EYIEL *Monographs*
Studies in European and International Economic Law 5

Tilman Michael Dralle

Ownership Unbundling and Related Measures in the EU Energy Sector

Foundations, the Impact of WTO Law and Investment Protection

Springer

European Yearbook of International Economic Law

EYIEL Monographs - Studies in European and International Economic Law

Volume 5

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Heidelberg, Germany

ISSN 2364-8392 ISSN 2364-8406 (electronic)
European Yearbook of International Economic Law
EYIEL Monographs - Studies in European and International Economic Law
ISBN 978-3-319-77796-2 ISBN 978-3-319-77797-9 (eBook)
https://doi.org/10.1007/978-3-319-77797-9

Library of Congress Control Number: 2018937367

Dissertation, Faculty of Law, University of Dresden

Printed on acid-free paper

This Springer imprint is published by the registered company Springer International Publishing AG part of Springer Nature.
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Meinen Eltern

Contents

List of Abbreviations

AB	Appellate Body
ACER	Agency for the Cooperation of Energy Regulators
BIT	Bilateral investment treaty
CETA	Comprehensive Economic and Trade Agreement between Canada and the European Union
CFR	Charter of Fundamental Rights of the European Union
CPC	Provisional Central Product Classification of the United Nations
CRE	Regulatory Authority for Energy of France
Directives	Directives 2009/72/EC and 2009/73/EC
DSU	Dispute Settlement Understanding
ECHR	European Convention on Human Rights
ECJ	European Court of Justice
ECOSOC	Economic and Social Council of the United Nations
ECT	Energy Charter Treaty
ECtHR	European Court of Human Rights
EEA	European Economic Area
EEZ	Exclusive Economic Zone
Electricity Directive	Directive 2009/72/EC
Electricity Regulation	Regulation 714/2009
EPA	Economic Partnership Agreement
EPCA	Enhanced Partnership and Cooperation Agreement
ERO	Regulatory Authority for Energy of Poland
EU	European Union
FCSC	Foreign Claims Settlement Commission of the United States
FET	Fair and equitable treatment
FTA	Free trade agreement
Gas Directive	Directive 2009/73/EC
Gas Regulation	Regulation 715/2009
GATS	General Agreement on Trade in Services

GATT	General Agreement on Tariffs and Trade
HDSA	Historically disadvantaged South African
ICSID	International Centre for Settlement of Investment Disputes
ICSID Convention	Convention on the Settlement of Investment Disputes between States and Nationals of Other States
IIA	International investment agreement
ILC	International Law Commission
ISDS	Investor-State dispute settlement
ISO	Independent System Operator
ITO	Independent Transmission Operator
LNG	Liquefied natural gas
MA	Market access
MFN	Most-favored-nation
MPRDA	Mineral and Petroleum Resources Development Act of the Republic of South Africa
NAFTA	North American Free Trade Agreement
NRA	National regulatory authority
NT	National treatment
OECD	Organisation for Economic Co-operation and Development
OJ	Official Journal of the European Union
OU	Ownership unbundling
PCA	Permanent Court of Arbitration
PCB	Polychlorinated biphenyl
PTA	Preferential trade agreement
RAE	Regulatory Authority for Energy of Greece
SRI	Internal Revenue Service of Ecuador
STE	State trading enterprise
TEC	Treaty establishing the European Community
TEN-E	Trans-European energy networks
TEP	Third Energy Package
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
TPA	Third party access
TSO	Transmission system operator
TTIP	Transatlantic Trade and Investment Partnership between the United States and the European Union
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
VCLT	Vienna Convention on the Law of Treaties
VIU	Vertically integrated undertaking
WPDR	Working Party on Domestic Regulation
WPPS	Working Party on Professional Services
WTO	World Trade Organization
W/120	Services Sectoral Classification List

Chapter 1
Introduction

Gas and electricity transmission networks are generally considered to be natural monopolies.[1] This means that the transmission of energy through such networks is not typically carried out on a competitive basis, but by a single natural monopolist.[2] Owing to this, energy transmission networks present specific regulatory challenges. In particular, effective regulatory approaches are needed in order to ensure that the lack of competition in the transmission sector does not lead to the creation of monopoly rents, and that other economic actors have access to energy transmission networks on fair and non-discriminatory terms.[3]

The competition-related problems deriving from the natural monopoly character of gas and electricity transmission systems are seriously compounded by the fact that such networks are often controlled by vertically integrated undertakings (VIUs). In the energy sector, vertical integration refers to the situation wherein a company that controls energy transmission networks (an essentially non-competitive activity) also

[1]Christopher Decker, *Modern Economic Regulation: An Introduction to Theory and Practice* (Cambridge University Press 2015) 227, 283; Simonetta Zarrilli, 'Multilateral Rules and Trade in Energy Goods and Services: The Case of Electricity' in Janusz Bielecki and Melaku G Desta (eds), *Electricity Trade in Europe – Review of the Economic and Regulatory Changes* (Kluwer Law International 2004) 255; WTO, Council for Trade in Services, Energy Services – Background Note by the Secretariat (09 September 1998) S/C/W/52, [5, 25, 39]; Winfried Rasbach, *Unbundling-Regulierung in der Energiewirtschaft: Gemeinschaftsrechtliche Vorgaben und deren Umsetzung in die deutsche Energierechtsordnung* (C.H. Beck 2009) 34.

[2]This book focuses on the transport of electricity and gas through *transmission* networks, i.e. the long-distance transport of natural gas through high-pressure pipelines and the long-distance transport of electricity on the extra high-voltage and high-voltage interconnected system. In contrast, local or regional *distribution* networks are not specifically addressed.

[3]Thomas W Wälde and Andreas Gunst, 'International Energy Trade and Access to Networks: The Case of Electricity' in Janusz Bielecki and Melaku G Desta (eds), *Electricity Trade in Europe – Review of the Economic and Regulatory Changes* (Kluwer Law International 2004) 185.

T. M. Dralle, *Ownership Unbundling and Related Measures in the EU Energy Sector*, European Yearbook of International Economic Law 5,
https://doi.org/10.1007/978-3-319-77797-9_1

engages in the production/generation or supply of energy (a competitive activity).[4] Evidence has shown that vertically integrated undertakings have an incentive to leverage their market power in the core network activity into the competitive industry segments in order to benefit their affiliated production/generation and supply businesses.[5]

In the European Union (EU), as well as in other countries around the world, policymakers have devised so-called 'unbundling measures' in order to prevent the discrimination, cross-subsidization and distortion of competition which can result from the vertical integration of energy companies. The term 'unbundling' refers to the separation of energy transmission activities on the one hand from energy production/generation and supply activities on the other. Whereas 'light unbundling' merely requires the keeping of separate accounts for transmission activities, the most far-reaching unbundling requirements mandate the complete independence of network operators from producers/generators and suppliers.

This book examines how international economic law,[6] specifically the law of the World Trade Organization (WTO)[7] and international investment law, interacts with the unbundling and unbundling-related measures in the EU energy sector. In carrying out this examination, the book contains a two-pronged approach. On one hand it analyzes whether and how international economic law limits the adoption or maintenance of unbundling and unbundling-related measures. On the other hand, it examines the question whether international economic law positively requires or

[4]EU energy legislation uses the following definition (for the electricity sector): A VIU is defined as 'an electricity undertaking or a group of electricity undertakings where the same person or the same persons are entitled, directly or indirectly, to exercise control, and where the undertaking or group of undertakings perform at least one of the functions of transmission or distribution, and at least one of the functions of generation or supply of electricity'; see Article 2 No. 21 of Directive 2009/72/EC of the European Parliament and of the Council concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC (13 July 2009) OJ 2009/L 211/55. For the gas sector, see Article 2 No. 20 of Directive 2009/73/EC of the European Parliament and of the Council concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (13 July 2009) OJ 2009/L 211/94.

[5]See, for example, Decker (n 1) 142, 178–179. In several EU competition law proceedings, the abuse of dominant position was said to derive from the vertically integrated nature of energy companies; see European Commission, Commission Decision relating to a proceeding under Article 82 of the EC Treaty and Article 54 of the EEA Agreement (18 March 2009) Case COMP/39.402 – RWE Gas Foreclosure, [50]; European Commission, Commission Decision relating to a proceeding under Article 82 of the EC Treaty and Article 54 of the EEA Agreement (26 November 2008) Cases COMP/39.388 – German Electricity Wholesale Market, COMP/39.389 – German Electricity Balancing Market, [87]; European Commission, Commission Decision relating to a proceeding under Article 102 TFEU and Article 54 of the EEA Agreement (29 September 2010) Case COMP/39.315 – ENI, [90].

[6]See Ignaz Seidl-Hohenveldern, *International Economic Law* (3rd edn, Kluwer Law International 1999) 1 (who defines international economic law as referring to 'those rules of public international law which directly concern economic exchanges between the subjects of international law', including individuals, multinational enterprises, non-governmental organizations, and international organizations).

[7]See Agreement Establishing the World Trade Organization (15 April 1994) 1867 U.N.T.S. 154.

encourages States to implement some kind of unbundling policies. The main agreements examined include the WTO's General Agreement on Trade in Services (GATS)[8] as well as bilateral investment treaties (BITs) and other international investment agreements (IIAs).

