns the parties agreed: (a) to divest Distrigaz, a company that was part of the Suez group, the incumbent on the Belgian gas market, and a significant participant in the French gas market; (b) to divest Société de Production d'Électricité ("SPE"), the main competitor to Electrabel on the Belgian electricity market; and (c) to relinquish control of Fluxys, which was part of the Suez group and the owner and operator of the Belgian gas network. So far the merger has not been implemented.¹¹³

Other notable merger cases include the *Energias de Portugal* ("EDP")/*Gas de Portugal SGPS* ("GDP") case¹¹⁴ and the *DONG/Elsam/Energi E2* case.¹¹⁵

The Commission has also used its powers to control state aid to avoid distortions in the energy sector. In particular, these

cumbent electricity supplier in Belgium, and Distrigaz, the incumbent gas supplier in Belgium. Suez is also active on the gas and electricity markets in France. *Id.* ¶¶ 3-7.

112. *Id.* ¶¶ 106-07.

113. Details of the proposed merger can be found on Gaz de France's website. See Gaz de France, *Gaz de France—Suez Merger Plan*, <http://www.gazdefrance.com/EN/D/915/gaz-de-france—suez-merger-plan.html> (last visited Apr. 8, 2008).

114. Commission Decision No. COMP/M.3440 (Sept. 12, 2004) (unofficial version). In the *Energias de Portugal/Gas de Portugal SGPS* case of 2004, the Commission prohibited the proposed acquisition of joint control over Gas de Portugal SGPS ("GDP"), the incumbent gas supplier in Portugal, by Energias de Portugal ("EDP"), the incumbent electricity supplier in Portugal, and Ente Nazionale Idrocarburi, the major gas supplier in Italy. The Commission concluded that the proposed acquisition would strengthen EDP's dominant position on the electricity wholesale and retail markets in Portugal and would strengthen GDP's dominant position in the gas markets in Portugal. The concentration would reduce or pre-empt the effects of liberalization, and the remedies proposed were insufficient. EDP appealed against this decision and on September 21, 2005, the Court of First Instance dismissed the appeal. See *EDP v. Commission*, Case T-87/05 (CFI Sept. 24, 2005) (not yet reported).

115. Commission Decision No. COMP/M.3868-DONG/Elsam/EnergiE2 (Mar. 14, 2006) (unofficial version). In the *DONG/Elsam/Energi E2* case of 2006, subject to certain conditions, the Commission approved the acquisition of Elsam and Energi E2, regional electricity generation incumbents in Denmark, and two smaller electricity suppliers in Denmark, by DONG, the Danish state-owned gas incumbent. The Commission was concerned that the merger would have anti-competitive effects in several gas markets in Denmark due to the removal of Elsam and E2 as potential competitors, and the potential for DONG to weaken its remaining market competitors. *Id.* ¶ 385. To address these concerns, DONG agreed inter alia to divest the larger of its two gas storage facilities in Denmark. *Id.* ¶ 707.

state aid decisions focused on aid to incumbents,¹¹⁶ aid to environmentally friendly ways of generating electricity,¹¹⁷ and aid to compensate for “stranded costs.”¹¹⁸

Competition law enforcement has contributed to, and will continue to contribute to strengthening competition in European energy markets.¹¹⁹ As highlighted by the Sector Inquiry, however, there are numerous obstacles to competition that are linked to deficiencies inherent in the current regulatory framework, which cannot be effectively dealt with by competition law enforcement. It is clear that competition policy alone—in its case-based approach—is not sufficient to guarantee effective competition in gas and electricity markets. Parallel to the enforcement of individual cases, key issues relating to market structure and the regulatory environment must be comprehensively and effectively addressed through improvements to the legal framework.

116. This is best illustrated by the aid granted to Electricité de France (“EDF”) in the form of an unlimited state guarantee (which enabled EDF to obtain the best credit ratings) and tax concessions. On December 16, 2003, the Commission decided that the unlimited guarantee granted to EDF was incompatible state aid and that EDF should reimburse the unpaid tax of €889 million. *See* Commission Decision No. 2005/145/EC, O.J. L 49/9, at 27 (2005).

117. The most well-known of these cases is *PreussenElektra v. Schleswig*, Case C-379/98, [2001] E.C.R. I-2099. As explained in the Community guidelines on state aid for environmental protection, the main issues in these cases are usually (a) whether state resources are involved (in this particular case the Court decided that they were not involved), and (b) whether the state aid may be regarded as necessary to ensure the environmental protection and sustainable development without having disproportionate effects on competition and economic growth. *See* Community Guidelines on State Aid for Environmental Protection, O.J. C 37/3, at 3 (2001).

118. These are cases where public compensation is granted when investments (e.g., in the construction of electricity generators) prior to liberalization face real losses as they will not be sufficiently efficient to face a competitive electricity market following liberalization. *See* Commission Press Release, IP/04/1123 (Sept. 22, 2004) (“[T]he Commission recognizes investments in . . . economically ineffective power plants as a category of stranded costs.”). The aim of the Commission is to ensure that any compensation should not exceed what is necessary to repay the shortfall in investment cost repayments over the asset’s lifetime, including where necessary a reasonable profit margin.

119. *See* Technical Annex to Final Report, *supra* note 71, at 12-13. In the United States, the detrimental effects for competition of vertical integration are shown by various court decisions finding violations of anti-trust law. *See generally* *United States v. Otter Tail Power Co.*, 360 F. Supp. 451 (D. Minn. 1973) (ruling against the behavior of a vertically integrated undertaking that refused to source cheaper electricity supplies through its transmission affiliate).

B. *New Legislative Measures*

At its meeting on March 8-9, 2007, the European Council invited the Commission to develop legislative proposals for the "effective separation of supply and production activities from network operations"¹²⁰ And the European Parliament, in its Resolution on Prospects for the internal gas and electricity market adopted on July 10, 2007, expressed strong political support for a common energy policy, considering that transmission ownership unbundling is the "most effective tool to promote investments in infrastructures in a non-discriminatory way, fair access to the grid for new entrants and transparency in the market."¹²¹

On September 19, 2007, the Commission put forward its third liberalization package of legislative proposals (the "third legislative package"), which entails a set of measures to improve the functioning of the energy markets.¹²² The proposed package seeks to address the malfunctioning of the European energy markets outlined above, and emphasizes strengthening the current (insufficient) level of unbundling. The measures broadly cover five main areas: unbundling, regulatory oversight and cooperation between regulators, cooperation between transmission network operators, transparency, and finally access to storage and liquefied natural gas ("LNG") facilities.¹²³

1. Effective Unbundling

Pursuant to the Commission's third legislative package, Member States would have to "ensure that the same person or persons cannot exercise control over a supply undertaking and, at the same time, hold any interest in, or exercise any right over,

120. European Council Meeting in Brussels, Mar. 8-9, 2007, Presidency Conclusions, 7224/1/07 REV 1.

121. European Parliament Resolution, *supra* note 29, ¶ 2.

122. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final; Third Gas Directive, *supra* note 30, COM (2007) 529 Final; Commission of the European Communities, Proposal for a Regulation of the European Parliament and of the Council, Amending Regulation (EC) No 1228/2003 on conditions for access to the network for cross-border exchanges in electricity, COM (2007) 531 Final (Sept. 2007) [hereinafter *Electricity Regulation*]; Proposal for a Regulation, COM (2007) 532 Final (Sept. 2007) (amending Regulation 2005/1775/EC on conditions for access to the natural gas transmission networks) [hereinafter *Gas Regulation*], available at http://ec.europa.eu/energy/electricity/package_2007/index_en.htm.

123. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 3 (outlining the measures discussed in the proposal package).

a transmission system operator or transmission system.”¹²⁴ In practice this means that if a person or company has direct or indirect control over a network operator, this person or company may not control or have any interest in a supply undertaking and vice versa. Consequently, network operators of electricity and gas grids are not allowed to be affiliated with a group that is also active in supply, generation, and production.

In order to fully preserve the interests of the shareholders of vertically integrated companies, Member States have the choice to implement ownership unbundling either by direct divestiture or by splitting the shares of the integrated company into shares of the network company, and shares of the remaining supply and production business, provided that ownership unbundling is achieved.¹²⁵

While stating that ownership unbundling is clearly the most effective and stable way to solve the inherent conflicts of interest residing in vertically integrated companies, the Commission has also proposed a possible derogation to this form of unbundling, i.e., the ISO model. Under this approach, network assets remain with the company, which is also active in supply, but technical and commercial operation of the assets is put into an independent company that is designated by the Member State. The ISO will need to comply with the same unbundling requirements as other network operators. This means that, among other things, the independent network operator cannot have any interest in a supply undertaking.

The ISO entails increased regulatory control and strengthened specific additional rules. For example:

The owner of the network, which is still active in supply or production, will have to legally and functionally unbundle the part of its company, which owns the network; The owner will be required to finance the investments decided by the independent operator; The ISO will have to commit to complying with a ten-year network investment plan proposed by the regulatory authority; The designation of the ISO will have to be

124. *Id.* at 5.

125. *See id.* at 6 (“However, with a view to encouraging investment in new energy infrastructures by supply and production companies, the present proposal includes the possibility of a temporary derogation to ownership unbundling rules for the construction of new infrastructure.”).

approved by the Commission.¹²⁶

The ISO model proposed is a “deep” form (see Section V below).¹²⁷ It requires that network owners rescind control of the network in terms of operations and investments. If the network owner does not want to finance an investment, the ISO or a third party may do so.

The unbundling proposal requires the effective unbundling of transmission system operators and supply and production activities not only at a national level, but also throughout the EU. In particular, this means that no supply or production company active anywhere in the EU can own or operate a transmission system in any Member State of the EU. This requirement applies equally to EU and non-EU companies. The third legislative package contains safeguards to ensure that companies from third party countries who wish to acquire a significant interest or even control over an EU network, will have to demonstrably and unequivocally comply with the same unbundling requirements as EU companies. The Commission can intervene where a purchaser cannot demonstrate both its direct and indirect independence from supply and generation activities. The implementation of effective unbundling should respect the principle of non-discrimination between the public and private sectors, as enshrined in the EC Treaty. The Commission has clarified that structural separation means that, irrespective of public or private classification, no person or group of persons is able to influence the composition of the boards, the voting or decision making of transmission system operators, or the voting or decision making of supply or production companies. This ensures that when supply or production activities are in public ownership, the independence of a publicly owned transmission system operator is still guaranteed (state owned companies are not required to sell their network or supply arm to privately owned companies). For instance, to comply with this requirement, a public entity or the state could transfer its rights (which provide the “influence”) to another publicly or privately owned legal person. In all cases where unbundling is carried out, the Member State in question

126. See *id.* at 27-35 (presenting proposed Articles 8, 8b, 10, and 10(a) for ISOs); Third Gas Directive, *supra* note 30, COM (2007) 529 Final, at 28-33 (presenting proposed Articles 7, 7b, 9, and 9(a)).

127. See ERGEG PAPER, *supra* note 80, at 5.

must demonstrate to the Commission that “in practice, the results are truly effective and that the companies operate entirely separate from one another, providing a real level-playing field across the whole of the EU.”¹²⁸

The unbundling proposals are the same for gas and electricity. The Commission does not consider that the differences between the gas and electricity sector warrant different treatment regarding unbundling. The findings from the Sector Inquiry clearly demonstrate that fundamental problems arising from vertical integration are present in both sectors.¹²⁹ On the other hand, a distinction is made between the TSO and the DSO level; the legislative proposals focus on effective unbundling at the transmission level because stronger interconnecting capacity at the transmission level is particularly relevant in terms of the cross-border flows needed to establish a properly functioning wholesale market and an integrated EU market.

2. Increased Powers of Regulators

The national regulatory authorities have a key role to play in the creation of properly functioning energy markets. They perform important tasks such as the fixing or negotiation of network charges, which can have a substantial impact on inter alia investment levels. They also have to ensure that TSOs comply with their various obligations including unbundling requirements. It is therefore essential that the national regulatory authorities are independent from both private and public interests and have adequate resources and powers to effectively perform their tasks.

The new rules will make a number of significant changes. First of all, the legislative proposals aim to ensure that all regulators are truly independent.¹³⁰ For example, each Member State must ensure that its regulator is an independent legal entity, which has authority over its own budget and has sufficient

128. Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 6.

129. See Technical Annex to Final Report, *supra* note 71, at 66, 169.

130. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 9 (stating that the intention of the legislative proposals is to ensure independence of regulatory authorities, which is a “key principle of good governance and a fundamental condition for market confidence”); Third Gas Directive, *supra* note 30, COM (2007) 529 Final, at 9 (“It is proposed that the regulatory authority be legally distinct and functionally independent of any other public or private entity . . .”).

human and financial resources to carry out its tasks. Furthermore, the regulator must be supported by management, which is appointed for a non-renewable term of at least five years. In addition, there are strict rules describing when management may be removed from office.¹³¹

Secondly, regulators' statutory powers and duties will be strengthened. They will be able to issue binding decisions on companies, to take appropriate measures in cases where the functioning of the gas and electricity markets is insufficient, and to impose penalties on companies that do not comply with legal obligations or with decisions from regulators.¹³²

Thirdly, regulators will be required to cooperate with regulators from other Member States and all regulators will have the same clear objective of promoting competition, effective market opening, and an efficient and secure network system.¹³³

These more detailed requirements for national regulators, in combination with the mandate to cooperate at the European level, will help resolve the European patchwork seen today regarding the powers of regulators, their responsibility, and their independence. Without independent regulators that cooperate with each other there can be no functioning internal market for electricity and gas.

The establishment of a European Agency (the "Agency") for the cooperation of Energy Regulators will complement, at the European level, the regulatory tasks performed at the national level. The creation of the Agency implies a transition from the current structure for international cooperation of regulators in the so-called European Regulators Group for Electricity and Gas.¹³⁴ The Agency will help ensure that national regulatory au-

131. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 35 (proposing Article 22(a), which states that "management is appointed for a non renewable fixed term of at least five years, and may only be relieved from office during its term if it no longer fulfills the conditions set out in this Article or it has been guilty of serious misconduct"); Third Gas Directive, *supra* note 30, COM (2007) 529 Final, at 39 (proposing Article 24(a)).

132. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 38 (proposing Article 22(c)(3), which lists the powers of the regulatory authorities).

133. See *id.* at 8 ("[T]he present proposal aims to strengthen the powers of the regulatory authorities . . . to ensure competitive, secure and environmentally sustainable internal electricity and gas markets within the European Union, and effective market opening for all consumers and suppliers.").

134. The European Regulators Group for Electricity and Gas was established by the Commission as an advisory body to facilitate the consolidation of the internal mar-

thorities have a framework within which they can cooperate, and help create the possibility for the Agency to issue opinions on Commission guidelines and the compatibility of national regulators' decisions with such guidelines. It would also have the power to decide on the regulatory regime for cross-border infrastructure as well as on exemption requests for infrastructure projects involving more than one Member State. In addition, the Agency will ensure that there is an appropriate oversight of the cooperation between network operators.

The way that the Agency will be governed and its institutional setting are based on the "standard rules and practices for Community regulatory agencies."¹³⁵ To ensure the necessary independence of regulators at the European level, however, this Agency will be unique in that it will have a separate board of regulators. This board will be solely responsible for all regulatory matters and decisions. It will function independent from an administrative board that will be responsible for administrative and budgetary matters.

3. Network Cooperation Among Transmission System Operators

Existing associations of TSOs (European Transmission System Operators ("ETSO") and Gas Transmission Europe ("GTE")) work on a voluntary basis.¹³⁶ The third legislation package proposes the formalization of cooperation between TSOs to establish a main vehicle for practical improvements.¹³⁷

The legislative proposal obliges operators to cooperate in order to ensure optimal management of the European transmis-

ket, in particular with respect to the preparation of draft implementing measures; it does not have decision making powers. See Commission Decision No. 2003/796/EC, O.J. L 296/34 (2003).

135. Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 12.

136. See *id.* at 13.

137. In Europe, recent blackouts (for example, Italy in September 2003 or Germany in November 2006) showed that there is a need for an intensified cooperation between TSOs and a set of rules for managing network coordination between TSOs. See UNION FOR THE CO-ORDINATION OF TRANSMISSION OF ELECTRICITY, FINAL REPORT: SYSTEM DISTURBANCE ON 4 NOVEMBER 2006, at 5-6 (2007), available at http://www.ucte.org/_library/otherreports/Final-Report-20070130.pdf (identifying insufficient TSO coordination as one of the causes of the blackout); UNION FOR THE CO-ORDINATION OF TRANSMISSION OF ELECTRICITY, INTERIM REPORT OF THE INVESTIGATION COMMITTEE ON THE 28 SEPTEMBER 2003 BLACKOUT IN ITALY 9-12 (2003), available at <http://www.ucte.org/publications/otherreports/UCTE-IC-InterimReport-20031027.zip>.

sion network through the establishment of a European Network for Transmission System Operators.¹³⁸ It will be responsible for three core tasks.

First, it must develop draft standards and codes that will facilitate the harmonization and compatibility of operational procedures and access regimes.¹³⁹ This will enable the free flow of gas and electricity across the EU on the basis of compatible market rules and will support market integration.

There will be a legal obligation to develop these standards and codes by the network of operators, even though the codes will have a voluntary character.¹⁴⁰ However, where the Commission or the (regulators') Agency is of the opinion that these codes are either not sufficient or are not implemented, the Commission may make them legally binding.

Second, the network of operators will be responsible for the coordinated operation of the network.¹⁴¹ This must be done in accordance with the agreed standard and codes and through the development of common operational tools. Especially for electricity, combined operation of the synchronous network will enhance security of supply. However, benefits for gas are also to be

138. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 15 (describing the role of the European Network of Transmission System Operators in improving cooperation); Gas Regulation, *supra* note 122, COM (2007) 532 Final, at 26 (establishing, with proposed Article 2(a), the European Network of Transmission System Operators for Gas); Electricity Regulation, *supra* note 122, COM (2007) 531 Final, at 24 (establishing with proposed Article 2(a) the European Network Transmission System Operators for Electricity).

139. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 14 (describing the need for technical and market codes); Gas Regulation, *supra* note 122, COM (2007) 532 Final, at 26 (charging, in proposed Article 2(c), the European Network Transmission System Operators for Gas with the task of adopting technical and market codes); *id.* at 27 (detailing the areas that the codes will cover in proposed Article 2(c)(3)); Electricity Regulation, *supra* note 122, COM (2007) 531 Final, at 25 (charging the European Network Transmission System Operators for Electricity with the task of adopting technical and market codes, and detailing the areas the codes shall cover in proposed Article 2(c)(3)).

140. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 14 (stating that the proposal preserves the voluntary process for adopting the market and technical codes).

141. See *id.* at 14 (explaining that coordination includes following market and technical codes, exchanging network operation information, and coordinating the publication of information); Gas Regulation, *supra* note 122, COM (2007) 532 Final, at 30 (charging transmission system operators, in proposed Article 2(h)(2), with the task of promoting operational arrangements that improve management of the network); Electricity Regulation, *supra* note 122, COM (2007) 531 Final, at 28.

expected, for example in the form of coordinated publication of access related information, such as a common transparency platform.

Third, the network of operators will be required to coordinate the planning of network investments and to monitor the development of the transmission network capacities.¹⁴² The network of operators must publish a bi-annual European-wide, ten-year, forward-looking investment plan.¹⁴³ This network development plan will help identify investment gaps, notably with respect to cross-border capacities. It will also serve to enhance the consistency of national network planning and modeling. All market participants will have an interest in the work of this network of operators. The needs of network users and suppliers must therefore be central in the work of the network operators.

These proposals are based on the assumption that the TSOs taking part are effectively unbundled. If they are not, there is a significant risk of collusion and other anti-competitive behavior. Moreover, it is important to point out that this framework for cooperation does not provide antitrust immunity. The new cooperative structures constitute associations of undertakings within the meaning of Article 81(1) of the Treaty Establishing the European Community and thus have to comply with this provision.¹⁴⁴

4. Transparency

Whereas current rules on transparency focus on available network capacities, these are to be extended to other facilities such as gas storages and demand and supply forecasts.

The legislation also introduces record keeping obliga-

142. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 14 (explaining the need for coordinated network investment planning); Gas Regulation, *supra* note 122, COM (2007) 532 Final, at 27 (proposing Article 2(c)(5), which obligates the European Network of Transmission System Operators for Gas to publish an investment plan and suggesting areas to be covered); Electricity Regulation, *supra* note 122, COM (2007) 531 Final, at 26.

143. See Gas Regulation, *supra* note 122, COM (2007) 532 Final, at 27 (proposing Article 2(c)(5), which obligates the European Network of Transmission System Operators for Gas to publish an investment plan and suggesting areas to be covered); *id.* at 26 (proposing Article 2c(1)(c)); Electricity Regulation, *supra* note 122, COM (2007) 531 Final, at 25-26.

144. See Consolidated Version of the Treaty establishing the European Community, O.J. C 321 E/37, at E/73 (2006).

tions.¹⁴⁵ At the moment regulators cannot effectively assess allegations of market abuse. For regulators to be able to act they must be able to study behavior of market participants in the past and to investigate if their operational decisions were based on sound economic reasoning or if their decisions tried to manipulate market prices. Electricity generators, gas network operators, and supply undertakings will therefore be required to keep records of all data relating to operational decisions and trades.

