

LESSONS FROM THE UNITED STATES AND TEXAS: MARKET LIBERALIZATION OF THE NATURAL GAS AND ELECTRICITY MARKETS IN EUROPE

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I. INTRODUCTION

If asked to describe Europe's energy framework and policy in one phrase, it would be this: Europe is in trouble. The combination of a weak structural energy liberalization policy, an aging pipeline system (with new construction plans that might not reach completion for decades), and almost full dependence on Russian oil and gas supplies places Europe in what can best be described as a suboptimal position. Although Europe has sought to liberalize its natural gas and electrical markets, its efforts have proven largely unsuccessful due to its disjointed unbundling policy and the structure of its market and market participants. The European natural gas and electrical markets, from their inception, have been dominated by state-owned, vertically integrated market conglomerates, which actively prevent third-party participants from entering the market.

Going a step further, although the European Union (EU) has implemented several energy directives to facilitate market liberalization, it lacks regulatory authorities with sufficient power to successfully enforce these directives.

Nevertheless, there is hope. The EU faces challenges posed by lingering monopolies, as it seeks to implement a unified European energy policy and empower its regulatory oversight bodies. However, it can look to the United States and Texas as examples for successfully implementing market liberalization in its natural gas and electrical markets. The EU must first pursue market liberalization by separating its efforts between the natural gas market and the electrical market. It should specifically follow the United States' example when unbundling its natural gas market, as the United States has successfully achieved market liberalization in this area.¹ When unbundling its natural gas market, Europe must pay close attention to the preliminary transitional period, making sure that adequate safeguards are in place to facilitate the change in the market structure. Additionally, the EU should make sure that it does not inadvertently create too many regulatory measures as it pursues the unbundling of its natural gas market. Nevertheless, the EU must ensure that it has a strong governing body that, while not overregulating, does have sufficient force to make sure liberalization measures are successfully followed and enforced.

1. See Paul L. Joskow, *Deregulation*, ALFRED P. SLOAN FOUNDATION & MIT, at 5, 32 (Feb. 28, 2009) [hereinafter Joskow, *Deregulation*], available at <http://economics.mit.edu/files/3875>.

Going a step further, the EU must look to Texas when unbundling its electrical market, as the Texas electrical market is largely regarded as one of the most successful paradigms of liberalization in this area.² In particular, the EU must adopt a well-defined, robust policy for market liberalization similar to Texas' policy, coupled with a detailed, methodical plan for its pursuit. Additionally, Texas did not adequately prepare for some of the difficulties that arose during the unbundling, and, as a result, the EU must implement adequate support mechanisms to make sure that these same mistakes are avoided. Finally, the EU must create powerful governing and regulatory bodies that will forcefully separate the vertically integrated market conglomerates that are harming the EU's electrical market.

Additionally, the EU will need to address broader geopolitical concerns, such as its overdependence on Russian petroleum resources. For instance, “[f]or this transition to be successful and result in the establishment of a single liberalised EU gas market, . . . the major contentious issues . . . must be resolved by the EU in close cooperation with Russia . . .”³ The EU might find a solution to this dependence through the formation of a strategic partnership with the United States, in which it guarantees an increase in the level of its liquefied natural gas (LNG) imports from the United States alongside a growth in the creation of European LNG terminals. The European Union must look beyond Russia in order to reach the level of liberalization that it desires in its energy policy.

The Article begins with a discussion of the history, structure, and policy of the EU's energy framework at length, focusing on the three energy directives that the EU has instituted in an attempt to unbundle its natural gas and electrical markets. Next, the Article focuses on the benefits and drawbacks of unbundling, explaining why market liberalization is so important for the success of the European energy markets. The Article will also focus on the factors that have made liberalization of the EU's natural gas and electrical markets so difficult to achieve. Following this discussion of the EU, the Article continues with an overview of the United States' unbundling process, pointing out the factors and mechanisms that the EU should similarly use. Next, the Article describes the operations and general functioning of the Texas

2. See *ERCOT Success Markers: Top Market in the United States, Canada*, ERCOT (Jan. 24, 2012), <http://www.ercot.com/content/news/presentations/2012/Success%20Markers%201-24-12.pdf> (citing authority that ranks Texas “#1 in competitive markets in North America for the last five years”).

3. Katja Yafimava, *The EU Third Package for Gas and the Gas Target Model: Major Contentious Issues Inside and Outside the EU*, THE OXFORD INST. FOR ENERGY STUDIES, at 55 (Apr. 2013), available at <http://www.oxfordenergy.org/wpcms/wp-content/uploads/2013/04/NG-75.pdf>.

electrical market and how following Texas' structure might produce more effective results for the EU. Finally, the Article will address the geopolitical threat Russia poses to the EU's process of liberalization and how Europe might harness American LNG resources in order to reduce its dependence on Russian resources and strengthen the liberalization of its energy markets.

II. HISTORY OF THE EUROPEAN ENERGY SYSTEM

From its inception, the European Union has lacked the strength necessary to ensure the effective implementation of its policy goals and regulatory efforts.⁴ The nature of the European Union—a federation of independent nations governed by a central authority—inherently creates the breeding grounds for an environment rife with divergent ideologies regarding energy policy, for example:

The process of liberalising the EU gas market, which can be traced back to the 1980s, has been extremely slow, mostly due to the fact that neither the founding EEC Treaty (1957) nor the Maastricht Treaty (1992) provided the Community with the competence to develop energy policy. Hence any legislative action, which could be interpreted as an attempt to develop such a policy, ran the risk of being perceived by the EU Member States as lacking legitimacy. This explains the Community's decades-long quest for a formal treaty-based competence in the energy sector⁵

Each country maintained its own distinct approach to meeting its energy needs and was reticent to place its power in the hands of an overarching European energy regulatory agency.⁶

Furthermore, power within the EU was concentrated in the hands of a few energy firms that wielded a significant amount of power and could simply ignore action taken by the EU. Throughout the 1980s and 1990s, the EU consisted of independent national gas and electricity markets dominated by state-run energy firms.⁷ Each country maintained its own internal market that was controlled by a state-run energy company.⁸ These firms managed and operated most, if not all, levels of the

4. *See id.* at 2.

5. *Id.*

6. *See* Sebastian Mang, *The Need for a New European Union Energy Policy*, E-INTERNATIONAL RELATIONS (Aug. 16, 2013), <http://www.e-ir.info/2013/08/16/the-need-for-a-new-european-union-energy-policy/> (discussing division that has formed both between Member States and also between the Member States and the EU).

7. *See* Monika Slabá, *Liberalisation of Natural Gas Market – EU Vision v. Reality*, 16 ENERGY STUDIES REVIEW 80, 81 (2008) (describing the 1980s as a period of “stagnant competitiveness of public network utilities” and the 1990s as when EU discussed privatizing and liberalizing public utilities).

8. *Id.*

production and distribution chain.⁹ For example, “[n]etwork operators acted simultaneously as suppliers.”¹⁰ Vertical integration of gas companies defined the structure of European energy markets.¹¹ These powerful energy firms not only discovered, produced, and compressed the gas, but they also ran its transmission and storage.¹² Additionally, they distributed the final product to wholesale and retail suppliers, thus controlling every aspect of energy production, from the extraction of petroleum out of the ground to its conversion and eventual receipt by electricity companies.¹³ Sometimes these energy conglomerates even ran the companies that converted these resources and also the electricity companies that provided electricity to consumers.¹⁴ Because they administered every aspect of the distribution of electricity and natural gas to consumers, these firms had monopolies in the market and could dictate prices at their sole discretion.¹⁵ This also resulted in some instances of inefficiency within the utility structure, as no competing forces existed to motivate these state energy firms to improve their processes.

In what has been deemed the “pre-liberalization phase”¹⁶ from 1990–1996, the EU came to recognize the exigency of removing power from the hands of these energy firms and opening the market to additional participants.¹⁷ During this time, “a discussion took place between theoretical and practical economists about increasing the effectiveness of utilities. Suggestions for privatization and liberalization were made.”¹⁸ Nevertheless, European government officials understood that it was not simply enough to voice their pursuit of a policy of economic

9. *Id.*

10. *Id.*

11. *Id.*

12. *See id.*

13. *Id.*

14. *See* Jonathan Flegg, *Future Prospects for Unbundling in the European Energy Sector*, LEE KUAN YEW SCHOOL OF PUB. POLICY, at 2–5 (Apr. 20, 2011), *available at* <http://www.slideshare.net/jonathonflegg/future-prospects-for-unbundling-in-the-european-energy-sector> (discussing unbundling efforts in the European electricity and gas markets); *see also* François Lévêque, *Antitrust Enforcement in the Electricity and Gas Industries: Problems and Solutions for the EU*, 19 THE ELECTRICITY J., 27, 31 (2006), *available at* <http://www.sciencedirect.com/science/article/pii/S1040619006000571/pdf?md5=487d28487016394603dead318f24676b&pid=1-s2.0-S1040619006000571-main.pdf> (discussing anticompetitive effects of mergers in the electricity industry).

15. *See* Saule Milciuvienė & Agnė Tiknaitė, *The Ownership Unbundling of Electricity Transmission System Operators: the European Union Policy and the Case in Lithuania*, INŽINERINĖ EKONOMIKA-ENGINEERING ECONOMICS, at 82, 85 (2009), *available at* <http://internet.ktu.lt/lt/mokslas/zurnalai/inzeko/62/1392-2758-2009-2-62-82.pdf> (discussing the power of vertically integrated companies); *see also* Neelie Kroes, *Improving Competition in European Energy Markets Through Effective Unbundling*, 31 FORDHAM INT’L L.J. 1387, 1402–03 (2007) (explaining the market share concentration held by incumbents).

16. Kroes, *supra* note 15, at 1389.

17. *See* Slabá, *supra* note 7, at 81.

18. *Id.*

liberalization.¹⁹ Rather, the actual substantive structure of corporate ownership of energy conglomerates needed to change, which would only occur with the introduction of a novel legal and market structure to govern these companies and help them move away from the current system of vertical integration.²⁰ European energy officials made it their vision to “break the monopoly in the commercial activities of supply and import, to break the barriers in the gas trade between national markets, and to enforce the free access of the third parties to gas networks.”²¹ As a result, in an attempt to break the monopolistic influence of the energy firms, European energy officials turned to the regulatory bodies and rules of the EU and began to change their framework.²² It would not be until the late ‘90s, however, until the EU would start implementing changes within the EU’s internal market.²³

The first action taken by the EU in this informal pursuit of market liberalization was the creation of the Energy Charter Treaty (the Treaty). The goal of the Treaty, which was signed and ratified in 1994 by fifty-one signatories located both within and outside the EU, was to create a legal framework dedicated to the promotion of long-term international cooperation in the energy sector.²⁴ The act was an attempt to open the European market to third-party players. For example, contracting parties were required to “promote and create stable, favourable and transparent conditions for foreign investors and apply the most-favoured nation principle or offer the same treatment that is given to national investors, whichever arrangement is the most favourable.”²⁵ Additionally, the Treaty laid out specific dispute resolution procedures for disagreements occurring between companies within the nation, and also cross-border disputes between an external company from a foreign country and the host state within the EU.²⁶ The Treaty also set forth rules governing competition, transparency, and sovereignty within the host state.²⁷ Specifically, countries were to enable competition between outside companies and internal, state-run monopolists by “combat[ing] market distortions and barriers” through legal provisions geared “to address any unilateral or concerted anti-competitive behaviour in economic activities in the energy sector.”²⁸ Additionally, host countries within the EU were

19. *See id.*

20. *Id.*

21. *Id.*

22. *Id.*

23. *See* Yafimava, *supra* note 3, at 8 (discussing the First Directive).

24. *European Energy Charter*, EUR-LEX: SUMMARY OF LEGISLATION, <http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:31998D0181> (last updated Jan. 30, 2007).

25. *Id.*

26. *See id.*

27. *Id.*

28. *Id.*

mandated to foster transparency by creating a central regulatory body to handle inquiries from foreign and third-party investors.²⁹ Finally, host countries subject to the contract were to maintain ownership of their resources and conduct operations in accordance with international law.³⁰ Despite the positive operations set forth by the Treaty, it still lacked the force necessary to prompt any real change within the European internal market. It did not specify any punitive measures for host countries that failed to follow the Treaty's terms and appeared to be mainly prescriptive. There was no real impetus for countries to follow the Treaty. Furthermore, it pointed to international law as the source of host countries' sovereignty, further weakening the Treaty's appeal among its signatories. Nevertheless, this Treaty set the wheels in motion for the creation of three energy directives by the EU that would put the internal European energy market on the path to change.

III. THE THREE DIRECTIVES

A. *The First Energy Directive*

Following the introduction of the Treaty, the EU then turned and truly focused on the liberalization of its internal market. It did so through the creation of three electricity and gas directives. The first set of liberalization directives (the First Directive) was adopted in 1996 (electricity) and 1998 (gas); these directives focused mainly on pointing out areas where competition could truly exist, and facilitated competition in those areas.³¹ The directives also identified areas that naturally supported monopolies and would require a different approach in the process of economic liberalization.³² A global approach was not taken to drastically implement implementation, but rather, the EU identified areas that would naturally be more receptive to the opening of the market and attempted to target those first.

The EU knew that many of the energy conglomerates would resist the entrance of third-party participants in the energy market and use their dominant positions to exclude them.³³ As a result, the Community legislator instituted the Third Party Access system, in order "to ensure that vertically integrated operators would not discriminate against new entrants or create other entry barriers."³⁴ One of the predominant features of the First Directive, however, was its identification of the risk

29. *Id.*

30. *Id.*

31. *See* Kroes, *supra* note 15, at 1390.

32. *Id.*

33. *See id.* (noting that the First Directive contained rules to mitigate the risk of vertically integrated companies using transmission networks to stifle competition).

34. *Id.*

posed by monopolies and its institution of separation policies to unbundle vertical conglomerates.³⁵ Transmissions companies could now choose from whom they received their energy and were no longer beholden to the state conglomerates. An additional feature of the First Directive that sets it apart is that the only unbundling that it authorized was accounting and management unbundling for electricity and accounting unbundling for gas.³⁶ It forced the state conglomerates to abolish their vertical integration only in these areas. However, although insufficient to trigger any real change, the First Directive proved to be a step in the right direction.

Although the First Directive brought many benefits and was the first real step towards bringing regulatory change to the European internal market, it soon “became clear that the requirements were inadequate.”³⁷ The Commission of the European Union launched a series of studies demonstrating that Member States were still discriminating against third-party market players and catering to the state-run conglomerates.³⁸ The First Directive simply had not been forceful enough or suggested enough change to precipitate any real change in the market.

B. The Second Energy Directive

As a result, the EU proposed and set in motion a Second Directive package (the Second Directive). The main goals of this second package 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.”³⁹ Whereas the First Directive had focused on transmissions operators not discriminating amongst the available suppliers rather than general structural change in the market, the Second Directive instead wanted to level the playing field for third-party suppliers and companies.⁴⁰

With the First Directive, the emphasis was placed on the behavior of the transmissions companies. After the implementation of the First Directive, however, the European Union recognized that transmissions

35. See Council Directive 96/92, art. 19, 1997 O.J. (L 27) 30 (EC) [hereinafter First Electricity Directive]; Council Directive 98/30, art. 23, 1998 O.J. (L 204) 1 (EC) [hereinafter First Gas Directive]; Philip Lowe, Ingrida Pucinskaite, William Webster & Patrick Lindberg, *Effective Unbundling of Energy Transmission Networks: Lessons from the Energy Sector Inquiry*, 1 COMPETITION POLICY NEWSLETTER 23, 23 (2007).