1.1 Private Restraints on Competition and Energy Transmission as a Natural Monopoly

On the worldwide level, the gas and electricity markets were for a long time dominated by vertically integrated State-owned monopolies.[9] This also holds true for the EU, where until the late 1980s the energy markets of most EU Member States continued to be controlled by public monopolies,[10] which were usually VIUs.[11] Since the 1980s, the political climate in many countries has undergone a significant transformation: away from the idea of State-sponsored energy monopolies and towards privatization and liberalization of their energy markets.[12]

At the same time however it has become clear that the formal liberalization of the sector, i.e. the breaking-up of public monopolies, is insufficient to ensure genuine competition. There is the danger that public restraints on competition are being replaced by private restraints. Even after the removal of formal monopoly rights, vertically integrated energy companies are in a position to exploit their *de facto* monopoly power over the energy transmission facilities. The reason for this is the lack of competition in the gas and electricity transmission sectors, which, as stated, constitute a natural monopoly based on the current state of technology.

A natural monopoly exists where a single firm can produce a given amount of output at lower costs than multiple firms engaged in the same activity. This condition is technically referred to as the subadditivity of the cost function, or cost subadditivity.[13] In the context of energy networks, economies of scale and scope are the main drivers of cost subadditivity.[14] In the gas transmission sector, significant

[8]WTO, General Agreement on Trade in Services (15 April 1994) 1869 U.N.T.S. 183.

[9]Energy Services – Background Note by the Secretariat (n 1) [3, 7]; WTO, Council for Trade in Services, Energy Services – Background Note by the Secretariat (12 January 2010) S/C/W/311, [5, 79].

[10]Kim Talus, *EU Energy Law and Policy: A Critical Account* (Oxford University Press 2013) 15ff.

[11]Damien Geradin, 'Introduction' in Damien Geradin (ed), *The Liberalization of Electricity and Natural Gas in the European Union* (Kluwer Law International 2001) xvi.

[12]Piet J Slot, 'Energy and Competition' (1994) 31 Common Market Law Review 511, 511; Angus Johnston and Guy Block, *EU Energy Law* (Oxford University Press 2012) [2.09].

[13]Günter Knieps, *Wettbewerbsökonomie: Regulierungstheorie, Industrieökonomie, Wettbewerbspolitik* (3rd edn, Springer 2008) 21ff; Jürgen Kühling, *Sektorspezifische Regulierung in den Netzwirtschaften* (Energie- und Infrastrukturrecht vol 4, C.H. Beck 2004) 37.

[14]Günter Knieps, 'Wettbewerb auf den Ferntransportnetzen der deutschen Gaswirtschaft: Eine netzökonomische Analyse' (2003) 26 Zeitschrift für Energiewirtschaft 171, 172.

economies of scale exist, *inter alia*, because pipeline capacity costs decrease as the diameter of the pipeline increases.[15] Similarly, in the electricity transmission sector, the cost of one km of line per megawatt of transmission capacity (and thus the unit cost of transporting electric power) declines as the voltage level of the line, i.e. its total transmission capacity, increases.[16] What eventually makes the natural monopoly in the energy transmission sector so problematic from a competition perspective, and thus creates the need for sector-specific regulation, is that the natural monopoly is non-contestable. The reason for this is that the construction of gas and electricity networks involve enormous investments.[17] These investment costs are sunk once incurred, which means that they are non-recoverable upon exit from the market. Whereas such costs are no longer relevant for an established incumbent, they are extremely important for potential new market entrants.[18] In short, it is not economically viable for competitors to duplicate energy infrastructure, which leaves the incumbent natural monopolist with a stable market power.[19] In addition, it must also be taken into account that the construction of a competing parallel infrastructure is limited by environmental, safety, and zoning restrictions.[20]

1.2 Anti-competitive Practices by Vertically Integrated Energy Undertakings

Due to the fact that gas and electricity transmission is essentially a non-competitive activity, vertically integrated undertakings have both an incentive and the ability to exploit their position of power in such a way as to favor their affiliated production/generation and supply companies. First of all, and most importantly, vertically integrated transmission system operators (TSOs) can discriminate against competitors as regards network access. In terms of price-related discrimination, integrated operators may, for example, manipulate the tariff regime in such a way that—even though tariff categories are, on their face, based on non-discriminatory criteria—the

[15]Decker (n 1) 283; D. V Gordon, K. Gunsch and C. V Pawluk, 'A Natural Monopoly in Natural Gas Transmission' (2003) 25 Energy Economics 473, 478.

[16]Michel Rivier, Ignacio J Pérez-Arriaga and Luis Olmos, 'Electricity Transmission' in Ignacio J Pérez-Arriaga (ed), *Regulation of the Power Sector* (Springer 2013) 262.

[17]Decker (n 1) 227, 283; Kühling (n 13) 38.

[18]Knieps (n 13) 32.

[19]Energy transmission systems cannot always be characterized as 'perfect' natural monopolies. The German natural gas transmission sector, for example, is characterized by a certain degree of infrastructure competition, see Knieps (n 14). This does not, however, automatically mean that governmental regulation is unnecessary, see Wolfgang Ströbele, Wolfgang Pfaffenberger and Michael Heuterkes, *Energiewirtschaft: Einführung in Theorie und Politik* (Oldenbourg Verlag 2012) 160.

[20]Piet J Slot and Andrew Skudder, 'Common Features of Community Law Regulation in the Network-Bound Sectors' (2001) 38 Common Market Law Review 87, 87.

tariffs applicable to affiliated businesses are overall lower than those applicable to competitors.[21] Furthermore, it is also possible for integrated operators to elevate transmission tariffs to an artificially high level in order to squeeze competitors' margins.[22] Apart from that, third-party network access may also be reduced or obstructed through non-price behavior. The possibilities for non-price discrimination are manifold. In the electricity sector, the use of allocation procedures that fail to bring about maximum use of interconnector capacity and long-term capacity reservations in favor of incumbents has been reported.[23] In the gas sector, there is evidence that integrated TSOs have implemented strategies to make the purchase of capacity more cumbersome, and thus less valuable, for third parties. This has apparently been done by offering capacity on gas pipelines on a fragmented basis, i.e. through a number of incremental sales, even though it would have been possible to offer such capacity on a longer-term basis.[24] Furthermore, VIUs may understate the capacity that is technically available to third party transport customers, implement an ineffective capacity allocation system, or refuse to offer existing available or unused capacity.[25]

Second, there are clear indications that vertical integration has led to discriminatory investment decisions. In many cases, integrated operators have only invested in network reinforcements if it was in the interest of the company as a whole. In contrast, capacity expansions have been avoided in cases where the extra capacity would have mainly benefitted competitors.[26] In one case, a vertically integrated gas company even suspended ongoing construction works for the expansion of a pipeline, which had been initiated by the network branch due to an increased demand for gas capacity on the part of independent shippers, in response to complaints from the company's supply branch.[27]

A third way for VIUs to leverage the market power derived from their network activity to the commercial segments of the energy sector is by misusing commercially sensitive information. In the course of operating the network, vertically

[21]Emmanuel Cabau, 'Unbundling of Transmission System Operators' in Christopher Jones (ed), *The Internal Energy Market – The Third Liberalisation Package* (EU Energy Law Series vol 1, 3rd edn. Claeys & Casteels Publishing 2010) [4.1]. See also Commission Decision relating to a proceeding under Article 82 TEC – RWE Gas Foreclosure (n 5) [33–35].

[22]Ibid [30–32].

[23]European Commission, DG Competition Report on Energy Sector Inquiry (10 January 2007) SEC(2006) 1724, [497].

[24]See, for example, Commission Decision relating to a proceeding under Article 102 TFEU – ENI (n 5) [51–52].

[25]Commission Decision relating to a proceeding under Article 82 TEC – RWE Gas Foreclosure (n 5) [26–27]; Commission Decision relating to a proceeding under Article 102 TFEU – ENI (n 5) [46–48].

[26]DG Competition Report on Energy Sector Inquiry (n 23) [497–498, 502] (for electricity) and [144, 157–159] (for gas). See also Commission Decision relating to a proceeding under Article 102 TFEU – ENI (n 5) [55–60].

[27]DG Competition Report on Energy Sector Inquiry (n 23) [158–159].

integrated TSOs necessarily obtain information that is of high commercial value to energy generators/producers and suppliers. In the electricity sector, for example, this applies to information regarding the maintenance programs of generation plants, load forecasts, and expected congestion levels.[28] If such information were made available only to affiliated companies, or provided to them at an earlier stage, they would have a clear competitive advantage.[29]

Fourth, vertical integration entails the risk of cross-subsidization. By using profits earned from the non-competitive network sector, a vertically integrated undertaking is able to lower sales prices at the wholesale and retail levels.[30] This imposes losses on existing competitors, potentially forcing them to leave the industry, and discourages new competitors from entering the market.

While all of the above-mentioned anti-competitive practices are likely to undermine the level playing field between economic actors in the production/generation and supply of energy, it is discrimination in network access that constitutes the most direct and thus most relevant restriction on competition resulting from the natural monopoly character of gas and electricity transmission systems. It is not surprising, therefore, that governmental regulation in the energy sector has first and foremost attempted to ensure non-discriminatory network access.