5. Liquefied Natural Gas and Storage

The package of measures covers access to storage facilities and LNG terminals. Although voluntary guidelines already exist in this respect, their poor implementation by storage operators has given rise to the need to make the provisions legally binding.

The Commission's proposals have now passed to the Council of Ministers,¹⁴⁶ i.e. the Member States, and the European Parliament for consideration. The Council and the Parliament must agree on the final legislation.

IV. AN ANALYSIS OF OWNERSHIP UNBUNDLING

In the new legislative proposals and in the Final Report on the Energy Sector Inquiry, the Commission emphasized that ownership unbundling would be the most effective and stable way to address the problems described in Section III.¹⁴⁷ It is therefore useful to consider the pros and cons of ownership unbundling in more detail.

A. Defining Ownership Unbundling

Unbundling refers to the effective separation between the operation of electricity and gas networks from supply and generation activities. Ownership unbundling is defined as a separation of the previously common ownership structure between net-

145. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 16 (proposing to extend transparency requirements); Gas Regulation, *supra* note 122, COM (2007) 532 Final, at 33 (establishing transparency requirements and recordkeeping duties for system operators in proposed Articles 6(a) and 6(b)).

146. The Energy Council considered the Commission's proposed third legislative package on December 3, 2007.

147. See Third Electricity Directive, *supra* note 30, COM (2007) 528 Final, at 3; Technical Annex to Final Report, *supra* note 71, at 325, ¶ 1036.

work and supply activities of a company.¹⁴⁸ In other words, it is a separation of all network functions from the other activities—including the separation of asset ownership. Ownership unbundling implies that a separate company is created which not only operates, but also owns, the network assets and can remove all shareholdings by any company involved in production and/or supply of energy. Whilst there is considerable scope to reflect over the best ways to implement ownership unbundling, it should be clear from the outset that companies that are actual suppliers in the EU could not acquire/maintain networks in the EU.

The network operator manages system operation (i.e. the interface with the system users), network maintenance, and network investment. The main advantage of ownership unbundling is that the conflicts of interest inherent in vertically integrated TSOs cease to exist. Because of its monopolistic nature, regulatory oversight of the activities of the TSOs would still be required, but it would not need to be as detailed and intrusive and the network operator could focus on efficient provisions of network service and optimized investments.

It is important to underline that ownership unbundling would not oblige Member States to privatize the supply and/or network business. Where both network and supply activities are currently in public hands, it would be possible to retain the public ownership provided that sufficient structural separation is achieved.

B. Arguments in Favor of Ownership Unbundling

In general, the benefits of ownership unbundling (“OU”) of transmission from production and supply are widely acknowledged. Examples include: the unanimous opinion of the European energy regulators in a public opinion, numerous notes from internationally renowned experts on energy economics, energy users including the German industrial users, Verband der Industriellen Energie- und Kraftwirtschaft e.V. (“VIK”), and public bodies such as the International Energy Agency and the Organization for Economic Cooperation and Development

148. Supply within this meaning includes retail supply as well as production and generation.

("OECD").¹⁴⁹ To analyze the economic advantages of OU, reference criteria should be defined. The benchmarks against which the effects have been analyzed relate to: (i) the effect on network investment; (ii) the effect on investment in gas import infrastructure and LNG terminals; (iii) the effect on share prices; (iv) the effect on credit ratings; (v) the effect on market concentration; and (vi) the effect on price levels.¹⁵⁰

1. Impact of Ownership Unbundling on Investments in Networks

Available data relating to EU Member States suggests that ownership unbundling is positively correlated to investments in networks. Ownership unbundling removes the distortion of investment incentives within vertically integrated companies. Ownership unbundled TSOs, for which data was available, show

149. For instance, European Union energy regulators favor full ownership unbundling. The European Group of Regulators for Electricity and Gas ("EREG") has confirmed that this is the preferred option. See EUROPEAN GROUP OF REGULATORS FOR ELECTRICITY AND GAS, EREG'S RESPONSE TO THE EUROPEAN COMMISSION'S COMMUNICATION "AN ENERGY POLICY FOR EUROPE" 4 (2007), available at http://www.ereg.org/portal/page/portal/EREG_HOME/EREG_DOCS/EREG_DOCUMENTS_NEW/Energy%20documents/C06-BM-09-05_RespToSER_2007-02-06.pdf; see, e.g., JOSEF AURER, EU-ENERGIEPOLITIK: HÖCHSTE ZEIT ZU HANDELN! 6-7 (2007), available at <http://www.dbresearch.de/servlet/reweb2.ReWEB?rkey=U1562365>; ORG. FOR ECON. CO-OPERATION AND DEV., ECONOMIC SURVEY OF GERMANY 2006: SUSTAINED COMPETITION IS ABSENT IN ENERGY MARKETS ch. 5, box 3 (2006) ("(O)wnership separation of transmission from generation is, in principle, preferable. Introducing an independent systems operator while leaving transmission and generation in the ownership of the *Verbundunternehmen* would entail separation of transmission asset ownership from transmission asset management, which may result in inefficiencies."), available at <http://www.oecd.org/dataoecd/24/63/36789821.pdf>; ORG. FOR ECON. CO-OPERATION AND DEV., ECONOMIC SURVEY OF THE EUROPEAN UNION 6 (2007) ("While both [full ownership unbundling and independent system operators] would go a long way towards boosting competition, OECD experience, as reviewed by the International Energy Agency and supported by the Commission's review, has shown that full ownership unbundling is more effective."), available at <http://www.oecd.org/dataoecd/60/48/39311348.pdf>; Tooraj Jamasb & Michael Pollitt, *Electricity Market Reform in The European Union: Review of Progress Towards Liberalization and Integration* 3 (ESRC Centre for Bus. Res., Univ. of Cambridge, Working Paper No. 471, 2005) ("Unbundling can take the form of functional, accounting, legal, or ownership separation, with the last being the most effective."), available at <http://www.electricitypolicy.org.uk/pubs/wp/ep66.pdf>; Michael Pollitt, *The Arguments For and Against Ownership Unbundling of Energy Transmission Networks* 2 (ESRC Centre for Bus. Res., Univ. of Cambridge, Working Paper No. 737, 2007) ("We conclude that evidence seems to be that ownership unbundling of transmission is a key part of energy market reform in the most successful reform jurisdictions."), available at <http://www.electricitypolicy.org.uk/pubs/wp/eprg0714.pdf>.

150. See Impact Assessment, *supra* note 40, SEC (2007) Final 1179, at 33, ¶ 5.1.1.

a significant and constant increase in investment levels after ownership unbundling took place.¹⁵¹ In contrast, the investment figures relating to networks of vertically integrated German and French electricity TSOs are comparatively lower.

It should be noted that tariff regulations also exercise an important influence on every TSO's willingness to invest, as tariffs are an important factor for the profitability of their investments. Part of the steep increase in investments after ownership unbundling may therefore be explained by a greater willingness of regulators to finance investments through tariffs due to their increased confidence that investments are made in the interest of the market.