36. See Kroes, *supra* note 15, at 1390.

37. Kroes, *supra* note 15, at 1391.

38. See *id.*

39. *Id.*

40. See Yafimava, *supra* note 3, at 8 (explaining the equalizing measures instituted by the EU).

companies and operators would be recalcitrant to change.⁴¹ The Commission realized that it needed to erase any distinction between gas flows coming from both within the host state and abroad.⁴² Specifically, the Commission “eliminated the notion of transit and awarded an identical treatment to all gas flows inside the EU, irrespective of whether they were cross-border(s), by mandating regulated [third-party access] to all transmission on the basis of tariffs (or methodologies) approved by national regulatory authorities.”⁴³ The 2003/55/EC Gas Directive that was part of the second package gave third parties a legal right to “non-discriminatory access to transmission and distribution systems and to [LNG] facilities.”⁴⁴ Conversely, the Commission ordered that system operators were not allowed to provide preferential treatment to one company over another and they had to “guarantee non-discriminatory and transparent access to the system for all users.”⁴⁵ The EU was tackling the problem from both sides of the production chain.

Furthermore, whereas with the First Directive the EU had ordered that only the companies’ accounting functions needed to be unbundled,⁴⁶ with the Second Directive the EU ordered that the transmission, distribution, production, and supply activities had to be completely separated and unbundled.⁴⁷ It also instituted an additional layer of change through its imposition of consumer protection regulations.⁴⁸ Rules were created that guaranteed consumers items such as the right to “change supplier, transparent contract conditions . . . [and] dispute settlement mechanisms.”⁴⁹ No longer were consumers to be at the mercy of their suppliers. They were to be guaranteed a secure supply delivered on a timely, reasonable basis.⁵⁰ The Second Directive also established a baseline for the quality and price that consumers would receive.⁵¹ Finally, the Commission set a firm timetable within which it sought to guarantee the arrival of the market to full competition.⁵²

41. See Council Directive 2003/54, art. 10, 2003 O.J. (L 176) 37 (EC) [hereinafter Second Electricity Directive]; Council Directive 2003/55, art. 9, 2003 O.J. (L 176) 57 (EC) [hereinafter Second Gas Directive]; Lowe et al., *supra* note 35, at 23.

42. See Lowe et al., *supra* note 35, at 23.

43. Yafimava, *supra* note 3, at 3.

44. *Internal Market for Natural Gas*, EUR-LEX: SUMMARY OF LEGISLATION, <http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32003L0055> (last updated May 28, 2009).

45. *Id.*

46. See Slabá, *supra* note 7, at 83.

47. *Internal Market for Natural Gas*, *supra* note 44.

48. *Id.*

49. *Id.*

50. See *Internal Market for Energy (Until March 2011)*, EUR-LEX: SUMMARY OF LEGISLATION, <http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32003L0054> (last updated Nov. 10, 2010).

51. See *id.*

52. See Lowe et al., *supra* note 35, at 23.

The most important part of the Second Directive package, however, lay in its designation of transmission and distribution system operators and regulatory authorities within each Member State.⁵³ Each entity was given specific tasks that they were to be responsible for in order to facilitate the move towards internal market liberalization.⁵⁴ For instance, transmission system operators were to be responsible for guaranteeing long-term capacity for meeting the electrical needs of each Member State.⁵⁵ They were also placed in charge of monitoring other interconnected systems and gauging the needs of their particular Member State based on their observations.⁵⁶ Transmission system operators also were responsible for policing potential instances of discrimination and serving as an information source for system users.⁵⁷ Distribution operators, on the other hand, were tasked more with the efficient allocation of resources.⁵⁸ Like transmission system operators, they were responsible for policing discrimination and ensuring reliability and security within the distribution system.⁵⁹ However, they were separately tasked with “procur[ing] the energy they use to cover energy losses and reserve capacity in their system according to transparent, non-discriminatory and market-based procedures.”⁶⁰ Distribution officers needed to ensure that their respective systems were being run in the most efficient way possible. This act also created a position for independent regulators within each Member State that were responsible for “monitoring respect of the non-discrimination principle, the level of transparency and competition, and the tariffs and methods for calculating them.”⁶¹

C. Evaluation of the Second Energy Directive

The Second Directive had been in place for two years when the EU Commission launched a formal investigation looking into the Directive’s effectiveness within the internal market.⁶² It was the “largest ever exercise in information gathering and analysis of the EU energy

53. See *Internal Market for Natural Gas*, *supra* note 44; *Internal Market for Energy (Until March 2011)*, *supra* note 50.

54. See *Internal Market for Energy (Until March 2011)*, *supra* note 50.

55. *Id.*

56. *Id.*

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.*

61. *Internal Market for Natural Gas*, *supra* note 44.

62. See Lowe et al., *supra* note 35, at 23 (noting that the Second Directive was adopted in 2003 and the Sector Inquiry, a formal investigation looking into the Second Directive, commenced in mid-2005); see also Kroes, *supra* note 15, at 1402 (noting that the Commission launched the Sector Inquiry in 2005).

markets.”⁶³ The 2005 Sector Inquiry focused primarily on discovering exactly what issues were preventing the European internal market from reaching full liberalization.⁶⁴ The Commission sought to highlight the specific problem areas in the market in order to develop a plan to tackle them in the most effective and efficient way possible.

Not shockingly, the inquiry’s results were not stellar.⁶⁵ In the Final Report on the Energy Sector Inquiry, the Commission detailed its findings.⁶⁶ The Commission stated that “the objectives of market opening have not yet been achieved . . . [and] barriers to free competition remain.”⁶⁷ They went as far as to state that “more needs to be done before consumers can reap the full benefit [of the liberalization process].”⁶⁸ It outlined eight major areas that were causing the EU to be unsuccessful in its pursuit of a more open market.⁶⁹

The first areas preventing the EU’s march towards liberalization were lack of market integration, vertical foreclosure, and poor market integration within the Member States.⁷⁰ As incumbents still held large shares in the markets of their respective states, true competition was not really feasible.⁷¹ Member States were still dominated largely by these state-run energy conglomerates.⁷² Specifically, “[n]ew entrants [were] unable to secure transit capacity on key routes and entry capacity into key markets.”⁷³ Additionally, “the primary capacity on transit pipelines is controlled by incumbents based on pre-liberalisation legacy contracts . . . [and] [i]ncumbents have little incentive to expand capacity to serve the needs of new entrants.”⁷⁴ In spite of the Commission’s efforts, these large energy companies had managed to maintain a firm grip on all parts of the energy distribution chain. Significant unbundling measures were still needed to weaken their positions. Without breaking the vertical structure, however, other competitors would be unable to enter the market.

63. Kroes, *supra* note 15, at 1402.

64. *Id.*

65. See *Communication from the Commission – Inquiry Pursuant to Article 17 of Regulation (EC) No 1/2003 into the European Gas and Electricity Sectors*, COM (2006) 0851 final (Jan. 10, 2007) [hereinafter *Inquiry into the European Gas and Electricity Sectors*], available at <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52006DC0851> (describing the barriers to free competition that remained after the Second Directive).

66. See *id.*; Lowe et al., *supra* note 35, at 23; Kroes, *supra* note 15, at 1402–1405.

67. *Inquiry into the European Gas and Electricity Sectors*, *supra* note 65.

68. *Id.*

69. See Kroes, *supra* note 15, at 1402–04.

70. See *Inquiry into the European Gas and Electricity Sectors*, *supra* note 65; Kroes, *supra* note 15, at 1402.

71. See *Inquiry into the European Gas and Electricity Sectors*, *supra* note 65.

72. *Id.*

73. *Id.*

74. *Id.*

The next issue that contributed to the inhibition of market liberalization was the lack of transparency and the resulting failure of reliability and delay of timely information to the markets.⁷⁵ The EU lacked a central body to publish the available network capacity or to forecast the demand and supply within nations.⁷⁶ The individual states also did not have regulatory or industry bodies that publicly provided this information.⁷⁷ As a result, only the incumbent energy conglomerates involved in all facets of the distribution chain knew these facts.⁷⁸ This resulted in “little trust in market prices” coupled with “new entrants find[ing] it difficult to understand how the markets work[ed] and what risks they [were] taking on.”⁷⁹ The unbundling provisions laid out in the Second Directive had largely been ignored. For example, the Commission stated in its report that “[n]etwork users require more transparency going beyond the current minimum requirements set by EU legislation.”⁸⁰

The Final Report also pointed to more technical areas where improvement could be made, such as more effective price formation, competition at the retail level, balancing markets, and LNG markets.⁸¹ Price formation mechanisms lacked user trust and some Member States had instituted tariffs “below market prices [which discouraged] new entry.”⁸² Balancing markets were insufficient as they “favour[ed] incumbents and create[d] new obstacles for newcomers.”⁸³ This was a result of small balancing zones in the natural gas market, which allowed for a multiplicity of zonal costs and rules and further contributed to the lack of transparency, further benefiting incumbents and deterring third-party market participants.

In order to solve these problems, the Commission also discussed regulatory action at the European Community Level in its Communication on “Prospects for the Internal Gas and Electricity Market” as a counterpart to its Final Report, including a series of recommendations to improve the structure of the regulatory framework to achieve market liberalization.⁸⁴ Although the Final Report attempted to institute novel mechanisms for achieving market liberalization, like the earlier Directives, it was largely the same. First, the Commission called

75. See *Inquiry into the European Gas and Electricity Sectors*, *supra* note 65; Kroes, *supra* note 15, at 1404.

76. Kroes, *supra* note 15, at 1404.

77. See *id.*

78. See *id.*

79. *Id.*

80. *Inquiry into the European Gas and Electricity Sectors*, *supra* note 65.

81. *Id.*

82. *Id.*

83. *Id.*

84. *Id.*

for a “[c]learer separation between operation of transmission systems and production or supply activities”⁸⁵ in order “to ensure that operators . . . develop the networks in the general interest of the network users.”⁸⁶ Unlike the previous Directives, in this instance, the Commission sought to institute complete ownership unbundling.⁸⁷ An operator was not to be the same company that owned the transmission company.⁸⁸ The Commission also allowed for independent system operators, which would exist as a separate entity that would oversee the operations of all of the various transmission assets but would still be owned by the vertically integrated companies.⁸⁹

Another suggestion put forth by the Commission was the strengthening of the regulatory framework not only for the Member States, but also at the EU Community level.⁹⁰ The Final Report recommended enhanced communication and collaboration between the national regulators and the overarching European regulatory body.⁹¹ It even suggested inserting the national regulators within the EU regulatory body’s framework, or alternately, organizing them into an independent agency.⁹² Going a step further, the Commission again emphasized mitigating unfair competition within the Member States, in addition to pressing for greater transparency and access to gas storage facilities.⁹³

Alongside the Final Report, the Commission also issued a Priority Interconnection Plan in order to facilitate the interconnection between Member States and also between Member States and outside countries.⁹⁴ The Commission felt that the only way that market competition could truly flourish was with the development of a stronger interconnection system.⁹⁵ When describing the EU’s current system, it stated that,

85. *Prospects for the Internal Gas and Electricity Market*, EUROPA: SUMMARY OF LEGISLATION, http://europa.eu/legislation_summaries/energy/internal_energy_market/127075_en.htm (last updated Sep. 6, 2008).

86. *Id.*

87. *Id.*

88. *Id.*

89. See Milciuviene & Tikniute, *supra* note 15, at 83.

90. See *Prospects for the Internal Gas and Electricity Market*, *supra* note 85.

91. See *id.* (“Better coordination of national regulators at European level is, in addition, needed to mitigate the market segmentation resulting from the regulatory differences between Member States.”).

92. See *id.* (“[I]t is possible . . . to formalise the role of the European Regulators Group for Electricity and Gas (ERGEG) into a European Network of Independent Regulators (ERGEG+), or lastly to set up a new single body at Community level.”).

93. See *id.* (“The regulatory framework and therefore the powers of the regulators must be strengthened to ensure the conditions of transparency, stability and non-discrimination necessary for development of competition and for investment.”).

94. *Priority Interconnection Plan (PIP)*, EUR-LEX: SUMMARY OF LEGISLATION, <http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:52006DC0846&qid=1426714005311> (last updated Mar. 14, 2008).

95. See *id.* (“Interconnected networks are vital to the development of healthy competition and constitute a prerequisite to successfully creating an internal energy market.”).

“[s]ixty percent of electricity network projects are behind schedule, largely due to the complexity and lack of harmonisation in planning and authorisation procedures.”⁹⁶ The impetus to improve the European interconnection system was low due to the entrenchment of the state energy monopolies.⁹⁷ However, because pipelines were being operated at maximum capacity, the Commission knew that further room within the pipelines was needed in order to stimulate the transportation of resources from sources.⁹⁸ Without the ability to accept outside energy sources, the competition barriers would never truly be demolished.

Although the Commission appeared to promote similar initiatives in each successive directive, it included unique, though subtle features in each that slowly caused momentum to build. For example, after producing the Second Directive package, the Commission began to institute punitive action against states that failed to comply.⁹⁹ In 2009, the Commission “initiated infringement procedures against 25 Member States and sent Letters of Formal Notice with respect to noncompliance with the Electricity Regulation and Gas Regulation.”¹⁰⁰ After receiving responses from the noncompliant countries, the Commission concluded that only four countries had taken sufficient measures to meet the standards set forth by the Energy Directives.¹⁰¹ A year later, the Commission pursued infringement procedures against the twenty countries that had not made any efforts to comply with the EU’s regulatory policies.¹⁰²

D. *The Third Energy Directive*

Clearly, the energy initiatives being taken by the EU were having little impact on the internal market. So, in yet another attempt to try to facilitate market liberalization, the Commission passed a third set of energy directives (the Third Directive).¹⁰³ It “adopted a fundamentally

96. *Id.*

97. *See id.* (describing how vertically-integrated companies have no incentive to develop interconnections with other networks).

98. *See id.* (“The infrastructures are increasingly operated at the limit of their physical capacities which hampers the integration of additional energy resources necessary for market growth.”).

99. *See Commission Staff Working Document: 2009-2010 Report on Progress in Creating the Internal Gas and Electricity Market*, at 3 (Jun. 9, 2011), available at http://ec.europa.eu/energy/gas_electricity/legislation/doc/20100609_internal_market_report_2009_2010.pdf.

100. *Id.*

101. *See id.* at 3–4.

102. *See id.* at 4.