1.3 Unbundling Measures in Context: Behavioral and Structural Regulatory Approaches

Regulatory approaches that seek to control the anti-competitive behavior of vertically integrated energy undertakings with respect to network access can be broadly classified into two categories: behavioral policies and structural policies.[31] Behavioral policies are governmental regulations setting forth the terms and conditions under which access to the transmission network by third parties must be negotiated or granted. Structural policies, in contrast, require vertically integrated undertakings to implement some degree of separation between their network activities on the one hand, and the production/generation or supply activities on the other (unbundling). Therefore, whereas behavioral policies primarily reduce the *ability* of the transmission system company to deny or hinder network access (while failing to remove the incentive to do so), structural policies seek to suppress or eliminate the *incentives* of

[28]Cabau (n 21) [4.3].

[29]Cabau (n 21) [4.3]; Rasbach (n 1) 38.

[30]Rasbach (n 1) 38; Cabau (n 21) [4.2].

[31]This classification is used by the OECD, see for example OECD, 'Recommendation of the Council Concerning Structural Separation in Regulated Industries' (C(2011)135 and CORR1 13 December 2011) 2 <http://www.oecd.org/daf/competition/50119298.pdf> accessed 24 June 2015.

the transmission operator to deny or hinder access.[32] More specifically, the latter category of policies aims to restore the 'natural' incentive of network operators, namely to promote competition in the competitive market segment in order to create a growing demand for their non-competitive service. This natural incentive can be and is often supplanted by opposing incentives on the part of other branches of a vertically integrated undertaking, namely to maximize their sales and market shares of production/generation and supply activities. Accordingly, structural policies are meant to solve the 'conflict of interest' between network operations and commercial energy activities.

As regards behavioral policies, the EU has introduced and gradually developed the instrument of third party access (TPA) in its First, Second and Third Energy Packages. TPA implies that eligible third parties have a legal right, subject to certain conditions, to use the grid of an electricity or natural gas transmission/distribution system owner or operator. One can distinguish here between two variants: the weaker variant of *negotiated* TPA, and the stronger alternative of *regulated* TPA.[33]

The electricity and gas market directives of 1996 and 1998 (the First Energy Package) allowed for both options: (1) negotiated TPA on the basis of voluntary commercial agreements; and (2) regulated TPA on the basis of previously published tariffs set by an external authority.[34] The second generation of internal energy market directives (2003) strengthened the provisions on TPA. They no longer provided for the possibility of negotiated TPA, but instead prescribed regulated TPA as the only option. Consequently, this Second Energy Package (SEP) also introduced substantive rules with respect to the applicable transmission and distribution tariffs and the methodologies underlying their calculation. According to these rules, the methodologies used to calculate the tariffs could no longer be determined in a discretionary manner, but were subject to the mandatory prior approval of the national regulatory authorities (NRAs). The NRAs were also empowered to fix or approve the tariffs.[35] The Third Energy Package (TEP; 2009) has provided the basis for the development of EU-wide network codes, which also contribute to enhanced non-discriminatory network access.[36] Therefore, under the current TPA regime in

[32]OECD, 'Restructuring Public Utilities for Competition' (2001) 53 <http://www.oecd.org/competition/sectors/19635977.pdf> accessed 20 January 2016.

[33]See Wälde and Gunst (n 3) 187 (who conclude that 'negotiated access usually proves ineffectual' in the energy sector).

[34]A third option, the 'Single Buyer' model, was only available in the electricity sector and has never been used, see Johnston and Block (n 12) [4.03].

[35]Articles 20(1) and 23(2) of Directive 2003/54/EC of the European Parliament and of the Council concerning common rules for the internal market in electricity and repealing Directive 96/92/EC (26 June 2003) OJ 2003/L 176/37; Articles 18(1) and 25(2) of Directive 2003/55/EC of the European Parliament and of the Council concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC (26 June 2003) OJ 2003/L 176/57.

[36]Article 6 of Regulation (EC) No 715/2009 of the European Parliament and of the Council on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 (13 July 2009) OJ 2009/L 211/36; Article 6 of Regulation (EC) No 714/2009 of the European Parliament and of the Council on conditions for access to the network for cross-border

place, transmission system operators may only refuse access where they lack the necessary capacity, and duly substantiated reasons must be provided for any such refusal.[37]

As regards structural policies, their development at the EU level was somewhat delayed in comparison to the adoption of network access regulation. It was not until 2003 that tangible unbundling requirements were introduced by the second generation of internal energy market directives (both legal and functional unbundling), and it was only the Third Energy Package in 2009 that provided for comprehensive separation requirements. The TEP contains three different unbundling models: Ownership Unbundling (OU); the Independent System Operator (ISO); and the Independent Transmission Operator (ITO). While all of these unbundling solutions impose fairly drastic separation requirements on vertically integrated energy undertakings, ownership unbundling is the most 'radical' option because it requires the *complete* structural independence of transmission activities from production/generation and supply activities, and hence the total breakup of VIUs. However, as mentioned, it is only one of several unbundling models under the TEP.

There are strengths and weaknesses in both the behavioral and structural approaches to dealing with anti-competitive conduct on the part of vertically integrated transmission system operators. While behavioral policies are an essential element in the effort to ensure non-discriminatory network access,[38] their effectiveness is considered to be limited.[39] As the incentive to discriminate against competitors in the competitive market segment persists, the regulator will face an arduous uphill struggle against covert actions on the part of integrated operators, who benefit from an information advantage and will use all possibilities at their disposal (including legal, technical and economic means) in order to somehow delay network access, limit its quality, or raise its price.[40]

Structural measures, in contrast, address the underlying problem by seeking to ensure that the commercial interests of infrastructure operators are in line with those of access-seeking users.[41] A 'clean solution' is provided by the ownership unbundling measures which, as mentioned, bring about a complete structural separation between TSOs and producer/generators and suppliers. Structural measures which fall short of ownership unbundling do not entirely remove the incentive to discriminate, but certainly can go a long way toward suppressing it. They may,

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exchanges in electricity and repealing Regulation (EC) No 1228/2003 (13 July 2009) OJ 2009/L 211/15.

[37]Article 32(2) of Directive 2009/72/EC (n 4); Article 35(1) of Directive 2009/73/EC (n 4). In the case of gas, access may also be denied where granting access would (i) prevent TSOs from carrying out public service obligations or (ii) lead to 'serious economic and financial difficulties' with take-or-pay contracts.

[38]Kühling (n 13) 359 (who describes third party access rights as the core – 'Herzstück' – of network industry regulation).

[39]Cabau (n 21) [4.4]; Wälde and Gunst (n 3) 185.

[40]OECD, 'Restructuring Public Utilities for Competition' (n 32) 20ff.

[41]See Wälde and Gunst (n 3) 185.

however, involve onerous and detailed prescriptions. Finally, it is important to stress that the relationship between network access regulation (behavioral measures) and unbundling regulation (structural measures) is not 'either/or'. Rather, the two types of regulation are complementary.

This book will focus on the structural measures implemented in the EU energy sector.

1.4 Unbundling as a Cross-Sectoral and Global Policy Approach

The use of unbundling policies is confined neither to the energy sector nor to the European Union. All network-bound industries are prone to similar anti-competitive practices and have therefore elicited similar interventions by policy-makers. Unbundling has thus become a cross-sectoral and global policy approach. Nonetheless, while many countries around the world have adopted unbundling measures as an integral part of their competition policies, this practice is particularly noticeable in the energy sector.

For example, the members of the Energy Community—an international organization which was set up to extend the EU internal energy market to South East Europe—have committed to gradually implement the *acquis communautaire* on energy. By virtue of a decision taken in October 2011 by the Energy Community Ministerial Council, Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Moldova, Montenegro, Serbia and Ukraine agreed to transpose the TEP's unbundling rules by January 2015.[42] The European Economic Area (EEA) countries of Iceland, Liechtenstein and Norway currently apply the unbundling requirements of the EU's Second Energy Package, and the incorporation of the third legislative package is being considered.[43] The Swiss government carried out a major reform of the Swiss electricity transmission sector in 2007 in order to facilitate integration with the liberalized EU energy market. Under its Federal Electricity Supply Act, the newly-established national TSO swissgrid is prohibited from engaging, directly or indirectly, in electricity production, supply and trade.[44]

[42]Ministerial Council of the Energy Community, 'Decision 2011/02/MC-EnC on the Implementation of Directive 2009/72/EC, Directive 2009/73/EC, Regulation (EC) 714/2009 and Regulation (EC) 715/2009 and amending Articles 11 and 59 of the Energy Community Treaty' (6 October 2011) <https://www.energy-community.org/portal/page/portal/ENC_HOME/DOCS/1146182/0633975AB3B67B9CE053C92FA8C06338.PDF> accessed 8 March 2016.

[43]Council of the European Economic Area, Conclusions of the 42nd meeting of the EEA Council (19 November 2014), [16].