Unlike ownership unbundled TSOs, vertically integrated companies have little incentive to invest in interconnectors that risk exposing them to more supply competition in their home market. As shown by the Sector Inquiry, the share of reinvested congestion revenue was about twice as high for European ownership unbundled TSOs as for integrated TSOs.¹⁵² Ownership unbundled TSOs in the EU-15 reinvested 33.3% of the received congestion revenue, whereas vertically integrated TSOs in the EU-15 reinvested merely 16.8%.¹⁵³

The potential of ownership unbundling to promote investment in network capacity can also be illustrated with the example of investment in interconnectors by German TSOs. German TSOs have invested only a small fraction of their revenues from cross-border congestion by expanding or building new cross-border interconnectors: in the period from 2001 to 2005, three German TSOs managing interconnectors generated congestion revenues of €400-500 million. Of these revenues, only €20-30 million were used to reinforce or build new interconnectors.¹⁵⁴

The case of the Nordic countries is another example of how ownership unbundled electricity TSOs have agreed to tackle cross-border congestion.¹⁵⁵ In the framework of Nordel, the

151. Examples include TSOs like Spanish Red Eléctrica de España, the Czech CEPS and the Portuguese Redes Energeticas Nacionais, where the increase in the investment amount was significant.

152. Impact Assessment, *supra* note 40, SEC (2007) Final 1179, at 34.

153. *Id.*

154. *Id.* No regulatory approval took place on how these companies used the congestion rents as no regulator was in place. *See id.*

155. NORDEL, STATUS OF NORDEL'S WORK ON ENHANCING EFFICIENT FUNCTIONING OF

body for cooperation between the TSOs in Denmark, Finland, Iceland, Norway and Sweden, the TSOs have identified five major cross-sections in the Nordic transmission grid, which will be substantially reinforced in the coming years. The total investment volume of all five projects is about €800 million.¹⁵⁶ Economic evidence thus confirms that ownership unbundling is likely to spur investment in transmission networks and facilitate entry.

2. Impact of Ownership Unbundling on Investments in Liquefied Natural Gas Terminals

A positive correlation is also observed when considering ownership unbundling and investments in LNG terminals: Member States with LNG terminals in advanced stages of planning, or Member States where LNG terminals are being built by companies other than integrated energy companies, are the Netherlands, the U.K., and Spain, i.e. countries where the gas networks are ownership unbundled. Moreover, in these three Member States the number of LNG terminals being planned and built in the past five years has been significantly higher than in France, Belgium, Germany or Italy, where gas TSOs are still part of integrated companies.¹⁵⁷ Similar effects are likely regarding the construction of electricity generation plants by new entrants.

3. Impact of Ownership Unbundling on Share Prices

The Commission has analyzed the impact of ownership unbundling on the share value of previously vertically integrated energy companies. The analysis has been triggered by fears that

THE NORDIC ELECTRICITY MARKET 10 (2006), available at <http://www.statnett.no/Resources/Filer/Kraftmarkedet/Balansetjenester/Enhancing%20Efficient%20Functioning%20of%20the%20Nordic%20Electricity%20Market.pdf>.

156. The Nordic experience shows, however, that ownership unbundling does not solve all problems. In particular, state-owned TSOs may have an incentive to favor domestic consumption over consumption in other Member States. This is one of the reasons why enhanced cooperation between TSOs is important. TSOs must develop a more European outlook if market integration is to become a reality.

157. In France and Belgium, only the vertically integrated incumbents have built liquefied natural gas terminals thus far. Projects by third parties exist in France but are very far behind in their state of development. In Italy, there is only one liquefied natural gas terminal by a non-integrated incumbent which is moving ahead. At this point, all other numerous third-party projects have faced very considerable difficulties and must be considered uncertain.

ownership unbundling allegedly destroys shareholder value by forcing the break up of companies. The Commission's impact assessment revealed that shareholders have in fact benefited from increasing share prices during and after the ownership restructuring in almost all cases. For instance, in Spain TSOs Enagas and Red Electrica de Espana ("REE") for its gas and electricity, in Italy TSO Terna for its electricity, and the National Grid in the United Kingdom, which is the TSO for both gas and electricity.¹⁵⁸ These TSOs are ownership unbundled, the majority of the shareholding is in private ownership, and they are listed on the stock exchange. As a general rule, the share prices of all four TSOs, as well as the share prices of their previous owners, have displayed a substantial increase. Generally, the TSOs clearly outperform the national stock market indices and their former affiliated suppliers. However, the latter still either outperform the national stock market indices or display a comparable performance.

This finding can be illustrated by the example of British Gas: immediately before the breakup of Centrica on February 14, 1997, British Gas shares closed at a price of UK£247.5.¹⁵⁹ If one had bought 100 shares at that price and had subsequently reinvested all dividends and returns of capital, one would now hold 126 BG Group shares, worth UK£739 each, 125 Centrica shares, worth UK£373.5 each, and 60 National Grid shares, worth UK£795.5 each. Thus an investment of UK£100 would now be worth UK£756.05. On the same basis, UK£100 invested in the FTSE 100 would be worth UK£197.45.¹⁶⁰

In Spain, stock prices for Iberdrola, Endesa and Union Fenosa, which sold their electricity network assets at the end of 2002, and TSO Red Electrica de Espana increased by up to 600% (for the period November 2002 to April 2007), compared to an increase of the Spanish stock market index, IBEX 35, of 68% over the same time period. Similar patterns can be found for the unbundled Spanish TSO Enagas and its former vertically integrated parent Gas Natural.¹⁶¹

In Italy, the share price of the incumbent electricity com-

158. See Impact Assessment, *supra* note 40, SEC (2007) 1179, at 36.

159. See *id.*

160. See *id.*

161. *Id.*

pany ENEL, in the period from June 2004 to March 2007, developed similarly to the general stock market index even though during this period, ENEL gradually divested its network company Terna until its remaining shareholders owned only 5% of the outstanding shares (sale of 50% of Terna in July 2004, 13.86% in March 2005, and 29.99% in September 2005). During the same period, Terna outperformed the Italian stock market.¹⁶²

4. Impact of Ownership Unbundling on Credit Ratings

Comparing the credit ratings of vertically integrated companies to energy companies without network assets, no significant or systematic differences can be observed. This seems to provide (counterfactual) evidence against the common view that the predictable revenue stream of the network business makes vertically integrated companies less risky than a company without network assets, allegedly giving it cheaper access to investment capital. It appears that the particular financial situation of the individual companies (e.g., debt levels), their private or public ownership, the corporate strategy, the degree of international expansion and country specific circumstances play a much more important role in explaining the differences in the credit ratings than the level of vertical integration. It is also worth noting that the credit rating for National Grid's gas TSO is the same as for its former parent Centrica. In fact, credit ratings before and after this ownership unbundling did not change at all. Likewise, in the case of ENEL, the divestiture of the Italian electricity TSO Terna in the years 2004 and 2005 changed nothing in ENEL's A+ rating by Standard & Poor's.¹⁶³

5. Impact of Ownership Unbundling on Market Concentration

Market shares of the largest generator in the electricity market (as a percentage of total generation) are significantly higher in Member States with legal unbundling than in those with ownership unbundling. Abstracting from Member States with incomplete data, small and isolated Member States, and the special case of Germany (where four former regional monopolists dominate the market), average market shares of the largest gen-