103. *See* Council Directive 2009/72, art. 1, 2009 O.J. (L 211) 55, 62 (EC) [hereinafter Third Electricity Directive] (“This Directive establishes common rules for the generation, transmission, distribution and supply of electricity, together with consumer protection provisions, with a view to improving and integrating competitive electricity markets in the Community.”); Council Directive 2009/73, art. 1, 2009 O.J. (L 211) 94, 101 (EC) [hereinafter Third Gas

new approach aiming at changing the structure of the EU gas market [and] developed a third generation of new IEM legislative proposals, which would be capable of rectifying the problems identified by the Inquiry.”¹⁰⁴ The EU’s hope with the passage of the third set of directives was that a majority of the states would finally begin to actually implement and enforce the regulations that the EU had been advancing for nearly a decade.¹⁰⁵

Nevertheless, as with the previous two energy directives, some of the requirements seen in the Third Directive appeared nearly the same as the previous two. For example, the Commission re-emphasized that Member States needed to focus on unbundling, ensuring non-discrimination among suppliers, and guaranteeing equal access for customers.¹⁰⁶ They were to do everything laid out in the Third Directive in order to “guarantee fair competition and appropriate consumer protection.”¹⁰⁷ In fact, some of the language from the Third Directive essentially mirrored that of the Second Directive. For instance, it ordered the pursuit of information unbundling, which had been referenced in the earlier directive.¹⁰⁸ The Commission sought to ensure that information remained separate between the suppliers and network affiliates in order to bolster competition.¹⁰⁹ Furthermore, the Commission tasked transmission system operators, distribution network operators, and regulatory authorities with the same responsibilities it had given them before.¹¹⁰ Transmission operators were responsible for monitoring the long-term energy needs of their respective states and ensuring the provision of adequate supplies, in addition to enforcing non-discrimination mechanisms and providing information to network users.¹¹¹ Distribution network operators were tasked with ensuring the

Directive] (“This Directive establishes common rules for the transmission, distribution, supply and storage of natural gas.”).

104. Yafimava, *supra* note 3, at 3.

105. *See id.* (describing the third set of directives “as the ultimate means for creating a single liberalised EU gas market”).

106. *See Internal Market in Gas (From March 2011)*, EUR-LEX: SUMMARY OF LEGISLATION, <http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32009L0073> (last updated Jan. 13, 2014).

107. *Id.*

108. *See* Lowe et al., *supra* note 35, at 24 (“[T]he Directives require ‘information unbundling’ through the creation of information barriers between supply and network activities (‘Chinese Walls’).”).

109. *See id.* (“[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.”).

110. *Compare Internal Market for Energy (Until March 2011)*, *supra* note 50 (listing responsibilities of operators and regulators at the passage of the Second Directive), with *Internal Market in Electricity (From March 2011)*, EUR-LEX: SUMMARY OF LEGISLATION, <http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32009L0072> (last updated Jan. 13, 2014) (listing the same responsibilities of operators and regulators at the passage of the Third Directive).

111. *Internal Market in Electricity (From March 2011)*, *supra* note 110.

efficient distribution of resources at a regional level.¹¹² National regulatory authorities, similarly, were to oversee the activities of both operators and ensure compliance with all aspects of the Third Directive.¹¹³

The Third Directive, however, differed from both the First and Second Directives through its requirement of greater accountability within the supply and distribution chain and among the operators and regulators. Unlike before, transmission system operators had to undergo an official certification process prior to being granted status as an official transmission system operator.¹¹⁴ Furthermore, transmission system operators were now responsible for submitting an annual report to the Commission describing the condition of their state's system, in addition to outlining the parts of the infrastructure that required either creation or renovation.¹¹⁵ Rather than operating in a vacuum, transmission system operators were now to report to the EU on the status of their enforcement of the Third Directive, in addition to mapping out the needs of their particular state. This new level of accountability was further bolstered by the guarantee of access rights of regulatory authorities to natural gas accounts.¹¹⁶ In the interests of enforcing unbundling provisions, energy companies were required to keep their various accounts and activities separate.¹¹⁷ Now, regulatory authorities had the ability to go in and make sure that these barriers were actually being enforced.¹¹⁸

Perhaps the most distinctive feature of the Third Directive was its outward focus on generating third-party competitors and its emphasis on cross-border issues. More than ever before, in accordance with its recently issued Priority Interconnection Plan, the Commission focused its efforts on generating activity across state borders and even pressuring non-EU countries to abide by the norms set forth in the Energy Directives. In this final, Third Directive, the Commission went so far as to “present[] the system of methods of how to force . . . the non-EU

112. *Id.*

113. *Id.*

114. *See Internal Market in Gas (From March 2011)*, *supra* note 106. (requiring Member States to publish transmission system operators in the Official Journal of the European Union).

115. *See id.* (“Every year, [transmission system operators] shall submit to the regulatory authority a ten-year network development plan indicating the main infrastructure that needs to be built or modernized as well as the investments to be executed over the next ten years.”).

116. *See id.* (“Member States and the competent authorities shall have right of access to the accounts of natural gas undertakings but shall preserve the confidentiality of certain information.”).

117. *See Internal Market in Electricity (From March 2011)*, *supra* note 110 (“Electricity undertakings have to keep separate accounts for their transmission and distribution activities.”).

118. *See id.* (“Member States and the competent authorities have right of access to the accounts of electricity undertakings but shall preserve the confidentiality of certain information.”).

states/companies to play according to the EU internal rules even at their own non-EU domestic markets.”¹¹⁹ The EU understood that most of the Member States’ resources come from countries, predominantly Russia, that do not value market competition and directly hinder the EU’s efforts to bring more third-party competitors to the market.¹²⁰ In order to stimulate third-party access, the Commission in this Directive ordered authorities in Member States to “take measures to ensure that eligible customers can obtain access to upstream pipeline networks” and “organise a system of third party access to transmission and distribution systems.”¹²¹

Specifically, the Commission changed from a point-to-point (PP) system for shippers to an entry-exit (EE) regime.¹²² With the PP system, “all trading takes place before gas enters the transmission system,”¹²³ whereas with the EE system, “trading takes place after gas has entered the transmission system,”¹²⁴ thus allowing for a greater number of independent traders to participate in the market based on the needs of downstream transmission companies.¹²⁵ The Third Directive also brought the implementation of twelve pan-European Network Codes governing cross-border transaction: “capacity allocation and congestion management rules; balancing rules; rules regarding harmonised transmission tariff structures; interoperability rules; network security and reliability rules; network connection rules; third-party access rules; data exchange and settlement rules; operational procedures in an emergency; rules for trading; transparency rules; and energy efficiency regarding gas networks.”¹²⁶ Distinctive regulations now existed to govern the most significant issues encountered in cross-border transactions between suppliers, traders, transmissions companies, and distributors. Regulatory authorities could now access concrete bodies of law to solve cross-border issues rather than merely succumbing to the forces of energy conglomerates.

The Third Directive, like its predecessors, has had little impact on the EU’s internal market. Despite the higher levels of accountability seen in

119. Dr. Andrey A. Konoplyanik, *Third EU Energy Package: Regulatory Changes for Internal EU Energy Markets in Gas and Possible Consequences for Suppliers (Incl. Non-EU Suppliers) and Consumers*, OGEL, June 2011, at 19, available at http://www.konoplyanik.ru/ru/publications/articles/488_Third_EU_Energy_Package.pdf.

120. *See id.* at 1–5, 13–14 (detailing EU and Russia interdependence).

121. *Internal Market in Gas (From March 2011)*, *supra* note 106.

122. *See* Yafimava, *supra* note 3, at 37 (“Existing capacity contracts . . . are based on a PP system, whereas the Third Package prescribes an EE system . . .”).

123. *Id.*

124. *Id.*

125. *See id.* at 37–38 (“The trader(s) will resell it to ‘downstream’ ‘exit’ shippers, which could be the same company or an affiliate of the seller, who have entry and exit capacity and pay an exit tariff.”).

126. *Id.* at 4.

the Third Directive, two years after its passage, it could only be described as unsuccessful. In the summer of 2011, most Member States had not even submitted the Directive to their Parliaments in order to gain state-level ratification.¹²⁷ In fact, only four states had followed the necessary legislative steps to ratify the Directive, and they had not even carried out the steps fully.¹²⁸ As of April 2013, a great deal of vertical integration still exists, as countries have failed to implement unbundling regulations or have just been slow to do so.¹²⁹ This failure to ratify and implement unbundling regulations is not because these countries or companies lack the necessary resources to enact this legislation,¹³⁰ but instead, it is simply a result of their blatant refusal to comply.¹³¹ For instance, “[e]ven where Member States have adopted the unbundling provisions . . . this does not necessarily mean that network operators comply with them . . . [as] the Sector Inquiry has demonstrated that incentives for preferential treatment within vertically integrated operators remain.”¹³² Despite the efforts of the Commission to change the structure of the market, a number of factors must be addressed at the regional, national, and international levels in order for any real change to be accomplished.

IV. ORGANIZATIONAL STRUCTURE OF REGULATORY BODIES AND OPERATIONAL GROUPS

In the course of attempting to implement its three energy directives, the EU has established two main oversight/regulatory bodies that oversee the general unbundling efforts of the Member States and also assist in moving the market towards its existence as a more competitive and open arena. The first group that assists in these efforts is the Council of European Energy Regulators (CEER), which was formed in March of 2000 with the signing of a Memorandum of Understanding by ten

127. See *Commission Staff Working Document*, *supra* note 99, at 3.

128. See *id.* (As of June 1, 2011, “no Member State had yet notified transposition measures to the Commission, although 4 Member States had filed partial notification”).

129. See COUNCIL OF EUROPEAN ENERGY REGULATORS, STATUS REVIEW ON THE TRANSPOSITION OF UNBUNDLING REQUIREMENTS FOR DSOS AND CLOSED DISTRIBUTION SYSTEM OPERATORS 7 (Apr. 16, 2013) [hereinafter STATUS REVIEW], available at http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Cross-Sectoral/Tab/C12-UR-47-03_DSO-Unbundling_Status%20Review_Public.pdf (“There is limited progress on DSO unbundling in countries which have yet to fully transpose the [Third Directive]. In many countries, the process of unbundling is on-going and it remains too early to fully evaluate the results.”); see also Kroes, *supra* note 15, at 1394 (“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.”).

130. See STATUS REVIEW, *supra* note 129, at 7 (“In general, NRAs found that the majority of [distribution system operators] have sufficient resources to fund the unbundling process[.]”).

131. See *id.* (noting that countries had the resources to implement the Third Directive but did not).

132. Kroes, *supra* note 15, at 1405.

national energy regulatory authorities.¹³³ The CEER is a non-profit organization independently created by the national energy regulatory authorities that works in conjunction with the other major regulatory agency of the EU, the Agency for the Cooperation of Energy Regulators (ACER).¹³⁴ The objective of the CEER is to “facilitate the creation of a single, competitive, efficient and sustainable internal market for gas and electricity.”¹³⁵ It issues papers and reports documenting the progress of the European energy market on its path towards liberalization and also serves as a discussion forum for energy regulators to discuss the status of market reform efforts within their respective nations.¹³⁶ The structure of the CEER is threefold—leadership resides in the hands of a General Assembly and Board of Directors.¹³⁷ Members of the Secretariat conduct research and evaluations.¹³⁸ The Secretariat is comprised of six main working groups: Implementation, Benchmarking, and Monitoring; Market Integrity and Transparency; Electricity; Gas; Customers and Retail Markets; and International Coordination.¹³⁹ Within these working groups, smaller task forces carry out directed research and address specific issues.¹⁴⁰ Also, the CEER collectively represents Europe’s national energy regulators both at home and abroad.¹⁴¹ Aside from serving as a domestic forum for discussion and formation of organizational strategy among lead energy regulators from Member States, the CEER also exerts a great deal of international influence.¹⁴² It is a member of the International Confederation of Energy Regulators (ICER), an assembly of regulatory groups from across the globe seeking to implement open, competitive energy markets.¹⁴³

133. *About the European Energy Regulators*, COUNCIL OF EUROPEAN ENERGY REGULATORS, http://www.ceer.eu/portal/page/portal/EER_HOME/EER_ABOUT/CEER (last visited Apr. 14, 2015); see also STATUS REVIEW, *supra* note 129, at 22 (“A key objective of CEER is to facilitate the creation of a single, competitive, efficient and sustainable EU internal energy market that works in the public interest.”).

134. *About the European Energy Regulators*, *supra* note 133.

135. *Id.*

136. See STATUS REVIEW, *supra* note 129, at 3 (listing documents on the European energy market published by the CEER).

137. See *CEER Structure*, COUNCIL OF EUROPEAN ENERGY REGULATORS, http://www.ceer.eu/portal/page/portal/EER_HOME/EER_ABOUT/ORGANISATION (last visited Apr. 14, 2015).

138. *See id.*

139. *Id.*

140. *See id.* (“CEER organises its work through working groups (WGs), which may be supported by task forces (TFs) in charge of specific issues.”).

141. See *About the European Energy Regulators*, *supra* note 133 (“CEER is the ‘Council of European Energy Regulators.’ It is the voice of Europe’s national energy regulators at EU and international level.”).

142. *See id.* (“CEER also strives to share regulatory best practice worldwide through its membership in the International Confederation of Energy Regulators (ICER) which brings together similar associations from across the globe . . .”).

143. *Id.*

Unlike the CEER, the ACER is a group that was established by the European Union in March 2011 under the authority of the Third Directive that has legal authority to implement and enforce regulatory measures.¹⁴⁴ Its forerunner was the European Regulators Group for Electricity and Gas (EREG) that was created by the Second Directive; this body, however, was dissolved and the ACER was established in its place.¹⁴⁵ Each Member State has its own separate national regulatory authority (NRA) that oversees the day-to-day functions of its energy market.¹⁴⁶ Although each NRA has a unique framework for regulating and overseeing the energy matters of its state, the ACER serves as a supervisory body over all of the NRAs that guides them away from using their own idiosyncratic governance methods towards adopting a more cohesive, unified European energy policy. The ACER is composed of a Board of Regulators, with representatives from each NRA, an Administrative Board, a Director, and a Board of Appeal.¹⁴⁷ Specifically, it “complements and coordinates the work of the NRAs, at EU level.”¹⁴⁸ The ACER creates the guidelines and procedures that transmission system operators must follow, and it oversees the functioning of network codes.¹⁴⁹ Additionally, the ACER monitors NRA compliance with energy regulations and issues opinions informing NRAs of the status of their compliance, specifying exactly what the local bodies must do to meet all of the Directives’ conditions.¹⁵⁰

At the regional level, as previously mentioned, each Member State has its own NRA that oversees the operations of its electricity and gas systems.¹⁵¹ Previously, significant differences existed among NRAs; however, with the introduction of the Commission’s Energy Directives, the expectation is that these differences will begin to dissipate and that the form of the NRAs will become more similar with common goals of market transparency and the imposition of “non-discriminatory and cost-reflective” tariffs.¹⁵² Currently, however, each Member State has a “distinct control and supervision system for handling daily operations of

144. *See id.* (“ACER’s focus is on what is required in the legislation and CEER does everything else in energy regulation.”).

145. *Id.*

146. *See Internal Market in Electricity (From March 2011)*, *supra* note 110 (describing the responsibilities of national regulatory authorities).

147. *About the European Energy Regulators*, *supra* note 133.

148. *Id.*

149. *See Agency For the Cooperation of Energy Regulators*, EUR-LEX: SUMMARY OF LEGISLATION, <http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32009R0713> (last updated Nov. 23, 2009).

150. *Id.*

151. *See Internal Market in Electricity (From March 2011)*, *supra* note 110.