[44]See WTO, Trade Policy Review – Report by the Secretariat – Switzerland and Liechtenstein – Revision (16 August 2013) WT/TPR/S/280/Rev.1, [4.37]; Brigitta Kratz and Frederik Kreuzer, 'Ownership Unbundling – A Swiss Perspective' in Dirk Buschle, Simon Hirsbrunner and Christine Kaddous (eds), *European Energy Law: Droit européen de l'énergie* (Dossier de droit européen vol

There are also important developments outside of continental Europe. Despite its critical attitude towards the EU's unbundling policies in the TEP, the Russian Federation has enacted far-reaching separation requirements in its electricity sector,[45] at least on paper. Furthermore, Argentina, some states of Australia (e.g. Victoria and South Australia), Brazil, Chile, New Zealand, and Venezuela have introduced some form of 'ownership unbundling' of their electricity networks.[46] More limited separation requirements in the electricity industry have been or will be introduced by most provinces of Canada,[47] China,[48] Japan,[49] Peru,[50] Turkey,[51] the United States[52] and Zimbabwe.[53]

Yet as indicated, unbundling is also a cross-sectoral policy approach. Apart from the energy sector, unbundling measures have been introduced in other network-bound industries, such as railways and telecommunications. The key regulatory challenges are always similar: Vertically integrated undertakings have an incentive to discriminate against competitors as regards access to a bottleneck infrastructure.[54]

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22. Helbing Lichtenhahn 2011). However, the 'Swiss solution' allows generation/production or supply undertakings to hold shares in the transmission operator; see Kratz and Kreuzer (n 44) 73.

[45]It seems that the Russian unbundling legislation in the electricity sector largely corresponds to the most intrusive unbundling model in the Third Energy Package (ownership unbundling), see Elena Timofeeva, *Unbundling in der russischen Elektrizitätswirtschaft im Vergleich zum deutschen und europäischen Energierecht* (Veröffentlichungen des Instituts für deutsches und europäisches Wirtschafts-, Wettbewerbs- und Regulierungsrecht der Freien Universität Berlin vol 34, Peter Lang 2012) 157; Anatole Boute, *Russian Electricity and Energy Investment Law* (Law in Eastern Europe, Brill 2015) 216ff. Given that the ownership unbundling model in the EU's Electricity Directive is not mandatory, one commentator concluded that 'Russia goes further in the liberalization of its electricity market than do some member states in the EU', Boute (n 45) 217.

[46]Michael Pollitt, 'The Arguments For and Against Ownership Unbundling of Energy Transmission Networks' (2008) 36 Energy Policy 704, 709, passim; U.S. International Trade Commission, *Electric Power Services – Recent Reforms in Selected Foreign Markets* (USITC Publication 3370, 2000) 20–2ff.

[47]Government of Canada, 'Electricity Infrastructure: About Electricity' (2014) <http://www.nrcan.gc.ca/energy/electricity-infrastructure/about-electricity/7359> accessed 13 September 2016.

[48]WTO, Trade Policy Review – Report by the Secretariat – China – Revision (12 August 2008) WT/TPR/S/199/Rev.1, 122.

[49]WTO, Trade Policy Review – Report by the Secretariat – Japan – Revision (06 May 2015) WT/TPR/S/310/Rev.1, [4.95]; Ministry of Economy, Trade and Industry of Japan, 'Electricity Market Reform in Japan' (2013) 10–11 <http://www.meti.go.jp/english/policy/energy_environment/electricity_system_reform/pdf/201311EMR_in_Japan.pdf> accessed 7 September 2016.

[50]Article 122 of the Republic of Peru, Electric Concessions Law (Ley de Concesiones Eléctricas) (19 November 1992) Decree Law No. 25844, as amended.

[51]WTO, Trade Policy Review – Turkey – Report by the Secretariat (19 November 2003) WT/TPR/S/125, 95, 98.

[52]Neelie Kroes, 'Improving Competition in European Energy Markets Through Effective Unbundling' (2007) 31 Fordham International Law Journal 1387, 1396–1401.

[53]WTO, Trade Policy Review – Report by Zimbabwe (14 September 2011) WT/TPR/G/252, [106].

[54]See Kühling (n 13) 337ff, 359ff (who identifies unbundling measures as an important ingredient for the regulation of network industries).

However, unbundling requirements do not have the same status in all network-bound sectors, mainly due to technological differences.[55]

In order to exemplify the cross-sectoral nature of unbundling policies, it is expedient to look at the example of the EU. As regards the railway sector, the current regulatory framework requires the independence of railway infrastructure managers in legal, organizational and decision-making terms, but only with respect to certain 'essential functions' (decision-making on train path allocation and infrastructure charging).[56] At the beginning of 2013, the Commission put forward a draft legislative package, the Fourth Railway Package.[57] The Commission concluded that the existing separation between railway undertakings, which run the train services, and infrastructure managers, which operate the railway network, is not sufficient to ensure non-discriminatory access to the rail infrastructure.[58] It thus proposed stricter separation requirements in the form of an 'institutional separation' of infrastructure management and transport operation, which is in fact very similar to the strict 'ownership unbundling' model in the Third Energy Package, despite the difference in wording.[59] Although the Fourth Railway Package, as ultimately adopted, does not provide for the concept of an institutional separation, Directive 2016/2370/EU[60] establishes, *inter alia*, a prohibition against holding certain double mandates (such as being a member of the management board of an infrastructure manager and, at the same time, of a railway undertaking), safeguards to ensure that other legal entities within VIUs do not have a decisive influence on appointments and dismissals of persons in charge of taking decisions on the 'essential functions' of the infrastructure manager, a prohibition against performance-based remuneration from other legal entities of the VIU, and several rules on financial transparency according to which,

[55] See Peter Abegg and others, 'Entflechtung in Netzsektoren – ein Vergleich' [2014] Bremen Energy Working Papers No. 19, 30, 35.

[56] Article 7 of Directive 2012/34/EU of the European Parliament and of the Council establishing a single European railway area (21 November 2012) OJ 2012/L 343/32 (in its unamended form).

[57] European Commission, The Fourth Railway Package – Completing the Single European Railway Area to Foster European Competitiveness and Growth (30 January 2013) COM(2013) 25 final.

[58] Ibid 4–5.

[59] According to the Commission proposal, the same legal person or persons would not have been allowed to 'directly or indirectly exercise control . . ., hold any financial interest in or exercise any right over a railway undertaking and over an infrastructure manager at the same time'. See draft Article 7(2)(a) of the European Commission, Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area, as regards the opening of the market for domestic passenger transport services by rail and the governance of the railway infrastructure (30 January 2013) COM(2013) 29 final, 11. The 'institutional separation' would have acted as a default rule in the Commission's proposal. Member States would have been able to derogate from this general model, if 'Chinese walls' were put in place to guarantee the full independence of the infrastructure manager; see draft Article 7(5) in conjunction with draft Articles 7a, 7b and 7c, ibid 12–15.

[60] Directive 2016/2370/EU of the European Parliament and of the Council amending Directive 2012/34/EU as regards the opening of the market for domestic passenger transport services by rail and the governance of the railway infrastructure (14 December 2016) OJ 2016/L 352/1.

for example, income from infrastructure network management activities may be used only to finance the infrastructure manager's own business and railway undertakings are prohibited from granting loans to infrastructure managers, either directly or indirectly (and *vice versa*). Furthermore, Directive 2016/2370/EU for the first time requires Member States to ensure the impartiality of the infrastructure manager in respect of traffic management and maintenance planning, i.e. beyond the realm of the 'essential functions'.[61] The Directive's additional unbundling requirements must be fully implemented by 25 December 2018.

As regards telecommunications, EU law does not mandate a certain level of regulatory unbundling, but relies primarily on access regulation. One of the reasons for this approach appears to be that the telecommunications sector is much more dynamic and contains relatively significant infrastructure competition.[62] Nevertheless, Directive 2002/19/EC, as amended in 2009, explicitly provides for the availability of functional separation as a possible remedy which can be imposed by the national regulatory authorities in individual cases in order to effectively address persistent competition problems.[63] The imposition of compulsory functional separation for the activities associated with the wholesale provision of access products is subject to approval by the European Commission, and the Directive highlights that this unbundling requirement is an 'exceptional measure'. Despite this rather careful approach at the EU level, a number of incumbent vertically integrated telecommunications providers, such as British Telecommunications (UK), Telecom Italia (Italy) and TeliaSonera (Sweden), have recently agreed to introduce functional unbundling in response to pressure from legislators and regulators.[64] It should also be noted that the International Telecommunications Union stated in 2008 that there has been a 'tremendous amount of interest around the world recently in functional separation as a regulatory remedy in the telecommunication sector.'[65]

[61] See Articles 7, 7a, 7b, 7c and 7d of Directive 2012/34/EU (n 56), as amended by Directive 2016/2370/EU (n 60).

[62] Abegg and others (n 55) 23–30.

[63] Article 13a of Directive 2002/19/EC of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and associated facilities (07 March 2002) OJ 2002/L 108/7, as amended by Directive 2009/140/EC of the European Parliament and of the Council amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services (25 November 2009) OJ 2009/L 337/37.

[64] OECD, 'Report on Experiences with Structural Separation' (2012) 68ff <http://www.oecd.org/daf/competition/50056685.pdf> accessed 24 June 2015.