162. *See id.*

163. *Id.*

erator in 2005 in Member States with legal unbundling were 73% versus 47.7% in Member States with ownership unbundled TSOs.¹⁶⁴

While it is true that this difference already existed to a large extent before some of the Member States concerned implemented ownership unbundling, the cases of Spain, Italy and Portugal demonstrate that the market shares of the largest generator dropped significantly following the implementation of ownership unbundling. In all three Member States, the market share of the largest generator fell, within three years, by more than six percentage points. In more general terms, the degree of market concentration as measured by the market share of the largest electricity generator decreased between 1999 and 2005 more strongly in Member States with ownership unbundling than in those with legal unbundling.¹⁶⁵

In the gas sector, ownership unbundling has equally led to an erosion of the incumbents' market share. In particular in the U.K. and Spain, the wholesale market shares of the incumbent companies such as British Gas and Gas Natural have fallen below 50%.¹⁶⁶

6. Impact of Ownership Unbundling on Prices

Electricity and gas prices are influenced by various elements such as rising commodity prices, the prevailing mix of energy sources, investment costs, taxes, and environmental costs. It is therefore very difficult to compare absolute price levels across markets. However, the evidence does indicate that some surplus has been kept by the vertically integrated incumbent companies due to lack of competition in retail supply, leading to significantly higher supply margins. In this respect, weakening the market power of vertically integrated companies has a potentially dampening effect on prices.

In particular, the experience with past liberalization in the electricity sector suggests that additional competitive pressure is likely to have a positive influence on prices. "Total savings in the EU25 could be of the order of tens of billions of euros."¹⁶⁷ In

164. *Id.* at 36.

165. *Id.* at 37.

166. *See id.*

167. HM TREASURY & DEP'T OF TRADE & INDUSTRY, *THE SINGLE MARKET: A VISION*

addition, based on a study conducted by Copenhagen Economics,¹⁶⁸ an economic simulation model employed by the Commission within the framework of the impact assessment has indicated the existence of a substantial price-reducing effect from ownership unbundling.¹⁶⁹

A possible approach to examine the impact of ownership unbundling on energy prices is to compare the price evolution of Member States with and without ownership unbundled TSOs. Such a comparison has been carried out on the basis of biannual Eurostat price data for wholesale and household customers in EU-27 excluding all taxes. Based on the entry into force of the first Electricity Directive, the year 1998 was chosen as the starting point. As of the moment a Member State implemented ownership unbundling, the relative price change of this Member State was included in the calculation of the price index for Member States with ownership unbundling. This methodology takes into account that the composition of Member States that apply ownership unbundling is changing over time and that price data for the newer Member States is not available for all years.¹⁷⁰

From 1998 to 2006, electricity prices for companies based in countries with ownership-unbundled electricity operators have decreased by three percent, while they have increased by six percent in the same period for companies that are based in countries where the electricity companies remained vertically integrated.¹⁷¹ For households, this contrast in price development is even stronger. Households in ownership-unbundled countries paid six percent more in 2006 than in 1998, while households in vertically-integrated countries ended up paying over 29%

FOR THE 21ST CENTURY 40 (2007), available at http://www.hm-treasury.gov.uk/media/E/0/eer_singlemarket21_121.pdf.

168. Copenhagen Economics, *The Potential Economic Gains From Full Market Opening in Network Industries*, study for the United Kingdom's Department of Trade and Industry, DTI URN 07/622 (2007), available at <http://www.berr.gov.uk/files/file37074.pdf>.

Market opening leads to higher productivity and lower mark-ups in network industries. This was found in our econometric estimations in stage 2. Both lead to an expansion of potential output for the network industries, the former by pushing the potential supply curve outwards, the latter by producing at a more efficient level where prices are lower and production is higher.

Id. at 14.

169. See Impact Assessment, *supra* note 40, SEC (2007) 1179, at 63.

170. *Id.* at 37.

171. See *id.* at 38.

more.¹⁷²

Another indicator (of fair and competitive prices) is the margin between wholesale and retail prices. The higher this margin, the more retail suppliers benefit and the more end customers have to pay for their electricity. In the Netherlands and the UK, the wholesale prices for electricity were in 2006 consistently higher than in Germany. However, retail prices were lower in the Netherlands and the UK. In fact, the price margin in Germany was twice as high as in the Netherlands for both large and small industrial customers. This observation appears to indicate that some surplus has been kept by the vertically integrated incumbent companies due to lack of competition in the retail market.¹⁷³

C. Considerations Against Ownership Unbundling

The above analysis demonstrates why ownership unbundling, whilst not a miracle solution to remove all obstacles to a successful completion of the liberalization process, would address the main shortcomings of the current unbundling regime.

However, concerns have been expressed that ownership unbundling would have various economic and legal drawbacks including uncertainty regarding the impact of ownership unbundling on the welfare of European consumers and allegations of expropriation or privatization of networks. Concerns have been expressed that ownership unbundling would reduce economies of scale, bring possibly large one-off transaction costs, increase the cost of capital of the supply business, or weaken the position of European suppliers in negotiations with external suppliers. This, it is argued, would then lead to less investment, higher prices and endanger security of supply.

As a matter of fact, where full ownership unbundling has been established, there have been no such negative consequences. On the contrary, in such cases, both the network business and the supply businesses have gone on to perform well on an independent basis and under different regulatory regimes and associated risk profiles. The concerns expressed above are therefore unsupported by evidence.

More specifically, as to the alleged loss of economies of scale

172. *See id.*

173. *Id.*

or one-off transaction costs, these would not likely be significant when we move from the current system of legal unbundling to ownership unbundling. Undertakings that have implemented legal and management unbundling (which are already required under the current EU legislation) should have already incurred these costs—and the empirical evidence available suggests that these have been fairly limited. Concerning more specifically the transaction costs of ownership unbundling, the experience of the UK shows that they are small, even for a move from full vertical integration to ownership unbundling of the transmission network: the one-off cost of the British Gas de-merger in 2000 was around 3.2% of the company's yearly turnover.

Similarly, as has already been mentioned, ownership unbundling is actually likely to spur investment in transmission networks as the cost of capital of the network business, which is regulated and low risk, is likely to be lower than the vertically integrated business. It certainly will also facilitate entry, and thus positively influence investments by new entrants. Some suggest however, that vertically integrated incumbents benefit from retaining ownership over the transmission network, in that the stable regulated returns of that activity diminishes their overall cost of capital. This is said to facilitate their investment in the supply business. As a result, it is argued that ownership unbundling would diminish investments by the (previously vertically integrated) incumbents in supply activities. Similarly, there is a concern that ownership unbundling will leave an independent supply business with a much weaker bargaining position vis-à-vis external suppliers of energy sources.