152. Third Gas Directive, *supra* note 103, at 97.

the gas transmission system.”¹⁵³ Some of the main duties of the NRAs include enforcing the general mandates set forth by the Energy Directives and directly monitoring the activities of market participants at all levels of the production and distribution chain.¹⁵⁴ The NRAs also oversee consumer protection and ensure that consumers receive a steady, reliable supply of gas and electricity.¹⁵⁵ Additionally, they monitor the cost to consumers and ensure that all market participants are operating fairly.¹⁵⁶

Going a step further, the organization of the operational groups within Member States is the area where the most divergence exists.¹⁵⁷ Although the EU has laid out a very clear structure as to how transmissions systems should be broken up and operated, since many countries have not yet fully implemented the Third Directive, there is wide variance regarding formal and actual division/operation among transmissions systems.¹⁵⁸

The formal structure of the transmission system, however, is to be operated by Transmission System Operators (TSOs) in each Member State.¹⁵⁹ TSOs are to be separate from the rest of the players in the supply chain.¹⁶⁰ They “shall be independent . . . in terms of [their] legal form, organisation, and decision making from other activities not relating to distribution.”¹⁶¹ TSOs must meet financial, technical, and physical floors in order to be eligible to hold this position.¹⁶² First, TSOs create the specific compliance program that members of the supply chain must follow in order to be in compliance with the regulations set forth in the Energy Directives.¹⁶³ Additionally, TSOs operate at the top of the supply

153. DIRECTORATE-GENERAL FOR INTERNAL POLICIES, AN ASSESSMENT OF THE GAS AND OIL PIPELINES IN EUROPE 14 (Nov. 2009) [hereinafter ASSESSMENT], available at <http://www.europarl.europa.eu/document/activities/cont/201106/20110628ATT22856/20110628ATT22856EN.pdf>.

154. See *Factsheet: Energy Regulators*, COUNCIL OF EUROPEAN ENERGY REGULATORS, http://www.ceer.eu/portal/page/portal/EER_HOME/ENERGY_CUSTOMERS/WHO_DOES_WHAT/energy_regulators/CE40E8A7527AED77E040A8C03C2F4FD6 (last visited Apr. 14, 2015).

155. See *id.* (“NRAs have been given significant responsibilities, under the (2009) EU energy legislation package, to protect and to empower customers (including protecting vulnerable customers).”).

156. See *id.* (“NRAs are responsible for implementing the framework or rules for wholesale and retail energy markets, for monitoring the performance of those markets and for undertaking necessary measures to ensure effective and efficient markets.”).

157. See ASSESSMENT, *supra* note 153, at 14 (noting that “[d]ifferent standards are used across Member States for both technical construction and daily operations and recommending a high degree of standardization for daily operations”).

158. See Kroes, *supra* note 15, at 1394 (describing differences in the implementation of the unbundling provisions).

159. See *id.* at 1393 (“[T]he Electricity and Gas Directives required Member States to ensure that TSOs . . . are independent.”).

160. See STATUS REVIEW, *supra* note 129, at 29 (“TSO ownership unbundling was implemented . . .”).

161. Second Electricity Directive, *supra* note 41.

162. See STATUS REVIEW, *supra* note 129, at 9.

163. See *id.* at 17.

chain and determine both the long- and short-term needs of the transmission system.¹⁶⁴ In essence, they “operate the backbone infrastructure.”¹⁶⁵ They determine how the transmission capacity is allocated amongst the various entities.¹⁶⁶ Nevertheless, the Energy Directives mandate that TSOs must provide their allocation methods to the NRAs for approval and openly advertise their allocation formulas.¹⁶⁷ According to the Energy Directives, TSOs can be divided in a variety of ways in the process of unbundling.¹⁶⁸ For instance, TSOs can operate as Independent System Operators (ISOs), “which means that an energy company doesn’t have to break up its several activities but can place them under an independent control board.”¹⁶⁹ Rather than dividing the company into smaller entities, instead, certain company functions are placed in the hands of the ISO, which the ISO runs according to the Directives’ standards.¹⁷⁰ An Independent Transmission Operator operates in a manner similar to an ISO with the caveat that the company “still decides on investment and commercial issues.”¹⁷¹

The Commission created these various groupings with the hopes of fully unbundling the vertically integrated market structures.¹⁷² The system moved from a structure that imposed accounting unbundling to one that enforced legal and functional unbundling, and, most recently, has arrived at a point where it seeks to achieve full ownership unbundling.¹⁷³ The goal of the Commission is the “separation of the previously common ownership structure between network and supply activities of a company”¹⁷⁴ and the “creation of a separate company, which owns and operates network assets and remov[es] any significant shareholding by one type of company in the other.”¹⁷⁵ The Commission, however, has essentially left the implementation of this desired structure to the companies, which has resulted in a “complicated mix of publicly

164. See ASSESSMENT, *supra* note 153, at 15 (describing TSOs as “natural monopolies” that are regulated).

165. *Id.*

166. See *id.* (“The allocation of the transmission capacity is undertaken by the TSOs according to country-specific procedures.”).

167. *Id.* at 17.

168. See Pieter de Jaegher, *A European Energy Policy in the Pipeline, Part II*, THE NEW FEDERALIST (Dec. 25, 2009), <http://www.thenewfederalist.eu/A-European-Energy-Policy-in-the-pipeline,3192> (describing alternatives for full unbundling).

169. *Id.*

170. See Kroes, *supra* note 15, at 1417 (“[T]echnical and commercial operation of the assets is put into an independent company that is designated by the Member State.”).

171. Jaegher, *supra* note 168.

172. See STATUS REVIEW, *supra* note 129, at 8.

173. Slabá, *supra* note 7, at 83.

174. Lowe et al., *supra* note 35, at 28.

175. *Id.*

and privately owned and operated pipelines subject to various forms of regulation by national regulatory bodies.”¹⁷⁶

V. BENEFITS AND DRAWBACKS OF UNBUNDLING

Unbundling theoretically yields a number of benefits, the first being its provision of greater competition. Increasing competition is particularly important, because “competitive markets are powerful mechanism[s] for allocating scarce resources reasonably efficiently.”¹⁷⁷ As transmissions companies become more horizontal, “network operators will have no incentive any more to discriminate between market participants.”¹⁷⁸ As a result, cross-border activities will increase and additional third-party market participants will come to the market.¹⁷⁹ Market transparency will increase and help reduce conflicts of interest.¹⁸⁰

Additionally, the increase in the number of third-party competitors from foreign countries will help increase interconnection capacity and also strengthen energy relationships between countries.¹⁸¹ First, as outside companies can now contribute to European gas and electricity markets, they will seek to invest in cross-border joint ventures and acquisitions.¹⁸² As their “incentive to invest in cross-border transmission capacities [increases],”¹⁸³ the “EU energy infrastructure capacity will also increase.”¹⁸⁴ Cross-border cooperation is especially important in this situation, as the EU is seeking not only to liberalize its market, but also to create cohesion within it.¹⁸⁵ It wants all Member States to follow the same regulatory standards in an effort to build a unified market open to competitors.¹⁸⁶ In this specific instance, unbundling is supposed to be beneficial for the system, as it allows network operators to conduct their duties more cohesively.¹⁸⁷ It “makes network regulation easier and improves network quality.”¹⁸⁸

176. JEFF D. MAKHOLM, *THE POLITICAL ECONOMY OF PIPELINES: A CENTURY OF COMPARATIVE INSTITUTIONAL DEVELOPMENT* 59 (2012).

177. Paul L. Joskow, *Market Imperfections Versus Regulatory Imperfections*, ALFRED P. SLOAN FOUNDATION & MIT, at 5 (June 20, 2010), available at <http://economics.mit.edu/files/5619>.

178. Lowe et al., *supra* note 35, at 29.

179. See Milciuviene & Tikniute, *supra* note 15, at 85 (describing advantages of full ownership unbundling).

180. *See id.*

181. See Justus Haucap, *The Costs and Benefits of Ownership Unbundling*, 42 *INTERECONOMICS* 292, 302 (2007), available at <http://www.econstor.eu/bitstream/10419/41967/1/555590658.pdf>.

182. See Lowe et al., *supra* note 35, at 31.

183. Haucap, *supra* note 181, at 302.

184. Lowe et al., *supra* note 35, at 31.

185. See Jaegher, *supra* note 168 (maintaining that Europe’s energy policy “must be coherent and complementary with other policy realms, so coordination will be crucial”).

186. *See id.*

187. See Lowe et al., *supra* note 35, at 29.

188. Haucap, *supra* note 181, at 307.

The increase in the number of competitors in the market yields further benefits, as it allows for the most efficient price allocation, potentially driving down prices.¹⁸⁹ For example, “[a]n advantage of a competitive market is that it permits negotiation between [retail electric providers (REPs)] and consumers . . . [p]resumably, the resulting negotiations result in pricing which is in line with the true value of any demand-side resource.”¹⁹⁰ Additionally, state conglomerates will now be competing with other companies for customers and will have to lower their prices.¹⁹¹ In fact, studies were conducted in the countries that had implemented unbundling. One study concluded that, “for electricity, higher levels of unbundling . . . lead to lower electricity prices.”¹⁹² Furthermore, “[u]nbundling removes undesirable cross-subsidies between network and competitive businesses, and improves retail competition.”¹⁹³ The potential exists for even greater improvement of wholesale competition.¹⁹⁴

Unbundling also results in the best quality of services being provided to the marketplace.¹⁹⁵ Because producers now have a variety of customers instead of just one, they will put more effort into providing the best products and services possible. In fact, “[t]he direct consequences of stronger unbundling are more independent management and financing of the network, positively affecting performance of the network.”¹⁹⁶ Furthermore, because producers, distributors, transmission system operators, and retail distributors now operate independently, each unit is now able to focus more on its specific job. For example, “the network operator will be able to focus on optimising its main business—the use of the network.”¹⁹⁷

Yet another benefit is greater security that is guaranteed through the diversity of resources.¹⁹⁸ The existence of a greater number of suppliers means that consumers are not beholden to one country as the sole provider of their energy needs. They can look outside their country for other companies to provide them with natural gas. For instance, “[m]arket opening and infrastructure interconnection can potentially increase the security of supply for Czech customers, as it may add new

189. See Milciuviene & Tikniute, *supra* note 15, at 85.

190. Jay W. Zarnikau, *Demand Participation in the Restructured Electric Reliability Council of Texas Market*, 35 ENERGY 35 1536, 1543 (2010) [hereinafter Zarnikau, *Demand Participation*], available at <http://www.frontierassoc.com/wp-content/uploads/2015/01/DemandParticipation.pdf>.

191. Haucap, *supra* note 181, at 306 (discussing improvement in retail competition).

192. Milciuviene & Tikniute, *supra* note 15, at 85.

193. Haucap, *supra* note 181, at 306.

194. See *id.* at 309.

195. See *id.* at 307.

196. *Id.*

197. Lowe et al., *supra* note 35, at 29.

198. See Slabá, *supra* note 7, at 90.

sources from North Africa, the Caspian Sea region, etc. to the existing imports from Russia and Norway.”¹⁹⁹

The United Kingdom serves as perhaps the best example of these collective benefits as it is one of the first countries to unbundle its electric network system.²⁰⁰ Not only did foreign investments in the company skyrocket, but the UK also saw its transmissions costs fall roughly 50%.²⁰¹ The country also saw a great deal of technical innovation, coupled with increased pipeline capacity, which resulted in decreased prices to consumers.²⁰² Unbundling also yielded many benefits in the gas market through the “development of significant new LNG and pipeline capacity, which has led to the rapid reverse of the high 2005 price levels.”²⁰³

Despite all of the benefits brought by unbundling, it also yields a number of downsides. When unbundling is pursued by a state or country, sometimes information problems arise.²⁰⁴ Once an organization dismantles into a separate wholesale generation company, transmission company, and retail distributor, the internal communication lines also cease to exist. Individuals no longer simply dial an intra-office extension, but instead must call another company and speak to a potentially new or different individual. Members of management that were previously accustomed to sharing corporate strategies and deals with one another must now exercise extreme confidentiality. There is much to be said for the “synergy benefits”²⁰⁵ yielded by a vertically structured organization.

Additionally, although the direct cost of electricity to consumers may decrease in the long run, the initial structural and implementation costs may be enormous and potentially “not be outweighed by the effect of savings from introducing competition in the area of supply.”²⁰⁶ Quite simply, unbundling risks must be examined with the utmost level of scrutiny. In some cases, the implementation costs may even be prohibitive for the companies forced to unbundle. For instance, unbundling “may increase [the] cost of capital and reduce investment if size of firms fall.”²⁰⁷ Structural costs incurred through the unbundling process are also not to be taken lightly. Some of these “one-off transactions costs of unbundling” entail “the cost of the introduction of

199. *Id.*

200. See Lowe et al., *supra* note 35, at 30 (describing the effects of a gradual unbundling process in the United Kingdom).

201. *See id.*

202. *See id.*

203. *Id.*

204. Milciuviene & Tikniute, *supra* note 15, at 85; *see also* Slabá, *supra* note 7, at 86 (citing asymmetric information as a reason natural gas prices increased after unbundling in the Czech Republic).

205. Milciuviene & Tikniute, *supra* note 15, at 85.

206. Slabá, *supra* note 7, at 90.

207. Milciuviene & Tikniute, *supra* note 15, at 85.

new ICT processes and programme management, costs related to changes in personnel and housing, legal costs, as well as costs associated with rearranging the other contracts of the companies with third parties.”²⁰⁸

In small countries, the cost increases accompanying unbundling may prove particularly deleterious. The Czech Republic serves as a good example of the fate that may await many countries of comparable size. First, following the entrance of unbundling, natural gas prices in the Czech Republic increased significantly.²⁰⁹ Furthermore, “[t]he implementation of accounting, functional and legal unbundling created additional costs for TSO and [distribution system operators (DSOs)], especially in the area of information systems.”²¹⁰ High natural gas prices, coupled with expensive structural and transitional costs, will result in higher electricity costs to consumers.²¹¹ Unbundling will not provide any useful benefits to a country like the Czech Republic, where margin-based competition is extremely low.²¹² In fact, “[e]ven the hardest fought competition can bring savings of up to 1–3% of the gas price to the end-customers.”²¹³

The introduction of unbundling may also even result in increased regulatory oversight of a nation’s gas and electrical markets.²¹⁴ Sometimes the unbundling process is approached in an overly liberal manner and introduced too quickly. For instance, a state may order the dismantling of vertically integrated market structures without instituting proper regulatory measures in order to guard against potential market abuse.²¹⁵ As a result, the newly unbundled organization may continue to engage in anti-competitive market behavior, albeit in different forms.²¹⁶ Eventually, this behavior will begin to cause major problems in the market and the government will be forced to step in, taking drastic steps to stymie harmful actions and leading to a situation of potentially destructive overregulation.²¹⁷ Because, “from the regulator’s point of

208. Haucap, *supra* note 181, at 310.

209. *See* Slabá, *supra* note 7, at 86.

210. *Id.*

211. *See id.* (explaining the increase in natural gas prices as a result of unbundling will be borne by the consumers).

212. *See id.* at 88 (noting that price competition between EU players is limited to margin-based competition and the Czech Republic’s margins were low before liberalization).