[65] Robert W Crandal, Jeffrey A Eisenach and Robert E Litan, 'Vertical Separation of Telecommunications Networks: Evidence from Five Countries' (2010) 62 Federal Communications Law Journal 493, 497 (citing Malcolm Webb, 'The Emergence of Functional Separation' in International Telecommunication Union (ed), *Trends in Telecommunication Reform 2008: Six Degrees of Sharing* (2008) 139).

1.5 The Focus of Previous Research

While it is clear that unbundling measures are designed to fulfil several important public policy objectives (in particular non-discriminatory network access), they have also raised many legal issues. Legal concerns were raised for the first time with respect to the European Commission proposal of 2001, which called for the implementation of legal and functional unbundling as part of the Second Energy Package. The main concern was that the suggested strengthening of unbundling requirements would violate the fundamental right to property in the EU legal order.[66] However, this criticism did not lead to a watering down of the approach advocated by the Commission, and legal and functional unbundling became part of the SEP. However, when the Commission unveiled its plans in 2007 to consider ownership unbundling measures as part of the third legislative package on energy, a vigorous debate erupted about the legality of such policies.

Apart from national constitutional law, a number of controversial issues were raised under EU law. First, the EU's competence to enact ownership unbundling measures was disputed. According to the 'principle of conferral', the European Union can only act within the limits of the powers conferred upon it by the Member States in the Treaty on European Union[67] (TEU) and the Treaty on the Functioning of the European Union[68] (TFEU).[69] Absent such conferral, there is no legal basis for EU action. Some academic commentators felt that an appropriate legal basis could not be established for OU. In particular it was highlighted that specific competences in the area of energy policy were lacking[70] and that reliance on the EU's harmonization competence in the field of the internal market (Article 114 TFEU, ex Article 95 TEC) was misplaced. Article 114 TFEU does not provide a general legislative power to regulate the internal market,[71] but can only be invoked with respect to

[66] Jürgen F Baur and Andreas Lückenbach, *Fortschreitende Regulierung der Energiewirtschaft: Eine kritische Stellungnahme zu den Kommissionsvorschlägen zur Änderung der Binnenmarktrichtlinie Erdgas (98/30/EG)* (Nomos 2002) 79ff; Rupert Scholz, 'Freiheitlicher Binnenmarkt oder diktierte Marktstruktur?: Zur neuen Gasrichtlinie der EG' [2001] Energiewirtschaftliche Tagesfragen 678, 679ff.

[67] European Union, Treaty on European Union (consolidated version) OJ 2012/C 326/13.

[68] European Union, Treaty on the Functioning of the European Union (consolidated version) OJ 2012/C 326/47.

[69] Article 5(1) and (2) TEU (n 67).

[70] Jürgen F Baur and others, *Eigentumsentflechtung der Energiewirtschaft durch Europarecht: Mittel, Schranken und Rechtsfolgen* (Veröffentlichungen des Instituts für Energierecht an der Universität zu Köln vol 138, Nomos 2008) 19; Rupert Scholz, 'Eigentumsschutz und Entflechtung – Zu den Unbundling-Plänen der Europäischen Kommission' (2007) 57 Energiewirtschaftliche Tagesfragen 76, 77; Johann-Christian Pielow, Gert Brunekreeft and Eckart Ehlers, 'Legal and Economic Aspects of Ownership Unbundling in the EU' (2009) 2 Journal of World Energy Law & Business 96, 102; Johann-Christian Pielow and Eckart Ehlers, 'Rechtsfragen zum "Ownership Unbundling"' [2007] InfrastrukturRecht 259, 261.

[71] European Court of Justice, *Germany v. Parliament and Council (Tobacco Advertising),* Judgment (5 October 2000) C-376/98 [83].

measures that are genuinely designed for 'market-building' harmonization. In other words, disparities between national rules must be of such a nature that they will result in likely obstacles to trade or appreciable distortions of competition.[72] According to one view, the (continuing) existence of obstacles to the functioning of the internal energy market was dubious, in particular because the process of implementation of the Second Energy Package had not yet been completed at the time the TEP was elaborated.[73] According to another view, Article 114 TFEU could not be used for 'system-changing reforms', such as ownership unbundling.[74]

The prevailing view in the literature, however, was that ownership unbundling measures could indeed be based on the EU's harmonization competence, because (1) there was a real threat that, despite the existing regulatory framework, diverging degrees of unbundling among the EU Member States could lead to an unlevel playing field in the energy sector; and (2) ownership unbundling was capable of improving the conditions for the functioning of the internal market for electricity and gas.[75] In the meantime, exploration of the limits of the harmonization powers under Article 114 TFEU has lost much of its relevance. After the entry into force of the Treaty of Lisbon in late 2009, energy falls within the (shared) competence of the EU (Article 194 TFEU). Future unbundling measures could, therefore, be based on

[72]Ibid [86, 106].

[73]Pielow, Brunekreeft and Ehlers (n 70) 103–105; Pielow and Ehlers (n 70) 261–262. This fact was also emphasized in the context of the subsidiarity requirement (Article 5(1) TEU), see Stefan Storr, 'Die Vorschläge der EU-Kommission zur Verschärfung der Unbundling-Vorschriften im Energiesektor' [2007] Europäische Zeitschrift für Wirtschaftsrecht 232, 236–237.

[74]Jürgen F Baur and Matthias Schmidt-Preuß, 'Europarechtliche Grundlagen des Unbundling' in Jürgen F Baur, Kai U Pritzsche and Stefan Simon (eds), *Unbundling in der Energiewirtschaft: Ein Praxishandbuch* (Carl Heymanns Verlag 2006) 78, footnote 70. However, there is nothing in the text of Article 114 TFEU (ex Article 95 TEC) or in the corresponding jurisprudence of the ECJ, which would suggest such a limitation of the harmonization competence. See Ralf Müller-Terpitz and Michaela Weigl, 'Ownership Unbundling – ein gemeinschaftsrechtlicher Irrweg?' [2009] Europarecht 348, 354–355.

[75]See Müller-Terpitz and Weigl (n 74) 353ff; Christian Koenig, Kristina Schreiber and Kristin Spiekermann, 'Defizitäres Entflechtungsregime? Eine kritische Analyse der Entflechtungsvorschriften in dem Entwurf des dritten Liberalisierungspakets der Kommission der Europäischen Gemeinschaften' [2008] Netzwirtschaften & Recht 7, 9; Bernd Holznagel and Pascal Schumacher, 'Großer Eingriff, k(l)eine Wirkung – Die Pläne der Kommission zur eigentumsrechtlichen Entflechtung der Energienetzbetreiber' [2007] Netzwirtschaften & Recht 96, 100; Kim Talus and Michaël Hunt, 'Ownership Unbundling: What End to the Saga?' in Dirk Buschle, Simon Hirsbrunner and Christine Kaddous (eds), *European Energy Law: Droit européen de l'énergie* (Dossier de droit européen vol 22. Helbing Lichtenhahn 2011) 35–37; Kim Talus and Angus Johnston, 'Comment on Pielow, Brunekreeft and Ehlers on "Ownership Onbundling"' (2009) 2 Journal of World Energy Law & Business 149, 151–152. See also Jürgen F Baur, Kai U Pritzsche and Stefan Klauer, *Ownership Unbundling: Wesen und Vereinbarkeit mit Europarecht und Verfassungsrecht* (Veröffentlichungen des Instituts für Energierecht an der Universität zu Köln vol 121, Nomos 2006) 57–58; Baur and others (n 70) 19–20 (who are critical of the ECJ's case-law but appear to come to the same conclusion).

Article 194 TFEU, without the difficulty of having to comply with the requirements for the application of Article 114 TFEU.[76]

A second dimension of the debate over the EU's competence to enact ownership unbundling measures related to the scope of Article 345 TFEU (ex Article 295 TEC). According to this provision, the EU treaties shall in no way prejudice the 'rules in Member States governing the system of property ownership'. As ownership unbundling measures entail an obligation to break-up vertically integrated undertakings, several authors argued that the EU would be prevented from adopting such measures by virtue of Article 345 TFEU.[77] Even though the 2009 Third Energy Package did not in the end make the strict ownership unbundling model mandatory on an EU-wide basis, and thus does not raise any issues under Article 345 TFEU, the limitation on EU competence contained in the Article remains relevant for future policy-making. In particular, should the Union legislator seek to introduce OU throughout the EU as part of a 'Fourth Energy Package', Article 345 TFEU will certainly play an important role once again.

Apart from questions of legal competence, it has also been asserted that the proposed ownership unbundling policies were inconsistent with (1) the right to property under the EU legal order and under the European Convention on Human Rights (ECHR); and (2) the EU's fundamental freedoms, in particular the free movement of capital (Article 63 TFEU, ex Article 56 TEC) and the freedom of establishment (Article 49 TFEU, ex Article 43 TEC). The central argument here is that the adoption of ownership unbundling requirements would not have been proportional at that point in time, in particular because the existing network access and unbundling regulation would need more time to have its intended effect and could in any event be improved.[78] Given that the Third Energy Package, as finally adopted, contains several unbundling models and thus leaves the choice of OU to the decision of individual Member States, it is compatible with primary EU law. However, the fundamental right to property and free movement rules have become relevant in legal proceedings related to mandatory ownership unbundling measures taken *at the national level*. In the Netherlands, for example, domestic energy companies are currently challenging the implementation of OU at the distribution level (the *Essent* case).[79] After the European Court of Justice (ECJ) gave a preliminary ruling in 2013,[80] the Dutch Supreme Court held in 2015 that, contrary to the

[76]For an assessment of the new competence in the area of energy, see Leigh Hancher and Francesco M Salerno, 'Energy Policy after Lisbon' in Andrea Biondi, Piet Eeckhout and Stefanie Ripley (eds), *EU Law After Lisbon* (Oxford University Press 2012).