In practice, it is very doubtful that this theoretical argument would lead to an overall net negative impact on investment, even by the former vertically integrated companies because energy suppliers have many other corporate strategies to diminish their overall cost of capital, or increase their bargaining power. The completion of the internal energy market will also open up new opportunities for growth of the supply business by merger and acquisition, in particular outside the home Member States of the companies in question—spreading the risk over a bigger scale of activity. Moreover, the added value of the vertically integrated companies is not so much their ownership of the network because they are already obliged to grant access to the network to their competitors. It is rather their customer base and their

knowledge of how to supply these customers efficiently. The advantage is thus rooted in the retail supply at distribution level. Unbundling the transmission assets will therefore not necessarily weaken the negotiation position of the EU suppliers vis-à-vis the producers.¹⁷⁴

The final argument above amounts to saying that monopoly power is required to bargain with external suppliers. However, consumers rarely benefit from the actions of “benevolent” monopolies. Quite to the contrary, it is well accepted that multiple levels of market power lead to double marginalization to the detriment of consumers. Moreover, the argument is based on a classical pre-liberalization model of long-term contracts between external suppliers and dominant incumbents that make the EU vulnerable to supply shortages of Russian gas.¹⁷⁵ In order to ensure security of supply we need to pave the way for new entry for which effective unbundling is a precondition.

In the ongoing discussion among European energy stakeholders on ownership unbundling, various legal objections have been voiced against introducing ownership unbundling through EU legislation. In particular, the objections raised include the alleged impediment of property rights (expropriation falling foul of general principles of European Community law) under the European Community Treaty.¹⁷⁶

At the European level the protection of property is included in Article 17 of the Charter of Human Rights of 2000, which is based on “tradition, legislation, and practice in all the Member States.”¹⁷⁷ However, while the EU legal order recognizes the

174. Philip Lowe, Ingrida Pucinskaite, William Webster & Patrick Lindberg, *Effective Unbundling of Energy Transmission Networks: Lessons From the Energy Sector Inquiry*, EUR. COMM’N COMPETITION POL’Y NEWSL. Spring 2007, at 32 (emphasis omitted), available at <http://ec.europa.eu/competition/publications/cpn>.

175. See MICHAEL FREDHOLM, GAZPROM IN CRISIS: PUTIN’S QUEST FOR STATE PLANNING AND RUSSIA’S GROWING NATURAL GAS DEFICIT 5-7, 12-13 (Conflict Studies Research Centre, Defence Academy of the United Kingdom, No. 06/48, Oct. 2006), available at [http://www.defac.ac.uk/colleges/csrc/document-listings/russian/06\(48\)MF.pdf](http://www.defac.ac.uk/colleges/csrc/document-listings/russian/06(48)MF.pdf) (“It would not be unreasonable to assume that it was the gas shortages of the previous winter that clinched the deals for the European firms.”); ALAN RILEY, THE COMING OF THE RUSSIAN GAS DEFICIT: CONSEQUENCES AND SOLUTIONS 1, 5 (No. 116 Centre for European Policy Studies Brief, Oct. 2006) (“The decline in supply from the Russian gas fields is likely to make it increasingly difficult for Gazprom to honour its supply contracts to customers.”).

176. See Lowe et al., *supra* note 174, at 33.

177. Impact Assessment, *supra* note 40, SEC (2007) 1179, at 16.

protection of property, this and other fundamental rights are not absolute prerogatives.¹⁷⁸ Although it could be argued that Article 295 of the European Community Treaty also protects the core rights of ownership, it does not have the effect of exempting the Member States' systems of property ownership from the fundamental rules of the Treaty.¹⁷⁹ The exercise of property rights may be restricted provided that those restrictions correspond to objectives of general interests pursued by the community and do not constitute a disproportionate and intolerable interference, impairing the very substance of the rights guaranteed.¹⁸⁰ A necessity and proportionality test is applied when assessing the compatibility of ownership unbundling with the Treaty law and with the general principles of EC law (in particular, the rules on protection of property derived from the European Convention on Human Rights and Fundamental Freedoms).¹⁸¹

The Commission considers that the limitations resulting from ownership unbundling can be lawfully imposed.¹⁸² The Sector Inquiry and other evidence at its disposal demonstrate that options which allow supply companies to influence network operations and investments do not allow integrated and competitive energy markets to develop.

In any case, it appears that in a large number of unbundling cases there would be no objection for most shareholders to retain their holding of shares in both the supply and network busi-

178. *Id.*

179. See *Commission v. Belgium*, Case C-503/99, [2002] E.C.R. I-4809, ¶ 44; *Konle v. Austria*, Case C-302/97, [1999] E.C.R. I-3099, ¶ 38.

180. See *Van den Bergh Foods v. Commission*, Case T-65/98 (CFI Oct. 23, 2003) (not yet reported); *Germany v. Council*, Case C-280/93, [1994] E.C.R. I-4973, ¶ 78; *Schröder HS Kraftfutter GmbH & Co. KG v. Hauptzollamt Gronau*, Case 265/87, [1989] E.C.R. 2237, ¶ 15; *Hauer v. Land Rheinland-Pfalz*, Case 44/79, [1979] E.C.R. 3727, ¶ 23.

181. *Lowe et al.*, *supra* note 174, at 33.

182. See CHRISTIAN VON HAMMERSTEIN, *ENTFLECHTUNG DES EIGENTUMS AN ELEKTRIZITÄTS- UND GASVERSORGUNGSNETZEN VON ANDEREN BEREICHEN DER ENERGIEVERSORGUNG - HANDLUNGSFORMEN UND VERFASSUNGSRECHTLICHE BEWERTUNG - GUTACHTEN* [OWNERSHIP UNBUNDLING OF ELECTRICITY AND GAS SUPPLY NETWORKS FROM OTHER FIELDS OF ENERGY SUPPLY - WAY OF ACTING AND CONSTITUTIONAL EVALUATION - LEGAL OPINION] 44 (2007), available at http://www.vzbv.de/mediapics/gutachten_entflechtung_hammerstein_08_2007.pdf (legal opinion on behalf of the Federation of German Consumer Organizations) (concluding that ownership unbundling is justified because of the content and limits of property rights, and that it is not expropriation under German constitutional law).

nesses, as these stakes would not amount to blocking a minority in either company or allowing them to appoint members of the boards of the network company, and so the shareholders themselves would not lose any of their ownership rights.

V. *MODELING AN INDEPENDENT SYSTEM OPERATOR TO ENSURE EFFECTIVE UNBUNDLING*

Notwithstanding the clear benefits of unbundled and independent TSOs, options other than ownership unbundling, such as ISO and Regional System Operator,¹⁸³ have been brought forward as alternatives by market participants and stakeholders. Theoretical models so far developed by the European energy industry have been triggered by the Commission's initiatives related to the third legislative package, in particular to the Commission's stated view that ownership unbundling is the most effective way to improve the functioning of the competitive energy market.¹⁸⁴

In its impact assessment, the Commission analyzed the ISO model and included the possibility of the "deep" form of ISO as an alternative to ownership unbundling in its new legislative package. The ISO model is characterized by the separation of system operations from transmission ownership, as well as the separation from ownership of upstream and downstream functions. The ISO does not have economic ownership of the network assets, which therefore can remain part of the vertically integrated group. The ISO is responsible for matters such as scheduling and dispatching generation and load, allocating scarce transmission capacity, interconnection arrangements, and administration of tariffs governing transmission service prices. Within the ISO approach there are variations, chiefly in the extent to which the system operator has control over investment related decisions:

183. The ISO and the RSO models should not be confused as they are inherently proposed to resolve different weaknesses in the development of the internal energy markets. The main purpose of the ISO model is to reduce the scope for discrimination and thus it entails a minimum requirement to separate transmission and supply interests. Whilst the RSO entity would also need to meet these minimum requirements, its promotion as an alternative is primarily aimed at resolving perceived regional cross border harmonization issues. RSOs are not an alternative to effectively unbundled TSOs.