213. *Id.*

214. *See* Milciuviene & Tikniute, *supra* note 15, at 85.

215. *See generally* *The History of Regulation*, NATURALGAS.ORG, <http://www.naturalgas.org/regulation/history> (last visited Apr. 19, 2015) (outlining the process the United States took to unbundle and the challenges the process entailed).

216. *See id.* (discussing how despite steps to deregulate the natural gas market in the United States there was still discrimination by allowing industrial customers to purchase the gas directly from producers and transport the gas via pipelines).

217. *See id.* (detailing the FERC orders designed to eliminate discrimination in the United States natural gas market).

view, legal unbundling, contrary to vertically integrated configuration, decreases the cost-transparency of the network companies.”²¹⁸

VI. FACTORS PREVENTING UNBUNDLING

The European Union’s crawl towards unbundling and liberalization of the gas and electricity markets can broadly be “[attributed] to their failure to restructure vertically and horizontally and to create the necessary network access, pricing and wholesale market institutions to create a robust wholesale market.”²¹⁹ Despite their obvious inability to successfully complete the unbundling process, the EU’s failure can be attributed to a few distinct factors that, with the proper remedies, might result in the EU eventually achieving full market liberalization in both markets.

The first factor impeding the EU’s market liberalization process is the lack of a truly coherent EU unbundling policy. Although the EU has set forth a clear agenda for what it hopes to achieve, it has allowed the different visions of each of its Member States to chip away at its underlying goals, thus resulting in fractured implementation of its plan.²²⁰ Not only does each country have its own standards for implementing the unbundling process, but many countries also openly disagree with the EU’s liberalization policy.²²¹ For instance, “there are also different institutional conditions of individual Member States, which determine European implementation into the practise of each country”²²² and “clearly fault lines between Member States and between the Council and Commission have emerged.”²²³ If every country were in agreement with the unbundling process, delegating the operation and implementation of unbundling to each state might prove possible. However, there are nations within the EU that actively seek to halt the process. For instance, in Lithuania, although it “is formally consistent with the directives of the European Union, [it] does not safeguard the existence of competition in electricity market[s].”²²⁴

218. Slabá, *supra* note 7, at 87.

219. Paul L. Joskow, *Lessons Learned From Electricity Market Liberalization*, THE ENERGY J. 9, 20 (2008) [hereinafter Joskow, *Lessons Learned*], available at <http://economics.mit.edu/files/2093>.

220. See Lowe et al., *supra* note 35, at 25 (explaining that “even where Member States have adopted the unbundling provisions . . . this does not mean that network operators necessarily comply with them”).

221. See Slabá, *supra* note 7, at 85 (noting that different institutional conditions of individual Member State determines European implementation in each country); see also Mang, *supra* note 6 (discussing EU market governance has been limited because each Member State had different geopolitical approaches to energy security).

222. Slabá, *supra* note 7, at 85.

223. Mang, *supra* note 6.

224. Milciuviene & Tikniute, *supra* note 15, at 87.

Additionally, even though industry consumers may choose their suppliers, two of the nation's distribution companies still have monopolies within the country.²²⁵ In fact, "the public supplier in 2007 supplied 87 percent of electricity [and] [o]nly a few industry consumers switched to another supplier."²²⁶ Going a step further, even when companies try to comply with the EU unbundling process, their efforts prove fruitless, as they are unable to decipher exactly what it is they are supposed to do in order to successfully unbundle. The EU has told them to unbundle, but has not instructed them how to do so. For example, "[e]ven where there is a more sincere attempt to abide by the letter and spirit of the current unbundling rules, the network company is often unclear of its objective and role."²²⁷ EU Member States lack the requisite knowledge to unbundle, and without meaningful direction and guidance from the EU, their efforts will continue to be unsuccessful. It is these differences in the implementation of the unbundling process among the various EU Member States that have resulted in the disunity of the EU's liberalization efforts and its overall failure.

Other factors contributing to the EU's inability to achieve market liberalization are the structure of the market itself and the organization of the players within the market. State ownership of a significant number of vertically integrated European companies results in a tenuous relationship with state regulatory authorities in which state-run companies hold the upper hand, and the realm of regulatory enforcement and authority becomes hazy.

Within various Member States, the vertically integrated companies that operate the gas and electrical markets are state-owned.²²⁸ This places these state-run companies in "dominant position[s]"²²⁹ relative to the regulatory authorities that are "under-empowered and lack independence from government."²³⁰ For instance, "[i]n principle, a public owner should be treated as any other owner" and "[i]rrespective of its public or private nature, no person or group of persons should be able alone or jointly to influence the composition of the boards, the voting or decision making of either transmission system operators or the supply or production companies."²³¹ Nevertheless, these state-run vertically

225. *See id.* ("[P]ublic supply activities are not even legally unbundled form [sic] distribution activities as VST AB in Western part of Lithuania and Rytu Skirstomieji Tinklai AB in Eastern part of Lithuania have monopolistic rights of electricity public supply and distribution.").

226. *Id.*

227. Lowe et al., *supra* note 35, at 25.

228. *See* Milciuviene & Tikniute, *supra* note 15, at 84.

229. Mang, *supra* note 6.

230. *Id.*

231. Milciuviene & Tikniute, *supra* note 15, at 84.

integrated companies wield large amounts of power and are able to withstand EU liberalization efforts.

The primary reason these state-run vertically integrated companies so fervently resist unbundling and market liberalization in both the gas and electrical markets is that these players simply have “no incentive to develop the network . . . [and] have an inherent interest to limit the investments benefitting its competitors.”²³² These companies relish the power they wield and do not want to do anything that might detract from this.²³³ Many of them not only “control essential facilities but also enjoy significant market power in the wholesale and sometimes retail markets.”²³⁴ Why would an entity risk decreasing its power and lowering its profits in order to advance an overarching EU liberalization policy? Quite simply, “the profitability of their supply business trumps their interest in increasing their (regulated) network business.”²³⁵ Despite the plans put forth by the EU advancing unbundling in both the gas and electrical markets, the advancement of this formal outline does little to solve the underlying conflict of interest that abounds.²³⁶ During one of the Sector Inquiries carried out by the Commission, the governing body discovered that transmission system operators were offering exclusive discounts to affiliates and not to nonaffiliated network users.²³⁷ Furthermore, in Italy, Ente Nazionale Idrocarburi (ENI), one of the major vertically integrated companies in the nation, was found to be working to prevent the country from expanding the holding capacity of the Trans Tunisian Pipeline so that third parties would not be able to compete with its supplies.²³⁸

Aside from the pure Machiavellian reasons for resisting unbundling and liberalization, vertically integrated companies do not want to unbundle for several practical reasons as well. First, unbundling presents significant organizational challenges, as the companies forced to separate are already very integrated and essentially share everything.²³⁹ For example, they “share physical assets such as office buildings and IT systems [and] [e]mployees working for the supply and for the transport company still work in the same premises and meet each other on a regular basis.”²⁴⁰ Breaking a company into separate pieces proves very difficult when the various parts are so closely intertwined. Furthermore,

232. *Id.* at 85.

233. See Haucap, *supra* note 181, at 302–03 (discussing the incentives for vertically integrated companies to resist ownership unbundling).

234. Milciuvienė & Tikniute, *supra* note 15, at 85.

235. Lowe et al., *supra* note 35, at 27.

236. Milciuvienė & Tikniute, *supra* note 15, at 85.

237. See Lowe et al., *supra* note 35, at 26.

238. *Id.* at 27.

239. See *id.* at 28 (describing the physical realities of vertically integrated companies).

240. *Id.*

the unbundling process proves repugnant to vertically integrated companies because it causes them significant financial harm.²⁴¹ For instance, many of these companies are forced to renegotiate contracts that “generate one-off transaction costs”²⁴² and increases their expenditures. In sum, “[u]nbundling undermines the financial strength of energy companies, putting investment at risk and allowing them to pass into foreign hands.”²⁴³ Their very existence may be put in jeopardy. Unbundling generates real disadvantages for vertically integrated companies.

Europe’s pipeline structure and its general unwieldiness also present another practical reason for Member States’ failure to successfully unbundle. In fact, “basic infrastructure links are still largely absent between Member States.”²⁴⁴ Inviting third-party market participants proves difficult if they do not have access to a pipeline through which they can ship their product. Not only is the pipeline aging and unwieldy, but there is no fluid inter-state pipeline system that connects all of the countries in some way.²⁴⁵ For instance, “[i]nternal cross-border connections remain undeveloped and limited and are a major challenge for the EU.”²⁴⁶ Furthermore, there is only one pipeline connection between Eastern and Western EU oil networks.²⁴⁷ Instead, countries within the European pipeline system are separated into several distinct parts, one of which is owned and operated by the North American Treaty Organization.²⁴⁸ As a result, many are forced to rely on one predominant supplier for their natural gas and oil needs rather than simply reaching out to their neighboring countries and suppliers.

Perhaps one of the most poignant reasons the EU has been unable to successfully liberalize the gas and electrical markets is that regulatory authorities lack the requisite authority necessary to enforce the various processes involved. The governance structure currently in place does not allow the EU authorities to ensure that the liberalization process is efficiently carried out. First, both the rules and the enforcement mechanisms in the EU are weak.²⁴⁹ In fact, “the current rules on separation of monopolistic network activities from the supply and production of energy do not effectively prevent a large number of

241. See Haucap, *supra* note 181, at 308.

242. *Id.*

243. *Id.*

244. Mang, *supra* note 6.

245. See *id.*

246. *Id.*

247. See ASSESSMENT, *supra* note 153, at 12 (“Currently, the only pipeline connection between Eastern and Western EU oil networks is the Ingolstadt-Kralupy-Litinow (IKL) pipeline.”).

248. *Id.*

249. See Milciuviene & Tikniute, *supra* note 15, at 82.

network operators to discriminate against new users.”²⁵⁰ Going a step further, “non-discriminatory access to information cannot be guaranteed as there is no effective means of preventing transmission system operators to release market sensitive information to the generation or supply branch of the integrated group.”²⁵¹ The EU regulatory agencies are both poorly run and insufficiently funded and, as a result, unable to effectively enforce their unbundling processes.²⁵² All too often, “the regulator will simply not have the resources to ensure that unbundling requirements are complied with.”²⁵³ In essence, the EU is asking regulatory bodies to carry out tasks for which they have neither the guidance nor the means to accomplish.

One of the most difficult obstacles facing EU officials in successfully implementing unbundling and market liberalization is the geopolitical situation facing the EU. Market liberalization will not be achieved unless neighboring countries accept or, at the very least, agree to abide by similar norms. The EU is going to need “to convince non-EU consumer countries that world energy markets can work for them.”²⁵⁴ Three levels of cooperation must be met within the European market: (1) the internal EU market; (2) states that have signed on to the Energy Community; and (3) states that are not part of the Energy Community.²⁵⁵ It is the states that are not part of the Energy Community that are of particular concern, considering that some of these states serve as the EU’s largest natural gas suppliers.²⁵⁶ For example, it “is the uneven distribution of gas sources . . . [that] causes the lack of self-sufficiency and the geopolitical dependency on importation of much of Europe on the oligopoly nature of only a limited number of important gas producers out of reach of EU legislation.”²⁵⁷

Russia, in particular, should serve as the EU’s main source of concern because of its proximity and its role as Europe’s main supplier.²⁵⁸ For example, Russia supplies nearly half of the EU’s imported natural gas and “[a]t the same time, the EU is facing increased competition for the

250. *Id.*

251. *Id.* at 85.

252. See Mang, *supra* note 6 (describing the EU’s difficulties in trying to create a single, united energy market); see also Lowe et al., *supra* note 35, at 25 (explaining that national regulators cannot verify whether unbundling occurs in practice).

253. Lowe et al., *supra* note 35, at 28.

254. Mang, *supra* note 6.

255. See Konoplyanik, *supra* note 119, at 1–2 (discussing need for Europe to work with non-EU Member States as well, including North Africa and Asia where major oil and gas pipelines are located).

256. See ASSESSMENT, *supra* note 153, at 8 (detailing Europe’s imports from third country suppliers).

257. Slabá, *supra* note 7, at 85.

258. Mang, *supra* note 6.

supply of energy from non-OECD countries.”²⁵⁹ Russia, on the other hand, is markedly opposed to unbundling and market liberalization as a result of numerous long-term supply and transportation contracts with these vertically integrated companies coupled with its efforts at developing the Nord Stream 3 and 4 and the South Stream.²⁶⁰ Russia does not want pipeline capacity to increase, because that will allow third-party market participants to challenge its current monopoly of the market, especially as it “is the only supplier that is currently making . . . substantial investment in new pipelines to deliver gas to EU countries.”²⁶¹

For many years, Russia has used its energy dominance to manipulate EU Member States and force the EU to bend to its will. For instance, there have been “[o]ver forty cut-offs of energy supplies . . . against the Baltic and Commonwealth of Independent States (CIS) countries since 1991, with fifteen occurring during Putin’s time in office.”²⁶² Gazprom has already announced its desire to flout EU unbundling efforts.²⁶³ It will not allow market liberalization of the gas market unless it can secure its current monopoly.²⁶⁴ Undoubtedly, it will “go to great lengths to maintain its hold on its European gas market share of gas.”²⁶⁵ For this reason, “a more important challenge than the third package will be active foreign policy of the EU, aimed either at opening markets beyond the EU border or at protecting fragile European competition.”²⁶⁶ Should the EU seriously seek to liberalize its gas and electrical markets, it will need to secure energy sources from other nations in order to break Russia’s current hold on its market.

VII. LESSONS LEARNED: THE EVOLUTION OF THE LIBERALIZATION OF THE AMERICAN NATURAL GAS MARKET

A. *History of the American Natural Gas Market*

Despite the downsides that unbundling and liberalization might produce in the gas market, the fact remains that their long-term benefits and secondary effects far outweigh these potentially negative consequences. In fact, “the general trend of public policy has continued to support liberalization and to move forward with additional liberalization reforms in sectors that were once dominated by regulated

259. *Id.*

260. See Yafimava, *supra* note 3, at 53.

261. *Id.* at 46.

262. Mang, *supra* note 6.

263. See *id.* (describing how Gazprom is resisting ownership unbundling in Lithuania).

264. *Id.*

265. *Id.* (internal quotation marks omitted).

266. Slabá, *supra* note 7, at 91.

legal monopolies.”²⁶⁷ Clearly, the EU is taking the right approach in pursuing unbundling of its natural gas market. Nevertheless, the tasks required to successfully unbundle are extremely complex and “costly performance problems may emerge when the transformation is implemented incompletely or incorrectly.”²⁶⁸ For this reason, it is important that the EU carry out its unbundling process not necessarily as quickly as possible, but rather, as effectively as possible. EU officials should look to the United States’ unbundling and deregulation of the natural gas market in order to understand not only what factors allowed the United States to achieve success, but also what lessons they can learn from the United States’ experience. The United States’ “natural gas industry provides an excellent model for how regulatory and structural reforms can be implemented successfully in industries with these characteristics.”²⁶⁹

In its early days, the United States’ natural gas market was dominated by large natural monopolies.²⁷⁰ Producers and pipelines were operated by the same company, which gave them the ability to raise and lower prices at their discretion.²⁷¹ In order to curb the power of these vertically integrated networks, local and state governments decided to form public utility commissions and public service commissions that would oversee and regulate the activities of these local conglomerates.²⁷² Eventually, however, pipeline capacity increased through the creation of interstate pipelines.²⁷³ No longer were production and transportation activities carried out solely within state borders.²⁷⁴ For this reason, the federal government found it necessary to step in and oversee these interstate pipelines, although some state governments also thought that governance of interstate pipelines was their duty.²⁷⁵ Through a series of cases referred to as the “Supreme Court Commerce Clause” cases, the legal doctrine was set forth that “interstate pipeline companies were beyond the regulatory power of state-level government.”²⁷⁶ Thus, the federal government began its march towards creating a comprehensive regulatory structure to monitor these vertically integrated companies.