[77]See references cited in footnote 21, Chap. 3.

[78]See Sect. 3.3.

[79]See Sect. 3.4.

[80]European Court of Justice, *Staat der Nederlanden v Essent NV and Others,* Judgment (22 October 2013) C-105/12 to C-107/12.

lower court's view, the measures do not infringe Article 63 TFEU or Article 49 TFEU.[81] The complainants' contention that the measures also violate the right to property was dismissed by the Amsterdam Court of Appeal in 2016 and 2017.[82]

It should be noted that the previous discourse on unbundling policies in the EU energy sector was largely based on what can be termed as the 'intra-EU perspective'. Little attention was paid to the overall implications of the TEP for foreign companies and energy relations with third countries. The same holds true for the legal issues involved. For example, although the guarantee of the free movement of capital explicitly applies also to foreign direct investments from third countries, the TEP's compatibility with Article 63 TFEU in a third country context has so far played only a marginal role in the academic debate.[83] Likewise, and more importantly, the whole body of international economic law, in particular WTO law and international investment law, has largely been ignored,[84] and where it has been addressed authors have sometimes simply 'assumed' that unbundling requirements are consistent with WTO law[85]; sometimes pointed out that this remains 'unclear'[86]; or even misjudged

[81]Hoge Raad der Nederlanden, *Staat der Nederlanden v. Essent N.V.* Judgment (26 June 2015) 10/03851.

[82]Gerechtshof Amsterdam, *Eneco Holding N.V. v. Staat der Nederlanden,* Judgment (1 November 2016) 200 175 864/01; Gerechtshof Amsterdam, *Delta N.V. v. Staat der Nederlanden,* Judgment (1 November 2016) 200 176 186/01; Gerechtshof Amsterdam, *Delta N.V. v. Staat der Nederlanden,* Judgment (25 July 2017) 200 176 186/01.

[83]For some (in most cases cursory) analysis of this issue, see Matthias Schmidt-Preuß, 'Die Kontrolle des Verkaufs bzw. des Erwerbs von Netzen (Erwerb durch Nicht-EU-Ausländer gem. §4b EnWG; Außenwirtschaftsrecht; Fusionskontrolle)' in Jürgen F Baur, Peter Salje and Matthias Schmidt-Preuß (eds), *Regulierung in der Energiewirtschaft: Ein Praxishandbuch* (2nd edn. Carl Heymanns Verlag 2016) [77ff, 88–90]; Arnoud Willems, Jung-ui Sul and Yohan Benizri, 'Unbundling as a Defence Mechanism Against Russia: Is the EU Missing the Point?' in Kim Talus and Piero L Fratini (eds), *EU – Russia Energy Relations* (Euroconfidentiel 2010) 233–237; Michaël Hunt, 'Ownership Unbundling: The Main Legal Issues in a Controversial Debate' in Bram Delvaux, Michaël Hunt and Kim Talus (eds), *EU Energy Law and Policy Issues* (1st edn. Euroconfidentiel 2008) 73–85; Jörg Gundel and Claas F Germelmann, 'Kein Schlussstein für die Liberalisierung der Energiemärkte' [2009] Europäische Zeitschrift für Wirtschaftsrecht 763, 769–770.

[84]Some academic contributions address selected and limited aspects of the EU's unbundling legislation from the perspective of international economic law, see Thomas Cottier, Sofya Matteotti-Berkutova and Olga Nartova, 'Third Country Relations in EU Unbundling of Natural Gas Markets: The "Gazprom Clause" of Directive 2009/73 EC and WTO Law' in Dirk Buschle, Simon Hirsbrunner and Christine Kaddous (eds), *European Energy Law: Droit européen de l'énergie* (Dossier de droit européen vol 22. Helbing Lichtenhahn 2011); Willems, Sul and Benizri (n 83); Anatole Boute, 'Energy Trade and Investment Law: International Limits to EU Energy Law and Policy' in Martha M Roggenkamp and others (eds), *Energy Law in Europe – National, EU and International Regulation* (3rd edn. Oxford University Press 2016) [3.43–3.47; 3.63–3.65].

[85]Victor van Hoorn, '"Unbundling", "Reciprocity" and the European Internal Energy Market: WTO Consistency and Broader Implications for Europe' (2009) 1 European Energy and Environmental Law Review 51, 70.

[86]Caroline Van den bergh, 'Reciprocity Clause and International Trade Law' (2009) 27 Journal of Energy & Natural Resources Law 228, 256.

the reach of international economic law rules in this connection.[87] As will be shown in this book however, it seems that it would be wrong to disregard or underestimate the 'external perspective' on the EU's unbundling legislation in the energy sector.

1.6 The Subject and Relevance of This Book

The unbundling regime in the Third Energy Package does not affect only domestic energy companies, but also (and sometimes particularly) foreign energy companies active inside the EU, and in this way trade and investment relations with third countries are invariably affected. The potentially problematic issues under WTO law and international investment law are manifold. Most notably they are not only limited to the unbundling requirements as such, but also extend to the unbundling-*related* measures in the EU energy sector, i.e. the certification procedure provided for in the TEP, which was primarily designed to ensure compliance with the unbundling criteria, and the exemption regime, which allows for derogations from the unbundling requirements with respect to certain infrastructure projects. Different aspects of these unbundling and unbundling-related measures could be said to amount to: (1) prohibited market access restrictions; (2) discrimination between domestic and foreign service suppliers or investors; (3) discrimination among foreign service suppliers or investors; (4) unreasonable, non-objective or partial administration of generally applicable measures; (5) the nullification or impairment of specific market access commitments on account of being more burdensome than necessary; (6) unfair or inequitable treatment; or (7) an expropriation without compensation. This book provides a comprehensive treatment of these delicate issues. In doing so, it covers much new ground, given that this topic has not yet received any substantial attention in academic writing or elsewhere. It also incorporates relevant research publications published in the Russian and Italian languages.

The relevance of analyzing the unbundling regime in the EU energy sector from the perspective of WTO law and international investment law is manifest. Energy markets are increasingly outgrowing national and, in the case of the EU, even supranational borders. There are two main drivers of this development. First of all, technological improvements have paved the way for long-distance transmission of natural gas and electricity. Second, the world-wide movement towards liberalization has led to an opening of energy markets. However, whereas energy trade and investment takes place more and more on a regional, and even global, level, the regulation of energy markets is still largely left to individual countries or (exceptionally) regional integration organizations. This gap between 'market integration' and 'regulatory integration' can lead to significant tensions. Viewed in this light, the

[87] See Schmidt-Preuß (n 83) [97] (who discards the relevance of the GATS with respect to the unbundling and unbundling-related measures solely on the basis of an alleged lack of specific commitments and inadequate classification of energy services).

importance of international economic law lies in the fact that it is the only multilateral framework that provides some normative guidance for the regulation of all energy markets across the globe.[88] An additional point is that international economic law remedies are comparatively effective (e.g. compulsory jurisdiction of the WTO dispute settlement bodies, access to international investment arbitration by private investors). Against this background, it is not particularly surprising that a major foreign investor and a third State have sought to test the legality of the unbundling and unbundling-related measures in the EU energy sector by invoking both international investment law and WTO law. In 2012, the Russian gas company Gazprom initiated an investment arbitration against Lithuania on the basis of the 1999 Russia-Lithuania BIT (*OAO Gazprom v. Republic of Lithuania*).[89] The legal challenge related to Lithuania's enactment in 2011 of ownership unbundling legislation in the gas sector in accordance with the relevant provisions of the TEP, although the proceedings were later dropped. However, in April 2014, the Russian Federation initiated the formal complaint procedure of the WTO by requesting consultations with the EU and some of its Member States (the *EU – Energy Package* case).[90] A Panel was established on 20 July 2015 and later composed on 7 March 2016.[91] Amongst other things, Russia's WTO complaint is directed against all three elements of the EU's unbundling legislation, that is the unbundling requirements as such, the certification procedure, and the exemption regime.[92] The final Panel report is expected to be released in 2018.

The initiated investment arbitration against Lithuania and the WTO *EU – Energy Package* case demonstrate that, apart from EU law and national constitutional law, the rules of international economic law may set limits on the EU's freedom to regulate its internal energy market in general and to adopt unbundling and unbundling-related measures in particular. The EU's energy market liberalization efforts in the form of pro-competitive regulation must be in line with global trade

[88] Although international investment law mainly consists of bilateral investment treaties, it effectively forms a multilateral system of law, see Stephan W Schill, *The Multilateralization of International Investment Law* (Cambridge University Press 2009).