184. See Prospects for the Internal Gas and Electricity Market, *supra* note 27, COM (2006) 841 Final, at 12.

(i) The so-called “deep” ISO entails all the functions of the system operator being removed from the bundled company, leaving the latter only with the ownership of the assets. The ISO operates the network, arranges for network connections, undertakes emergency planning and levy for use of the network, etc. It also plans and executes investments and seeks financing if the owner declines to do so. In this way the “deep ISO” exerts a strong influence over investment projects. In terms of its functions and competences, the “deep” ISO is considered to lead to a comparable outcome to that of ownership unbundling, provided it is accompanied by sufficiently strong and detailed regulation and permanent regulatory oversight;

(ii) In the “shallow” ISO by contrast, all the transmission functions remain with the bundled company apart from the operation of the transmission network during and close to real time. The “shallow ISO” model is therefore close to the present legal unbundling requirements and therefore clearly cannot be expected to achieve the same degree of effectiveness as ownership unbundling.¹⁸⁵

There is no single model for the ISO approach, and in practice there are many different ISO models in place in the United States and the EU (for example the various RTO models in the United States¹⁸⁶ and the British Electricity Trading and Transmission Arrangements (“BETTA”) model in Scotland).¹⁸⁷ There is thus no ready model that Europe can simply replicate which would attain the desired degree of unbundling. To do so, the System Operator must be truly independent and have sufficient powers and competence over both national and cross-border issues, i.e., the “deep” form of ISO. In this case the outcome will be as close as possible to that of ownership unbundling. Moreover, the issue of information handling needs to be dealt with. In the ISO model, the system operator and transmission owner might exchange market sensitive information. Preventing leak-

185. ERGEG PAPER, *supra* note 80, at 10, 13.

186. In most cases in the United States, ISOs have limited influence; therefore they might be qualified as “shallow” ISOs.

187. Specific circumstances in Britain mean that the Scottish ISO model does not raise serious concerns about discrimination. For example, there is ownership unbundling in England and Wales, the countries have already established an independent TSO (National Grid), and they give National Grid incentives to act in a non-discriminatory manner. There is also a very strong regulator with significant powers. These circumstances do not exist in many continental European Union Member States.

age of this information to the supply business is difficult and requires strict arrangements for the management of information to ensure that it is put into the public domain where possible, or strictly ring fenced where publication is not possible.

When considering an ISO as an alternative to ownership unbundling, one should also bear in mind that ISOs imply the unbundling of the network business itself, i.e., separating ownership of the network from operation of the network. It therefore introduces a new interface between the ISO and transmission system owners, which is potentially open to abuse and therefore has to be properly regulated. This implies burdensome regulation that is necessary to ensure that TSOs behave independently. Regulatory arrangements in these models would not only have to be defined in a complex contractual framework, but also require detailed supervision. In practice, regulators would continuously have to oversee performance of the tasks attributed to the ISO. The difference with an ownership unbundled TSO is the continued interface between transmission owner and ISO (between the asset owner and the entrusted operator to manage the assets), where the regulator would have to monitor compliance of the transmission owner, approve contracts in order to be able to establish an efficient regulation of network tariffs, and settle disputes between the transmission owner and the ISO. Effectively, this would imply the regulators' "deep" involvement in the investment planning and approval process.¹⁸⁸ All the above points are reflected in the Commission's proposal.

CONCLUSION

The need for effective unbundling of networks as a prerequisite for properly functioning EU energy markets is not only theoretical, but also confirmed by the findings of the Sector Inquiry. These findings confirm that the vertical integration of

188. In view of this interface, the European Regulator's Group for Electricity and Gas argues that ownership unbundling is more advantageous than the "deep" ISO model: "The ISO model adds to ownership unbundling, however, the risk of conflicts arising as regards investing and sharing the profits resulting from transmission activity between the operator and the owner of the assets, without any benefits for the network users." ERGEG PAPER, *supra* note 80, at 5. Moreover, the regulators that first implemented the ISO model in their respective European Union Member States agreed that "conflicts between the owners of the asset and the system operator are difficult to manage." *Id.* at 32. By contrast, ownership unbundled TSOs reduced "the time needed for planning, instructing authorization process and realizing the investments." *Id.*

network and supply businesses creates a conflict of interest resulting in, among other things, distorted investment incentives and discriminatory access for competitors to the networks. It has also become clear that the current unbundling provisions required by the Second Electricity and Gas Directives are not adequate, and this view is widely shared by the European Parliament and the European Council among others.¹⁸⁹ Even where they are fully transposed into national law, there continues to be a conflict of interest, which is at the root of many of the competition problems observed. The ineffectiveness of the current unbundling requirements contributes significantly to the slow pace of market integration and the low growth in cross border trade observed in EU electricity and gas markets.

The new third legislative package of the Commission aims to stimulate and provide for competition by introducing ownership unbundling throughout the EU at the level of transmission systems. As this Article demonstrates, ownership unbundling is the simplest, most effective, and stable solution to solve the inherent conflict of interest that so clearly plagues vertically integrated TSOs. Moreover, it has already been successfully implemented by many Member States. There are no legal obstacles that would prevent the Community from introducing it, and a growing body of evidence shows that it would bring significant benefits to the completion of the European energy market, because it brings more investment into the network, a lower cost for network users, and more competition on the supply side. By contrast, there is a growing recognition that working on improving legal and management unbundling without effective separation, that at a minimum separates network ownership from every aspect of the operation of the network, is doomed to remain unsuccessful. The proposed derogation from ownership unbundling, i.e., the “deep” form of ISO model containing all the functions of the network operator, including investments, is an alternative. However, the full effectiveness of the ISO model needs to be ensured by specific additional rules and permanent regulatory oversight, rendering it a much heavier instrument to ensure the same goal.

189. See Presidency Conclusions, European Council Meeting In Brussels (Mar. 8-9, 2007), SN 7224/1/07 REV 1, Annex 1: Energy Policy for Europe, at 16; European Parliament Resolution, *supra* note 29, ¶¶ 1-5.

Finally, effective unbundling will solve many but not all problems. It is a necessary but not a sufficient condition for creating integrated and competitive markets. Strong and consistent regulation will also be required to ensure that unbundled TSOs, which after all operate a monopoly structure, improve the efficiency of their operations and reduce tariffs. Moreover, national regulators need to have adequate powers and to be fully independent, they need a framework within which they can cooperate, and cross-border cooperation needs to be improved. As mentioned above, these elements are not the focus of this Article and are therefore only summarily addressed, but they are an integral part of the new third legislative package the Commission has put on the table.

In the Commission's view, these measures are necessary to create integrated and competitive energy markets in the EU for the benefits of its citizens. The current framework has generally freed the vertically integrated energy companies from price regulation and other constraints, but has not brought about effective competition as intended by liberalization. The Commission's aim is to ensure that competition really takes root and that, as a consequence, consumers will be able to reap the expected benefits from liberalization.