267. Joskow, *Lessons Learned*, *supra* note 219, at 10.

268. *Id.* at 15.

269. Joskow, *Deregulation*, *supra* note 1, at 28.

270. See *The History of Regulation*, *supra* note 215.

271. See *id.*; see also Richard J. Pierce, Jr., *The Evolution of Natural Gas Regulatory Policy*, 10 NAT. RES. & ENV'T 53, 53 (1995) [hereinafter Pierce, *Evolution*] (discussing how pipelines were using monopoly power to extract higher prices from local distribution companies).

272. See *The History of Regulation*, *supra* note 215.

273. *Id.*

274. *Id.*

275. *Id.*

276. *Id.*

The federal government's first act was the creation of the Natural Gas Act of 1938 (the 1938 Act), the first piece of regulation that would send the government on its path towards overregulation.²⁷⁷ The 1938 Act gave power to the Federal Power Commission (FPC), a federal regulatory body charged with oversight of the natural gas market, to regulate interstate natural gas sales.²⁷⁸ This act was followed shortly thereafter by the Phillips decision, which gave the FPC authority over natural gas producers.²⁷⁹ Now the federal government could set the price of natural gas at its sole discretion.²⁸⁰ The FPC created a method for calculating sales prices called the "cost-of-service" rate,²⁸¹ which would determine prices based on "the cost of providing the service, rather than the market value of that service"²⁸² and would "allow companies to charge prices high enough to cover the actual costs of producing natural gas, plus a 'fair' profit."²⁸³ Nevertheless, this process would prove cumbersome for the FPC. Although they had been able to use this method with the few existing interstate pipelines, because there were so many producers, this cost-of-service market pricing method became "an extreme administrative burden."²⁸⁴ The FPC was forced to divide the country into five different regions and set a price for each region based on average contract prices within that region.²⁸⁵

Nevertheless, the damage had been done to the natural gas market. Although low natural gas prices benefitted consumers, the same benefit was not conferred upon producers. On the contrary, "there was little incentive for natural gas producers to devote the money required to explore for and produce new natural gas reserves."²⁸⁶ Because it was not economically profitable for producers to search for natural gas reserves and produce them, they ceased to do so.²⁸⁷ As a result, consumer demand

277. *See id.* (noting that [w]hile the NGA required that "just and reasonable" rates for pipeline services be enforced, it did not specify any particular regulation of prices of natural gas at the wellhead").

278. *Id.*; *see also* Pierce, *Evolution*, *supra* note 271, at 53 (explaining that Congress instructed the FPC "to regulate interstate pipelines as if they were utilities.").

279. *See The History of Regulation*, *supra* note 215 (explaining how the FPC was found to have jurisdiction over wellhead prices); *see also* Pierce, *Evolution*, *supra* note 271, at 54 (explaining FPC jurisdiction included the power to regulate the price of natural gas sold by independent producers in interstate commerce).

280. *See The History of Regulation*, *supra* note 215 (describing gas producers as being regulated as a public utility); *see also* Pierce, *Evolution*, *supra* note 271, at 54 (describing the backlog of FPC rate cases).

281. *The History of Regulation*, *supra* note 215.

282. *Id.*

283. *Id.*

284. *Id.*

285. *See id.*

286. *Id.*

287. *Id.*

shot up while production decreased, thus leading to perilous natural gas shortages throughout the late 1960s and 1970s.²⁸⁸

Following the gas shortages that spanned nearly two decades, the federal government saw that action was necessary in order to reverse the harm that had been done. For this reason, the government began to institute a process of liberalization in the natural gas market in order to stabilize prices and balance demand.²⁸⁹ The first step in this process was the enactment of the Natural Gas Policy Act of 1978 (the 1978 Act).²⁹⁰ The goals of this act were: “[c]reating a single national natural gas market; [e]qualizing supply with demand; [and] [a]llowing market forces to establish the wellhead price of natural gas.”²⁹¹ The 1978 Act abolished the FPC and created the Federal Energy Regulatory Commission (FERC) in its place, giving it the same responsibilities except for the placement of the international export of petroleum resources under the authority of the Department of Energy.²⁹² The 1978 Act also put in place a series of price ceilings, designed to motivate producers to commence their exploration and production of natural gas resources that would phase out over several years.²⁹³

Despite the federal government’s efforts, the natural gas market would take another hazardous swing before reaching some sort of equilibrium. Now facing high natural gas prices, producers began to make large investments in resource exploration and production.²⁹⁴ Whereas previously they had halted exploration efforts, now they began to funnel their resources into ramping up their supplies.²⁹⁵ Additionally, “[p]ipelines, accustomed to gas shortages in the past years, signed up for many long-term natural gas contracts.”²⁹⁶ Nevertheless, consumer demand decreased because of higher prices and oversupply resulted.²⁹⁷ Pipelines were forced, through take-or-pay contracts, to purchase natural gas that they would not sell, and consumers “sought the right to purchase

288. *See id.*; *see also* Pierce, *Evolution*, *supra* note 271, at 54 (detailing the shortages of the 1970s).

289. *See The History of Regulation*, *supra* note 215 (“The Natural Gas Policy Act took the first steps towards deregulating the natural gas market, by instituting a scheme for the gradual removal of price ceilings at the wellhead.”).

290. *See id.*

291. *Id.*

292. *See id.*; *see also* Pierce, *Evolution*, *supra* note 271, at 54 (explaining that the FERC was tasked with implementing a new regulatory regime in the natural gas industry).

293. *See The History of Regulation*, *supra* note 215; *see also* Pierce, *Evolution*, *supra* note 271, at 55 (detailing the effect of the Natural Gas Policy Act).

294. *See The History of Regulation*, *supra* note 215.

295. *See id.*

296. *Id.*

297. *See The History of Regulation*, *supra* note 215; *see also* Pierce, *Evolution*, *supra* note 271, at 55 (“[A]s the price of gas increased, the quantity of gas demanded fell rapidly, the quantity of gas supplied rose rapidly, and the market price of gas plummeted to well below the statutory ceiling prices.”).

their own gas from producers . . . instead of purchasing the bundled product directly from the pipelines.”²⁹⁸

In response to this second market swing, the federal government began to formally institute its unbundling process through the implementation of three FERC orders. The first FERC Order, Order No. 436, began the process by “establish[ing] a voluntary framework under which interstate pipelines could act solely as transporters of natural gas, rather than filling the role of a natural gas merchant.”²⁹⁹ Although the mandate was purely voluntary and although rate ceilings and floors still existed, this order was the first step in separating the activities of producers from pipeline companies.³⁰⁰ Regardless, a number of benefits came about as a result of this order. For example, pricing was now based on sales directly at the spot rather than take-or-pay contracts.³⁰¹ As a result, “[p]ipeline customers realized cost savings.”³⁰² More broadly, this order established that pipelines were to serve mainly as transporters rather than merchants and also resulted in a wide array of new pricing patterns.³⁰³ FERC Order No. 436 was followed by the Natural Gas Wellhead Decontrol Act of 1989, which completely deregulated wellhead gas prices.³⁰⁴ It was not until FERC Order No. 636, however, that the unbundling process would be completed. This order forced pipelines to “separate their transportation and sales services” and formally abolished the ability of pipelines to serve as merchants.³⁰⁵ It was “the culmination of all of the unbundling and deregulation that had taken place in the past 20 years.”³⁰⁶

B. Lessons from the Deregulation of the American Natural Gas Market

Europe has already implemented some unbundling in its natural gas market through its three energy directives.³⁰⁷ Nevertheless, there is still much to be learned from the United States’ example. Europe’s

298. *The History of Regulation*, *supra* note 215.

299. *Id.*

300. *See id.*; *see also* Pierce, *Evolution*, *supra* note 271, at 55 (describing the FERC orders designed to reverse decades of poor policy decisions).

301. *See The History of Regulation*, *supra* note 215; *see also* Pierce, *Evolution*, *supra* note 271, at 55 (describing FERC Order No. 436 as giving industrial consumers and local distribution companies the freedom to purchase natural gas directly from the producer).

302. *The History of Regulation*, *supra* note 215.

303. *See id.*; *see also* Pierce, *Evolution*, *supra* note 271, at 55 (consumers could buy directly from the producers).

304. *See The History of Regulation*, *supra* note 215 (explaining that deregulation formally occurred with passage of the Act); *see also* Pierce, *Evolution*, *supra* note 271, at 84 (describing the Act as ratifying the FERC de facto deregulation of the gas market).

305. *The History of Regulation*, *supra* note 215.

306. *Id.*

307. *See* First Electricity Directive, *supra* note 35; First Gas Directive, *supra* note 35; Second Electricity Directive, *supra* note 41; Second Gas Directive, *supra* note 41; Third Electricity Directive, *supra* note 103; Third Gas Directive, *supra* note 103.

liberalization efforts have not gained the level of success that those at the highest level of the EU had hoped.³⁰⁸ For this reason, it is all the more important to look at the American unbundling process and procedure in order to understand what might help the EU achieve the same level of success. Furthermore, the EU can also look to the American liberalization of the natural gas market in order see what actions should also be avoided.

The first lesson that the EU can learn from the American natural gas liberalization experience is the importance of focusing on the initial transition process and making sure that the mechanisms necessary for the transition are properly in place. Like the United States, the EU needs a clear, coherent process to move unbundling and liberalization forward. The transition process is arguably the most pivotal point in guaranteeing a successful move to a deregulated market. For example, “the preoccupation with transition costs so apparent from the gas transition is one of four reasons why the electricity transition is likely to be difficult and painful.”³⁰⁹ Furthermore, the transition process should not be rushed and should be implemented gradually. This is not a feat that will be accomplished overnight. Only after success is achieved at one level should the government move on to the next step in the unbundling process.

Perhaps the best feature of the American natural gas liberalization process is the series of steps through which it progressed in its unbundling process.³¹⁰ The United States had a clear policy that it was following as it went about dismantling these vertically integrated structures. The United States federal government did not just institute unbundling and liberalization across the board within a day. Rather, the government took the unbundling process and isolated the individual parts of the natural gas industry, specifying which parts were to be changed and when.³¹¹ The United States’ process was precise and formulaic, and the first thing that the federal government did was to create an overarching federal regulatory body that would oversee the efforts of all of the local regional regulatory bodies and any interstate commerce.³¹² There was to

308. *The Long Road to European Energy Market Liberalization*, TABB FORUM (Aug. 1, 2013), <http://tabbforum.com/opinions/the-long-road-to-european-energy-market-liberalization>; see also Nick Cunningham, *Why Europe Wants to Build an Energy Union*, CHRISTIAN SCIENCE MONITOR (Feb. 9, 2015), <http://www.csmonitor.com/Environment/Energy-Voices/2015/0209/Why-Europe-wants-to-build-an-energy-union> (arguing that the EU lacks a legal framework to achieve the goal of a unified energy sector).

309. Richard J. Pierce, *The State of the Transition to Competitive Markets in Natural Gas and Electricity*, 15 ENERGY L.J. 323, 326–27 (1994) [hereinafter Pierce, *Transition*].

310. See generally *The History of Regulation*, supra note 215 (detailing the gradual process of deregulation in the American natural gas industry); see also Pierce, *Evolution*, supra note 271, at 54–85 (same).

311. See *The History of Regulation*, supra note 215.

312. See Pierce, *Evolution*, supra note 271, at 54; *The History of Regulation*, supra note 215.

be no confusion as to the government body that would be leading the unbundling process. Next, instead of instantly repealing the cost of service method that the FPC had previously been using to calculate natural gas prices for consumers, the FERC instituted a price ceiling to constrain consumer prices.³¹³ Although the price ceiling may have been substantially higher than the market was ready to handle, the FERC did not completely leave prices to be dictated by the market.³¹⁴

The FERC's next move was to establish an order that would acclimate producers, pipelines, and consumers to unbundling and the new liberalized market. FERC Order No. 436 opened the gates to pipeline companies serving as transporters rather than merchants.³¹⁵ Rather than forcing pipelines to open their transmission capacity and refrain from selling gas, instead, the FERC made these activities only voluntary.³¹⁶ By doing so, the FERC placed the reigns of liberalization in the hands of the consumers. Consumers would have the option to purchase natural gas directly from the producers and could then independently figure out the best pricing methods and mechanisms for purchasing their gas and then transporting it. At the same time, the FERC still kept the price ceilings and floors in order to ensure that no radical pricing mechanism arose that could harm the market.³¹⁷ After discovering what worked best for them, consumers would then independently return to this method. Rather than the government driving the liberalization process, the consumers instead would be pushing it, thus increasing its chances for success. The government can pass all of the regulations that it wants, but if consumers do not respond, the regulations are merely pieces of paper without any power.

After getting all members of the production chain used to this new type of organization, the FERC then removed the price floors and ceilings through the Natural Gas Wellhead Decontrol Act of 1989; removing the price floors and ceilings allowed the market to operate completely devoid of any guidance.³¹⁸ Although unbundling itself was still voluntary, producers and consumers could set the prices as high or as low as they felt necessary. Because FERC's Wellhead Decontrol Act was met with success, the FERC then passed Order No. 636, which mandated the separation of production, transportation, transmission, and sales

313. See Pierce, *Evolution*, *supra* note 271, at 55; *The History of Regulation*, *supra* note 215.

314. See *The History of Regulation*, *supra* note 215; see also Pierce, *Evolution*, *supra* note 271, at 55 (describing the Natural Gas Policy Act as gradually replacing price ceilings with prices determined by market forces).

315. See *The History of Regulation*, *supra* note 215; see also Pierce, *Evolution*, *supra* note 271, at 55 (describing FERC Order No. 436 as encouraging pipelines to become carriers).

316. See Pierce, *Evolution*, *supra* note 271, at 55; *The History of Regulation*, *supra* note 215.

317. See *The History of Regulation*, *supra* note 215; see also Pierce, *Evolution*, *supra* note 271, at 55 (discussing how price ceilings supplemented flexible pricing).

318. Pierce, *Evolution*, *supra* note 271, at 84; *The History of Regulation*, *supra* note 215.

companies.³¹⁹ This act, however, was almost like an afterthought, as the natural gas market had already been operating under the aegis of liberalization for seven years.³²⁰ The FERC operated so fluidly that it almost tricked the market into accepting its liberalization policies.