[89] Denis Pinchuk and Nerijus Adomaitis, *Gazprom takes on Lithuania in EU policy test case* (Reuters 2012); Gazprom, *Gazprom seeks international arbitration against Lithuanian Government* (2012); Permanent Court of Arbitration, 'OAO Gazprom v. The Republic of Lithuania' (no date) <https://pcacases.com/web/view/47> accessed 14 September 2016. See also the description in European Court of Justice, *'Gazprom' OAO,* Opinion of Advocate General Wathelet (4 December 2014) C-536/13 [35–36].

[90] WTO, *European Union and its Member States – Certain Measures Relating to the Energy Sector,* Request for Consultations by the Russian Federation (8 May 2014) WT/DS476/1, S/L/409, G/L/1067, G/SCM/D102/1, G/TRIMS/D/40.

[91] WTO, 'European Union and its Member States – Certain Measures Relating to the Energy Sector' (3 December 2015) <https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds476_e.htm> accessed 13 April 2016.

[92] See WTO, *European Union and its Member States – Certain Measures Relating to the Energy Sector,* Request for the Establishment of a Panel by the Russian Federation (28 May 2015) WT/DS476/2.

liberalization rules and international investment protection standards.[93] It should be stressed that although this book is specifically concerned with the energy market legislation in the European Union, the problematic legal issues are of a general nature. Therefore, and also taking into consideration that unbundling has become a cross-sectoral and global policy instrument, the analysis presented below applies not only to the specific situation of the EU, but is also relevant to the many other countries worldwide that have implemented, or intend to implement, unbundling legislation, either in the energy industry or in other network-bound industries, such as railways and telecommunications.

Furthermore, apart from the 'limiting' role that international economic law may play in the design of unbundling regimes, WTO law can also have a *positive* normative function in the present context. In addition to prohibiting certain governmental behavior, WTO law likewise contains provisions that require positive action on the part of WTO Members. One of the areas in which such positive norms exist is competition. Competition issues are addressed by WTO law, at least to some degree,[94] because private restraints on competition can significantly undermine the benefits of trade liberalization.

As regards the energy sector, it is clear that the anti-competitive behavior resulting from vertical integration poses considerable barriers to international energy trade.[95] The aim of unbundling measures, such as those introduced through the TEP, is therefore consistent with the rationale and objective of the WTO's competition dimension. Viewed against this background, this book also analyzes whether WTO law, as it currently stands, encourages or positively obliges States to implement some kind of unbundling policies in order to ensure non-discriminatory network access to electricity and gas transmission systems. Moreover, the argument is developed that, *de lege ferenda*, additional pro-competitive regulatory principles for the energy sector could and should be developed within the WTO framework, including in particular shared regimes on unbundling.

1.7 The Course of This Book

This book is structured in the following way:

Chapter 2 traces the gradual development of unbundling policies in the EU energy sector and explains how the current unbundling regime under the Third Energy Package functions, as well as its effect on foreign economic actors.

[93] See in this regard also Moritz Wüstenberg, 'An Overview of the Dichotomy between EU Energy Market Liberalisation and the Multilateral Trading System: Case Review of WTO Case DS476 – Certain Measures Relating to the Energy Sector' (2016) 22 International Trade Law & Regulation 8, 17–18.

[94] For a brief overview of the 'competition dimension' of the WTO, see Michael Trebilcock, Robert Howse and Antonia Eliason, *The Regulation of International Trade* (Routledge 2013) 761–762.

[95] See Sect. 6.1.

Chapter 3 briefly outlines and analyzes the legal concerns that have been voiced in the academic literature against ownership unbundling measures, from the perspective of both national constitutional law and EU law. Furthermore, it gives an account of the *Essent* case, which involves a legal challenge against ownership unbundling measures in the Netherlands.

Chapter 4 provides a comprehensive analysis of the ways in which WTO law could limit or prohibit the adoption and/or maintenance of unbundling and unbundling-related measures as provided for in the TEP. In doing so, it focuses on Articles II (MFN Treatment), VI (Domestic Regulation), XVI (Market Access) and XVII (National Treatment) of the GATS.

Chapter 5 analyzes in detail whether, and if so to what extent, international investment law restricts the adoption or maintenance of unbundling and unbundling-related measures in the EU energy sector. The focus of this chapter is on the standards of 'no expropriation without compensation' and 'fair and equitable treatment' (FET).

Chapter 6 examines the question whether international economic law does, or should, oblige WTO Members to take measures in order to prevent VIUs from taking advantage of their *de facto* monopoly position in transmission. To that end, the chapter examines the reach of existing competition-related provisions in WTO law and sets out the case for the development of additional rules on energy services, including common disciplines on unbundling.

Chapter 7 summarizes the key findings.

Chapter 2
The Unbundling and Unbundling-Related Measures in the EU Energy Sector

2.1 The First and Second Energy Packages

The first steps toward the unbundling of generation/production and supply activities from network operations were taken in the mid-1990s. The EU's First Energy Package, consisting of Directives 96/92/EC[1] (electricity) and 98/30/EC[2] (gas), contained pertinent provisions in this regard. Both Directives required integrated electricity undertakings to keep, in their internal accounting, separate accounts for generation, transmission and distribution activities (so-called 'accounting unbundling').[3] They also provided that the Member States shall have access to these accounts.[4] Furthermore, the Directives required Member States to ensure that transmission system operators did not disclose confidential information to other parts of a vertically integrated undertaking or to third parties.[5] In addition, the electricity Directive declared that, unless the transmission system is already independent from generation and distribution activities, 'the system operator shall be independent at least in management terms from other activities not relating to the transmission system.'[6] This requirement was absent in the corresponding gas Directive,[7] although

[1] Directive 96/92/EC of the European Parliament and of the Council concerning common rules for the internal market in electricity (19 December 1996) OJ 1997/L 27/20.

[2] Directive 98/30/EC of the European Parliament and of the Council concerning common rules for the internal market in natural gas (22 June 1998) OJ 1998/L 204/1.

[3] Article 14(3) of Directive 96/92/EC (n 1); Article 13(3) of Directive 98/30/EC (n 2).

[4] Article 13 of Directive 96/92/EC (n 1); Article 12 of Directive 98/30/EC (n 2).

[5] Article 9 of Directive 96/92/EC (n 1); Article 8 of Directive 98/30/EC (n 2).

[6] Article 7(6) of Directive 96/92/EC (n 1).

[7] Peter Cameron, *Competition in Energy Markets – Law and Regulation in the European Union* (1st edn, Oxford University Press 2002) [4.117]. Talus ambiguously writes in this respect that the 'first internal market directives contained mere "management unbundling"', see Kim Talus, *EU Energy Law and Policy: A Critical Account* (Oxford University Press 2013) 78.

T. M. Dralle, *Ownership Unbundling and Related Measures in the EU Energy Sector*, European Yearbook of International Economic Law 5,
https://doi.org/10.1007/978-3-319-77797-9_2

the Commission had originally proposed a similar provision for both sectors.[8] The electricity Directive, however, failed to spell out how the unbundling of management should be achieved in practice.[9]

Directives 96/92/EC and 98/30/EC entered into force in 1997 and 1998 respectively, and had to be implemented into national law within 2 years. Already in early 2001, the European Commission put on the table two proposals for Directives amending the regulatory framework. It concluded that although important progress had been made, the 'ultimate goal of non-discriminatory access to the network' could not be fully accomplished on the basis of the existing unbundling rules.[10] It is interesting to note that during the subsequent legislative process the European Parliament even called for the implementation of ownership unbundling in the electricity sector.[11]

In keeping with the proposals of the European Commission, the Second Energy Package, and in particular Directives 2003/54/EC[12] (electricity) and 2003/55/EC[13] (gas), introduced stricter unbundling requirements.[14] Apart from accounting separation,[15] both Directives provided for 'legal' and 'functional' unbundling. With regard to legal unbundling, the Directives stated that where the transmission system

[8]European Commission, Proposal for a Council Directive concerning common rules for the internal market in electricity and for a Council Directive concerning common rules for the internal market in natural gas (21 February 1992) COM(91) 548 final, 9; European Commission, Proposal for a Council Directive concerning common rules for the internal market in electricity (24 February 1992) OJ 1992/C 65/4, 13; European Commission, Proposal for a Council Directive concerning common rules for the internal market in natural gas (24 February 1992) OJ 1992/C 65/14, 21.

[9]See also Emmanuel Cabau, 'Unbundling of Transmission System Operators' in Christopher Jones (ed), *The Internal Energy Market – The Third Liberalisation Package* (EU Energy Law Series vol 1, 3rd edn. Claeys & Casteels Publishing 2010) [4.5] ('very vague, leaving much room for interpretation').

[10]European Commission, Proposal for a Directive of the European Parliament and of the Council amending Directives 96/92/EC and 98/30/EC concerning common rules for the internal market in electricity and natural gas (13 March 2001) COM(2001) 125 final, 31.

[11]European Parliament, Position of the European Parliament adopted at first reading on 13 March 2002 with a view to the adoption of European Parliament and Council Directive 2002/. . ./EC amending Directive 96/92/EC concerning common rules for the internal market in electricity (13 March 2002) OJ 2003/C 47 E/351, 359.