Europe, like the United States, has instituted transitional processes for unbundling its natural gas markets. Similar to the United States, Europe implemented its unbundling process through a series of steps.³²¹ However, unlike the United States, Europe's steps were not carried out effectively. The EU also lacks a clear policy for how to pursue these measures. For instance, whereas the United States had a global vision and implemented its plan piece by piece, each step building on the other and ultimately resulting in the completion of the overall vision, Europe merely threw a variety of disparate components together.³²² Europe went and identified different problems and attempted to solve them in isolation rather than focusing on one item, solving that item, and then broadening its scope.³²³ Europe is, metaphorically speaking, looking at the individual trees rather than the entire forest. For example, in the First Directive, it immediately penalized transmissions officers who discriminated against suppliers and only then in the Second Directive focused on the structural causes of discrimination, erasing distinctions between gas flows and allowing non-discriminatory access to all suppliers.³²⁴ The EU, so to speak, put the cart before the horse. The EU was penalizing companies before it had really even substantively instituted unbundling in the marketplace, and their methods appeared haphazard. Furthermore, unlike the United States, who tackled the main problem immediately in its transition process, initially recognizing that pipelines needed to serve as transporters and nothing more,³²⁵ the EU focused on other more mundane tasks. For instance, instead of encouraging consumers to begin purchasing gas directly from producers,

319. See *The History of Regulation*, *supra* note 215 (“[Order No. 636] required the restructuring of the interstate pipeline industry; the production and marketing arms of interstate pipeline companies were required to be restructured as arms-length affiliates.”).

320. See *id.*; see also Pierce, *Evolution*, *supra* note 271 (outlining the steps of the deregulation of the American natural gas market).

321. See Kroes, *supra* note 15, at 1390, 1402; Slabá, *supra* note 7, at 81; Yafimava, *supra* note 3, at 8; *Priority Interconnection Plan*, *supra* note 94.

322. See Kroes, *supra* note 15, at 1389–95 (discussing problems from the First and Second Directives).

323. See *id.* at 1389 (describing the early liberalization process as being implemented differently in each Member State).

324. See Lowe et al., *supra* note 35, at 23; see also *Internal Market for Natural Gas*, *supra* note 44 (requiring nondiscriminatory access to third-parties); Yafimava, *supra* note 3, at 8 (explaining the equalizing measures instituted by the EU).

325. See Pierce, *Evolution*, *supra* note 271, at 54; *The History of Regulation*, *supra* note 215.

the EU pursued accounting unbundling of the various entities.³²⁶ Although it is important that the accounting of the various companies within the vertically organized entity be separate, this is more of a technical issue that could have been addressed at a later time. The EU would have better focused its efforts had it focused on inducing industry consumers to directly approach natural gas producers and circumvent pipelines.

Another lesson that the EU can gain from the American experience of liberalization of the natural gas market is the importance of the avoidance of overregulation. It is possible to change the faulty structure and organization of a monopolistic market without overregulating. Early in the United States' history, when it was dominated by natural monopolies, the federal government crippled the market through overregulation.³²⁷ Rather than seeking to break apart the monopolies, the federal government decided that it would regulate them instead.³²⁸ It then insisted on regulating every possible area of the natural gas market, including the methods for calculating the price of natural gas.³²⁹ These actions eventually led to market shortages, because natural gas producers refused to invest in exploration efforts, as they would not ultimately receive any return on their investment.³³⁰ It took decades for the United States to unravel the havoc it had wreaked in the market through overregulation.³³¹

Once, however, the United States brought the natural gas market to a point of equilibrium after its unbundling process, it did not completely deregulate the entire market.³³² The United States understood that maintaining a healthy market structure would require a mix of liberalization, coupled with regulation in only the most necessary areas. It recognized that although a minimal amount of regulation was optimal, there were, in fact, areas that required government oversight. The federal government understood that certain items, like pipelines, were public goods and should be placed outside the realm of the free market.

326. See Kroes, *supra* note 15, at 1390 (explaining that the first Electricity and Gas Directives required accounting and management unbundling for electricity and only accounting unbundling for gas).

327. See generally *The History of Regulation*, *supra* note 215 (discussing the history of regulation in the American Natural Gas industry); Pierce, *Evolution*, *supra* note 271 (outlining the steps of the deregulation of the American natural gas market).

328. See generally *The History of Regulation*, *supra* note 215; Pierce, *Evolution*, *supra* note 271.

329. See generally *The History of Regulation*, *supra* note 215; Pierce, *Evolution*, *supra* note 271.

330. See *The History of Regulation*, *supra* note 215.

331. See *id.*; Pierce, *Evolution*, *supra* note 271.

332. See *The History of Regulation*, *supra* note 215 (noting that the pipelines must ensure equal access to all customers); see also Pierce, *Evolution*, *supra* note 271, at 55 (discussing cost-of-service regulation to allow pipelines to recover stranded costs).

As a result, the government placed interstate pipelines under federal regulation, forcing them to serve only as common carriers without any merchant capabilities.³³³ Today, the FERC “determines the rate-setting methods for interstate pipeline companies, sets rules for business practices, and has the sole responsibility for authorizing the siting, construction, and operations of interstate pipelines.”³³⁴ The same standards apply to local distribution companies.³³⁵ The FERC, however, does not regulate these same areas for either natural gas producers or marketers.³³⁶ Although natural gas producers must approach the government for authority to drill on federal lands, “the prices they charge[] are a function of competitive markets.”³³⁷ The FERC now regulates smartly, rather than harshly.

Whereas the United States progressed from stages of monopolization to overregulation and then to liberalization, the EU is currently at the monopolization stage. As a result, the EU can learn from the United States’ experience and avoid the process of overregulation, looking specifically at the industries that the United States has regulated and the manner in which it has regulated them. In order to fix the EU’s market structure, the EU will need to allow the greatest possible amount of freedom to producers, while ensuring that pipelines and local distributors are properly governed. The EU has taken regulatory steps in its process towards achieving liberalization, and it has not yet reached a harmful level of overregulation—but, if it is not careful, it just might. Already the EU has issued three energy directives aimed at unbundling its natural gas market.³³⁸ Fortunately, these Energy Directives have had little effect on the market, largely because they all promulgate variations of the same thing.³³⁹ However, should the EU formulate regulations with actual teeth, the EU might find itself regulating areas that should not be regulated. The key for the EU will be to find a delicate balance between allowing consumer demand to flourish while simultaneously ensuring that producers and pipelines operate independently from one another.

There are two key reasons that the EU has found its three energy directives to be largely unsuccessful: (1) a lack of an adequately authoritative national (in the EU’s case, communal) level regulatory

333. See *The History of Regulation*, *supra* note 215; see also Pierce, *Evolution*, *supra* note 271, at 55 (discussing the use of an electronic bulletin board to foster open access).

334. *About U.S. Natural Gas Pipelines*, U.S. NATURAL GAS REGULATORY AUTHORITIES, U.S. ENERGY INFORMATION ADMINISTRATION, http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/regulatory.html (last visited Apr. 19, 2015).

335. See *The Market Under Regulation*, NATURALGAS.ORG, <http://naturalgas.org/regulation/market> (last visited Apr. 19, 2015).

336. *Id.*

337. *Id.*

338. See Kroes, *supra* note 15, at 1440; Yafimava, *supra* note 3, at 8.

339. See Joskow, *Lessons Learned*, *supra* note 219, at 19–20.

authority; and (2) recognition by Member States of the legitimacy of that governing body. The first action the United States took when beginning its unbundling process was to create the FERC.³⁴⁰ The FERC was a government agency “designed to be independent from any undue political party influence or affiliation, as well as independent from any influence from the executive or legislative branches of government, and industry participants, including the energy companies over which it has oversight.”³⁴¹ The FERC would exist solely for the governance and operation of the energy markets.

More importantly, however, when the United States created the FERC, it endowed it with both the authority and the legitimacy necessary to ensure that the states would comply with its orders.³⁴² The FERC will take immediate action to punish entities that refuse to comply with government regulations or simply disregard them.³⁴³ For example, the FERC’s “plenary and preemptive power to authorize construction or expansion of gas pipelines” was critical to the success of the gas transition.³⁴⁴ In one particular instance, when entities sought to construct the Iroquois Pipeline, a number of very wealthy individuals in the northeastern United States protested its construction.³⁴⁵ Despite their efforts, the FERC granted the necessary approvals for the pipeline’s construction and ignored the citizens’ entreaties.³⁴⁶ Although the citizens still did not agree with the FERC’s decision, there was nothing they could do.³⁴⁷ The FERC’s decision was the final word.

Similar to the FERC, the EU has established the ACER to oversee and enforce the various EU energy directives.³⁴⁸ But, the ACER lacks the authoritative force wielded by the FERC. I believe that the FERC’s greater authority relative to its European cousin stems from the individual states’ greater respect for the authority of the American federal government as a whole. Because the EU is still a relatively new community, overarching community-governing bodies are still struggling to gain legitimacy in the eyes of individual Member States. The EU is still comprised of independent nation-states that have very different ideas about how energy markets should be run.³⁴⁹ Furthermore, the EU really

340. See Pierce, *Evolution*, *supra* note 271, at 54; *The History of Regulation*, *supra* note 215.

341. *The Market Under Regulation*, *supra* note 335.

342. See *id.*

343. See *Enforcement*, FEDERAL ENERGY REGULATORY COMMISSION (Nov. 20, 2014), <http://www.ferc.gov/enforcement/enforcement.asp> (describing the FERC’s power to impose civil penalties and disgorge unjust profits).

344. Pierce, *Transition*, *supra* note 309, at 333.

345. See *id.* at 333–34.

346. See *id.* at 334.

347. See *id.*

348. *About the European Energy Regulators*, *supra* note 133.

349. See Slabá, *supra* note 7, at 85.

does not enforce penalties with the same force that the American government does.³⁵⁰ For this reason, if Europe is really serious about gaining control of its natural gas market and instituting market liberalization, it will need to inject real power into its governing bodies so that it can show Member States that there are ramifications for failing to follow Community mandates.

VIII. LESSONS LEARNED: THE EVOLUTION OF THE LIBERALIZATION OF THE TEXAS ELECTRICITY MARKET

A. *History of the Texas Electrical Market*

Despite the success that the United States has had in completing the unbundling and liberalization of its natural gas market, the same cannot be said of its electricity market.³⁵¹ Despite substantial efforts by the U.S. federal government to push market reform throughout the 1970s, 1980s, and 1990s, the overall results have been unsuccessful.³⁵² For example, the FERC passed Orders 888 and 889, which were aimed at enlarging transmission capacity, increasing market opportunities for third-party market participants, and forcing public utilities to participate in open market information systems.³⁵³ Similarly, the FERC also passed Order 2000 with the intent of breaking vertical integration by instituting independent system operators throughout the nation.³⁵⁴

Nevertheless, the FERC's efforts were not welcomed at the state level.³⁵⁵ In fact, the FERC proposal "was viewed as an ill-advised effort to take power away from the state regulators and to impose a flawed model for the electric power industry on portions of the country that did not want it."³⁵⁶ As a result, progress across the country has been extremely sluggish, even non-existent in some areas, due to states' recalcitrance to implement the FERC orders at the state level.³⁵⁷ Additionally, although the natural gas market was vertically integrated,

350. See Simona Benedettini & Carlos Stagnaro, *Failure to Liberalise Energy Retail Markets Jeopardizes Energy Union*, ENERGY POST (Jan. 16, 2015), <http://www.energypost.eu/failure-liberalise-energy-retail-markets-jeopardizes-energy-union/> (describing the lack of enforcement mechanisms as an important reason for lack of progress in liberalization of energy retail markets).

351. See Paul L. Joskow, *Transmission Policy in the United States*, MIT, at 3 (Oct. 1, 2004) [hereinafter Joskow, *Transmission*], available at <http://economics.mit.edu/files/1178> ("Creating the necessary transmission policies and institutions to support . . . transformation has been complicated . . .").

352. See *id.* at 18–20.

353. See *id.* at 21–23.

354. See *id.* at 29–30.

355. See *id.* at 33–34.

356. *Id.*

357. See *id.* at 50 (describing overall progress as slow).

its level of vertical integration was “modest,”³⁵⁸ whereas the integration in the electricity market was highly vertically integrated,³⁵⁹ thus further complicating liberalization efforts. Finally, the United States’ inability to unbundle the electricity market can be attributed to the FERC’s lack of an articulate policy in this area.³⁶⁰ In sum, “the 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] [t]his is not a good place to be.”³⁶¹

Although the United State has proven incapable of unbundling and liberalizing its electricity market, Texas has achieved success not only in the national arena, but also abroad. For example, “[t]he residential and commercial/industrial electric markets in Texas top the 2012 list of competitive electric markets in the Annual Baseline Assessment of Choice in Canada and the United States”³⁶² and “is frequently cited as North America’s most successful [market] in both generation and retail.”³⁶³ Texas has been able to achieve what both the United States and other developed countries have not. As a result, it is important that the EU look to Texas in order to ascertain the structure and mechanisms that will help them achieve the highest level of success in unbundling their electrical market. For this reason, the EU must look specifically at Texas’ history in unbundling its market in order to figure out (like the exercise conducted above with the American natural gas market) what factors it must emulate in its development and transition process and also what factors it should avoid.

Similar to the historical structure of the American natural gas market, the Texas electrical market and the markets of most other states were dominated by natural vertically integrated monopolies.³⁶⁴ Again, like the American natural gas market experience, the existence of these monopolies led to problems in the market, and a large blackout occurred in 1965 that impacted 30 million Americans.³⁶⁵ As a result, the

358. See Joskow, *Deregulation*, *supra* note 1, at 27 (describing natural gas transportation as a natural monopoly while other segments, such as natural gas production, could be quite competitive).

359. *See id.*

360. See Joskow, *Transmission*, *supra* note 351, at 4 (noting a lack of a clear national policy for a competitive retail market).

361. *Id.* at 52.

362. *Texas Electricity Market Design Most Successful in North America*, DEFG, at 1 (Dec. 17, 2012), available at <http://defgllc.com/news/article/texas-electricity-market-design-most-successful-in-north-america>.

363. Parviz Adib et al., *Texas Electricity Market: Getting Better*, in *EVOLUTION OF GLOBAL ELECTRICITY MARKETS: NEW PARADIGMS, NEW CHALLENGES, AND NEW APPROACHES* 265, 265 (Fereidoon P. Sioshani ed., 2013).

364. *See id.* at 268.

365. THE STEERING COMMITTEE OF CITIES SERVED BY ONCOR & THE TEX. COAL. FOR AFFORDABLE POWER, *THE STORY OF ERCOT: THE GRID OPERATOR, POWER MARKET &*

government created the National Electric Reliability Council (NERC), which oversaw the regulation and maintenance of the American electrical grid.³⁶⁶ In response to the creation of the NERC and its new regulations, Texas independently created the Electric Reliability Council of Texas (ERCOT) in 1970, a non-profit organization that operates independently of the federal government.³⁶⁷ This action could be deemed Texas' first stance in creating an independent, insular electrical market and grid for the state. It was at this point that Texas' clear, defined policy for its electrical market first came to fruition. Five years later, the Texas legislature would create the Public Utility Commission (PUC), which was a state regulatory agency formed to monitor the ERCOT's actions; its purpose would evolve alongside the unbundling of the electrical market.³⁶⁸

Over the course of nearly two decades spanning from the late '70s to the early '90s, the federal government attempted to unbundle electric markets throughout the nation.³⁶⁹ Because federal efforts proved unsuccessful, the Texas Senate took matters into its own hands yet again, and enacted Senate Bill 373 in 1995. The bill opened the market to third-party generators, marketers, and utility affiliates and also forced utilities to provide similar terms and rates to both affiliates and new market competitors.³⁷⁰ The next big step occurred in 2002 when Senate Bill 7 went into effect, which not only opened the retail market to competition, but also required utility companies to "separate their business activities . . . into three separate companies: a wholesale power generation company, a transmission and distribution company and a retail and electric provider."³⁷¹ Once companies separated, if they remained within their locale, they were designated Affiliated Retail Electric Providers (AREPs) while third-party participants who newly entered the region were called Competitive Retail Electric Providers (CREPs).³⁷² The PUC placed a three-year limit on what AREPs could charge consumers (the "price to beat") so that CREPs could offer much lower prices and lure away consumers and foster competition in the marketplace.³⁷³

PRICES UNDER TEXAS ELECTRIC DEREGULATION 19 (Feb. 2011) [hereinafter THE STORY OF ERCOT], available at <http://tcaptx.com/downloads/THE-STORY-OF-ERCOT.pdf>.