[12]Directive 2003/54/EC of the European Parliament and of the Council concerning common rules for the internal market in electricity and repealing Directive 96/92/EC (26 June 2003) OJ 2003/L 176/37.

[13]Directive 2003/55/EC of the European Parliament and of the Council concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC (26 June 2003) OJ 2003/L 176/57.

[14]For an overview, see Eugene Cross and others, 'EU Energy Law' in Martha M Roggenkamp and others (eds), *Energy Law in Europe – National, EU and International Regulation* (2nd edn. Oxford University Press 2007) [5.289ff] (for electricity) and [5.348f] (for gas); Sergey S Seliverstov and Ivan Gudkov, *Энергетическое право Европейского союза* (Аспект Пресс 2014) 117 (for electricity) and 154–155 (for gas).

[15]Article 19 of Directive 2003/54/EC (n 12); Article 17 of Directive 2003/55/EC (n 13).

operator is part of a vertically integrated undertaking, 'it shall be independent at least in terms of its legal form . . . from other activities not relating to transmission.'[16] This did not imply an obligation to separate the ownership of transmission system assets from a vertically integrated undertaking,[17] but meant that the network must be operated through a legally separate entity. The Directives' provisions on functional unbundling further required that the transmission system operator be independent in terms of its 'organisation and decision making',[18] which entailed a number of detailed requirements. Among other things, persons involved in the management of the TSO were prohibited from working simultaneously in a company of the vertically integrated undertaking that was responsible for the day-to-day operation of the generation/production, distribution, and supply of electricity or natural gas.[19] Furthermore, TSOs were required to have effective and independent decision-making rights with respect to the operation, maintenance and development of the network.[20] Certain supervisory rights of the parent company relating to, *inter alia*, the network company's annual financial plan and its level of indebtedness, remained protected.

Directives 2003/54/EC and 2003/55/EC entered into force in August 2003 and had to be fully transposed by July 2004.[21]

2.2 Draft Directives Proposed by the European Commission

In January of 2007 the European Commission released a set of reports relating to the functioning of the internal gas and electricity markets and to corresponding legislative proposals.[22] The qualitative and quantitative data contained therein formed the basis for the subsequent introduction of strengthened unbundling requirements in the Third Energy Package.

[16] Article 10(1) of Directive 2003/54/EC (n 12); Article 9(1) of Directive 2003/55/EC (n 13).

[17] Article 10(1) of Directive 2003/54/EC (n 12); Article 9(1) of Directive 2003/55/EC (n 13). See also 8th recital of the preamble to Directive 2003/54/EC (n 12); 10th recital of the preamble to Directive 2003/55/EC (n 13).

[18] Article 10(1) of Directive 2003/54/EC (n 12); Article 9(1) of Directive 2003/55/EC (n 13).

[19] Article 10(2)(a) of Directive 2003/54/EC (n 12); Article 9(2)(a) of Directive 2003/55/EC (n 13).

[20] Article 10(2)(c) of Directive 2003/54/EC (n 12); Article 9(2)(c) of Directive 2003/55/EC (n 13).

[21] An extended implementation period applied to certain unbundling rules for distribution system operators, see Article 30(2) of Directive 2003/54/EC (n 12); Article 33(2) of Directive 2003/55/EC (n 13).

[22] See European Commission, An Energy Policy for Europe (10 January 2007) COM(2007) 1 final; European Commission, Prospects for the internal gas and electricity market (10 January 2007) COM(2006) 841 final; European Commission, Inquiry pursuant to Article 17 of Regulation (EC) No 1/2003 into the European gas and electricity sectors (Final Report) (10 January 2007) COM(2006) 851 final.

In the Internal Energy Market Communication and the final Report on the Competition Sectoral Enquiry, it was concluded that legal and functional unbundling was insufficient to prevent the distortions of competition that can result from the inherent conflicts of interest created by vertical integration. Three main problems were identified: (1) commercially sensitive information being passed on by the TSOs to the production/generation or supply branch of the vertically integrated undertaking; (2) the persistence of discrimination with respect to network access; (3) distortion of investment incentives.[23] The Commission thus proposed to 'decisively reinforce the current inadequate level of unbundling'.[24]

On 19 September 2007, the Commission presented two draft Directives concerning common rules for the internal market in electricity[25] and natural gas.[26] The draft Directives provided for two unbundling models: Ownership Unbundling (OU) and the Independent System Operator (ISO). The Commission openly favored a strict ownership unbundling model, stating that it is 'clearly the most effective and stable way to solve the inherent conflict of interest and to ensure security of supply'.[27]

In connection with the unbundling provisions, the draft Directives also explicitly addressed certain 'third country aspects'. Article 8a(1) of the draft electricity Directive and Article 7a(1) of the draft gas Directive provided as follows: 'Without prejudice to the international obligations of the Community, transmission systems or transmission system operators shall not be controlled by a person or persons from

[23]Prospects for the internal gas and electricity market (n 22) 10–11.

[24]Inquiry into the European gas and electricity sectors (n 22) 12.

[25]European Commission, 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 (19 September 2007) COM(2007) 528 final.

[26]European Commission, Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/55/EC concerning common rules for the internal market in natural gas (19 September 2007) COM(2007) 529 final.

[27]Proposal for a Directive amending Directive 2003/54/EC (n 25) 22; Proposal for a Directive amending Directive 2003/55/EC (n 26) 22. See also An Energy Policy for Europe (n 22) 7: 'Economic evidence shows that ownership unbundling is the most effective means to ensure choice for energy users and to encourage investment.'

third countries.'[28] The effect of this so-called 'Gazprom clause'[29] would have prohibited in principle third country entities from acquiring control over EU transmission systems or transmission system operators, or—as the case may be—obliged them to divest any controlling interests they had in such assets.[30] It is important to note that the question of whether the respective third country entity was active in the generation/production or supply business was irrelevant for the purposes of the provision.[31] Therefore, it is true that Articles 8a and 7a were 'less "ownership unbundling" provisions than prohibitions of foreign ownership in ... the gas and electricity transmission systems sector.'[32] The European Commission, however, stated in its explanatory memorandum that the aim of the third country clause was to 'guarantee that companies from third countries respect the same rules that apply to EU based undertakings in both letter and spirit – not to discriminate against them.'[33] This statement can best be understood if one looks at the second paragraph of the third country clause. Article 8a(2) of the draft electricity Directive and Article 7a

[28]According to the text of Articles 8a and 7a, the ban on foreign ownership was '[w]ithout prejudice to the international obligations of the Community'. This qualification, which was clearly designed to prevent breaches of international law, led to discussions regarding the existence of possibly conflicting obligations under international trade and investment law (see for instance August Reinisch, 'Protection of or Protection Against Foreign Investment? The Proposed Unbundling Rules of the EC Draft Energy Directives' in Christoph Herrmann and Jörg P Terhechte (eds), *European Yearbook of International Economic Law 2010* (Springer 2010) 60ff). The Commission itself specifically referred to 'WTO rules' in this regard (European Commission, *Energising Europe: A real market with secure supply* (MEMO/07/361, 2007)). The consistency with WTO rules of Article 8a(1) draft electricity Directive and Article 7a(1) draft gas Directive was apparently also raised by the Council of the EU. In the run-up to the Energy Council of 6 June 2008, the Commission 'gave a number of clarifications to delegations, confirming *i.a.* the compliance of the clause with WTO rules', see Council of the European Union, 'TTE (Energy) Council on 6 June 2008' (9512/1/08 – REV 1, Brussels 27 May 2008), 5. However, within the Commission itself there were diverging views. According to media reports, Commission officials from DG Trade expressed concern about whether the third country clause is in line with WTO rules, see Simon Taylor, 'EU Struggles to Agree on Anti-Gazprom Clause' *Politico* (21 May 2008) <http://www.politico.eu/article/eu-struggles-to-agree-on-anti-gazprom-clause/> accessed 21 June 2016.

[29]See Sanam S Haghighi, 'Establishing an External Policy to Guarantee Energy Security in Europe?: A Legal Analysis' in Ulf Hammer and Martha M Roggenkamp (eds), *European Energy Law Report VI* (Energy & Law vol 8. Intersentia 2009) 178; Caroline Van den bergh, 'Reciprocity Clause and International Trade Law' (2009) 27 Journal of Energy & Natural Resources Law 228, 233; Anatole Boute, 'Wederkerigheid in Europese en Russische energie-investeringen: Een juridische analyse van de "Gazprom-clausule"' [2007] Tijdschrift voor Energierecht 247; Claas F Germelmann, 'Der gemeinschaftsrechtliche Rahmen für Schutzmaßnahmen gegenüber Investitionen aus Drittstaaten im Energiesektor' (2009) 124 Deutsches Verwaltungsblatt 78, 79, 82–83.

[30]Matthias Schmidt-Preuß, 'Energieversorgung als Aufgabe der Außenpolitik?: Rechtliche Aspekte' [2007] Recht der Energiewirtschaft 281, 285.

[31]Ibid.

[32]Reinisch (n 28) 57.

[33]Proposal for a Directive amending Directive 2003/54/EC (n 25) 7; Proposal for a Directive amending Directive 2003/55/EC (n 26) 7.