366. *See id.*

367. *See id.*

368. TEX. COMPTROLLER OF PUB. ACCOUNTS, THE ENERGY REPORT, CHAPTER 27: ELECTRICITY 351 (May 2008) [hereinafter CHAPTER 27: ELECTRICITY], available at <http://www.window.state.tx.us/specialrpt/energy/pdf/27-Electricity.pdf>.

369. *See* THE STORY OF ERCOT, *supra* note 365, at 20.

370. *Id.* at 21.

371. CHAPTER 27: ELECTRICITY, *supra* note 368, at 355.

372. *Id.*

373. *See id.* at 356.

This same year, the more-efficient nodal market structure was proposed; however, it would not go into effect until several years later.³⁷⁴ Previously, the Texas electrical price system had operated under a zonal structure.³⁷⁵ The nodal market, however, was deemed to be a more efficient method, as pricing would be determined by thousands of nodes throughout the state.³⁷⁶ In fact, “[t]he thinking was that high prices at specific nodes would give investors an economic incentive to build new generation where that generation was most needed.”³⁷⁷ In the meantime, the Texas electrical market took a big hit adjusting to all of the changes occurring within the state as a result of unbundling. Residential prices soared for consumers within the ERCOT market, as electricity became tied to the price of natural gas.³⁷⁸ Market abuse proliferated as entrenched companies used their positions to manipulate the market.³⁷⁹ Operational problems began to manifest themselves through transmission congestion and more simple problems with effective customer service and billing.³⁸⁰

Despite these setbacks, “Texas stayed the course.”³⁸¹ It continued to work to improve the system, with the hope that the switch to the nodal market would improve the deleterious situation.³⁸² For example, from 2005 to 2011, the legislature passed various bills targeting market power abuse and the PUC also created rules.³⁸³ Both entities’ efforts enhanced market transparency, facilitated customer protection, and increased the state’s energy efficiency. Texas was committed to creating an unbundled electrical market free of the power of the federal government, and it continued its march towards a nodal market structure.

374. THE STORY OF ERCOT, *supra* note 365, at 40.

375. *Texas Nodal Market Benefits Observed in First Six Months*, TEXAS COMPETITIVE POWER ASSOCIATES (Jun. 23, 2011), <http://www.competitivepower.org/article/texas-nodal-market-benefits-observed-in-first-six-months>.

376. See MIKE CLEARY, ERCOT, MARKET BENEFITS OBSERVED THE FIRST SIX MONTHS 16 (Jun. 21, 2011), available at http://www.ercot.com/content/meetings/board/keydocs/2011/0621/Item_06_-_Market_Benefits_Report.pdf.

377. THE STORY OF ERCOT, *supra* note 365, at 54.

378. See Adib et al., *supra* note 363, at 270.

379. See *id.* at 273 (discussing PUC’s investigation into Luminant, formerly TXU, for market manipulation).

380. See *id.* at 278.

381. *Id.* at 293 (internal quotation marks omitted).

382. See *id.* at 271–75 (detailing attempts by Texas Legislature and Public Utility Commission of Texas to improve market restructuring).

383. See Tex. S.B. 408, 79th Leg. (2005); Tex. S.B. 20, 79th Leg. (2005); Tex. S.B. 1125, 82nd Leg. (2011); Tex. S.B. 943, 82nd Leg. (2011); Pub. Util. Comm’n of Tex. Substantive Rule 25.501, Wholesale Market Design for the Electric Reliability Council of Texas; Pub. Util. Comm’n of Tex. Substantive Rule 25.504, Wholesale Market Power in the Electric Reliability Council of Texas Power Region; Pub. Util. Comm’n of Tex. Substantive Rule 25.505, Resource Adequacy in the Electric Reliability Council of Texas Power Region.

The nodal market structure finally came to fruition in December 2010 with the introduction of over 4,000 nodes throughout Texas.³⁸⁴ Over the course of two years, its performance proved to be extremely successful. For example, “[a]mong those who rank the success of electricity market restructuring efforts, the ERCOT is generally regarded as North America’s most successful attempt at establishing a competitive retail market.”³⁸⁵ The nodal market’s advanced technology, including items such as advanced meters, control devices, and in-home usage displays, coupled with the new pricing mechanisms, led to a number of advantageous benefits.³⁸⁶ First, the nodal market structure resulted in increased competition, which could be seen by the number of Texans switching electricity providers.³⁸⁷ For instance, “approximately 85% of commercial and industrial consumers in Texas have switched”³⁸⁸ and “[a]pproximately 40% of residential customers in deregulated areas of the state have switched.”³⁸⁹ The nodal market structure has also produced greater efficiency in the electrical market. Previously, balancing energy prices were released ten minutes prior to settlement under the zonal structure for every fifteen-minute settlement period.³⁹⁰ Under nodal market structure, prices change instantly every five minutes.³⁹¹ Furthermore, it “also allowed for better integration of intermittent resources and higher utilization of transmission facilities through more accurate calculation of their real time available transfer capabilities.”³⁹² Other benefits include operational benefits in the provision of service and also improved customer service.³⁹³ In fact, Refusal of service and customer service complaints dropped 65% from 2008 to 2010.³⁹⁴

The most important benefits, however, were the introduction of increased enforcement mechanisms and the appearance of lower rates.

384. PUB. UTIL. COMM’N. OF TEXAS, REPORT TO THE 83RD TEXAS LEGISLATURE: SCOPE OF COMPETITION IN ELECTRIC MARKETS IN TEXAS 2 (Jan. 2013) [hereinafter REPORT], available at http://www.puc.texas.gov/industry/electric/reports/scope/2013/2013scope_elec.pdf

385. Jay Zarkinay & Parviz Adib, *Will the Texas Market Succeed, Where So Many Others Have Now Failed?*, UNITED STATES ASS’N FOR ENERGY ECON., at 3 (Aug. 8, 2007), available at <http://www.usaee.org/usaee2007/submissions/onlineproceedings/papertexasmrktzaradibhoustconf%208aug07final.pdf>.

386. See *Texas Electricity Market Design Most Successful in North America*, *supra* note 362, at 2 (“Texas continues to see a surge in consumer-driven product and service innovation.”).

387. See *Deregulation in Texas Electricity Market*, TEXAS EFFICIENT ELECTRICITY, <http://www.texasefficientelectricity.com/articles/Deregulation-in-Texas-Electricity-Market.html> (last visited Apr. 19, 2015).

388. *Id.*

389. *Id.*

390. Adib et al., *supra* note 363, at 282.

391. *Id.* at 283.

392. *Id.* at 278.

393. See CLEARY, *supra* note 376, at 16 (noting operational benefits); see also REPORT, *supra* note 384, at 23 (noting the improvement in customer service).

394. REPORT, *supra* note 384, at 23.

Alongside the development of the nodal market, the Commission worked to make sure that not only were vertically integrated companies allowing third parties to participate in the market, but also that the third-party market participants were financially able to do so.³⁹⁵ For instance, “[c]redit requirements have been raised for REPs posing a barrier to entry but providing greater assurance that poorly hedged retailers can weather spikes in wholesale prices.”³⁹⁶ Consumers also received lower prices through the development of the nodal market. For instance, “wholesale market [energy costs] decreased 45–50 percent”³⁹⁷

B. Lessons from the Deregulation of the Texas Electrical Market

Although the EU has had difficulty liberalizing its electrical market, there is hope. It can and should look to Texas’ example in instituting unbundling in order to figure out the best way to pursue its own. Because Texas endured a significant period of uncertainty prior to the introduction of the nodal market, the EU should look specifically to the safeguards that Texas created after this time in order to prevent the same problems from occurring.

The first takeaway that the EU can gather from the Texas unbundling situation is the importance of having both a clear vision and a realistic plan of action in order to effectively implement that action. For instance, since the unbundling process’s inception, Texas knew very clearly why it wanted its market to be independent from the rest of the United States’ energy network.³⁹⁸ It sought to have as much freedom as possible from the oversight and direction of the federal government and the FERC, and, as a result, set about creating this insular market that would exist solely for the benefit of Texans.³⁹⁹ Texas would be free from the rest of the American electrical grid, and this vision gained significant approval from citizens and municipalities around the state.⁴⁰⁰ Because Texas had a clear vision, people were more incentivized to further the unbundling and liberalization process rather than work against it. Texas did not unbundle its market merely for the sake of unbundling; there was a larger underlying theme. To be clear, I am not advocating that each of the EU’s Member States should pursue a path of freeing their electrical markets from the oversight of the overarching EU framework.⁴⁰¹ What I am

395. See Adib et al., *supra* note 363, at 293.

396. *Id.*

397. *Texas Nodal Market Benefits Observed in First Six Months*, *supra* note 375.

398. See generally THE STORY OF ERCOT, *supra* note 365, at 17–22 (describing Texas electrical policy prior to market liberalization); see also CHAPTER 27: ELECTRICITY, *supra* note 368, at 354 (discussing the events leading to Texas deregulation).

399. See THE STORY OF ERCOT, *supra* note 369, at 17–22.

400. See Joskow, *Lessons Learned*, *supra* note 219, at 25 (noting that the ERCOT has effectively disconnected from the rest of North America).

401. I am also not advocating or speaking against Texas secession in any way.

saying is that the EU must formulate some sort of unifying vision to convey to all of its Member States in order to incentivize them to all unbundle. Simply telling Member States that breaking apart vertically integrated companies and monopolies is good policy will not be enough. Getting all of the Member States in the EU to cooperate and unbundle is going to require something more.

Like the American unbundling of the natural gas market, Texas pursued its unbundling process in a series of very calculated steps. The importance of introducing market unbundling and liberalization in stages cannot be overemphasized for the EU. For example, “[c]ompetition is always introduced in stages, for good reason . . . [a]s the market develops and competition becomes more prevalent, safeguards such as price caps may be relaxed.”⁴⁰² Unlike Texas, California did not unbundle gradually, but instead completed unbundling at once.⁴⁰³ In 1998, it allowed both its wholesale and retail markets to grant access to third-party market participants.⁴⁰⁴ The results of these actions were disastrous.

On the other hand, after the creation of the ERCOT, Texas opened the wholesale market to third-party participants in 1995.⁴⁰⁵ It waited seven years before it opened the retail market to competition.⁴⁰⁶ Even then, price caps were still in place for several years afterwards and were not lifted until competition began to flourish in the state.⁴⁰⁷ Even when the market did not perform as well as officials had originally hoped, the ERCOT and the PUC worked together to make incremental changes to bring the market to equilibrium rather than scrapping the unbundling and liberalization efforts altogether.⁴⁰⁸ For example, in 2006, the PUC passed Substantive Rule 25.504, which clarified what constituted market power within the ERCOT, and Substantive Rule 25.505, which not only defined market power and abuse, but also broadened market transparency by making confidential market information public after a specific time period.⁴⁰⁹ These acts were followed shortly thereafter by Substantive Rule 25.147—the Competitive Renewable Energy Zone bill—which “facilitate[ed] expansion of transmission facilities.”⁴¹⁰ Finally, the long-

402. Jay Zarnikau, *The Quest for Competitive Electricity Markets*, 19 LBJ J. PUB. AFFAIRS 169, 180 (2008), available at http://www.lbjjournal.com/sites/default/files/articles/2008_annual_17_The_Quest_for_Competitive_Electricity_Markets.pdf.

403. See Adib et al., *supra* note 363, at 269.

404. See *id.*

405. Zarnikau, *supra* note 402, at 180–81.

406. *Id.* at 181.

407. See *id.*

408. See Adib et al., *supra* note 363, at 271–75 (detailing attempts by the Texas Legislature and Public Utility Commission of Texas to improve market restructuring).

409. See *id.* at 272.

410. *Id.* at 273.

awaited nodal structure came to fruition over a two-year period ending in 2010.⁴¹¹

Although Europe seems to have formally approached the unbundling process in a gradual series of steps, the actions that they take seem to be backward-looking rather than forward-looking. Similar to its natural gas market, the EU is not really instituting these steps in an orderly fashion, but is instead experimenting to see whether the changes they make in isolated areas will work prior to moving on to another area of the market without truly enforcing them or making sure that they work.⁴¹² Going a step further, most of the EU's changes throughout their three energy directives appear to be mere elaborations on the same theme rather than instituting something drastically new that might bring actual change, similar to Texas' switch from a zonal to a nodal market pricing structure. For example, the EU issued two sets of energy directives, which were followed by a lengthy evaluation of their success.⁴¹³ Following these evaluations, a third set of energy directives were issued, which were not very different from the first two.⁴¹⁴ These directives are all very similar because the EU hopes that all of the terms in the Directives will somehow magically be accomplished without actually taking one or two small areas and ensuring their success. Europe appears to have instituted a comprehensive plan with weak enforcement mechanisms rather than a smaller, focused agenda that it ensures functions properly before building on that foundation. Given the extreme problems that Europe is having, the EU might be better off focusing on unbundling the natural gas market before they attempt to liberalize the electricity market, rather than pursuing liberalization of both the natural gas and electricity markets at once. Unbundling the natural gas market prior to tackling the electrical market might make the unbundling of the electrical market easier, as there will already be an array of suppliers for distributors to choose from. Also, because producers have such a stronghold on the market in general, weakening their grip upstream will hasten the unbundling process downstream.

411. See REPORT, *supra* note 384, at 2 (“Nodal was launched in December 2010 creating over 4,000 nodes . . .”).

412. See Kroes, *supra* note 15, at 1402 (“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.”); Slabá, *supra* note 7, at 85 (“[T]here are some basic features of the gas market that are omitted in the EU vision . . .”); Yafimava, *supra* note 3, at 8 (discussing the First, Second, and Third Gas Directives); *Priority Interconnection Plan*, *supra* note 94 (“[O]perators belonging to vertically-integrated companies have no incentive to develop their interconnections with other networks and expose themselves to competition from new producers and suppliers in the sector.”).

413. See Kroes, *supra* note 15, at 1402 (describing the Sector Inquiry findings).

414. See Yafimava, *supra* note 3, at 9 (describing changes in the Third Directive); see also *Internal Market in Gas (From March 2011)*, *supra* note 106 (providing a summary of Third Gas Directive).

Another lesson that the EU should learn from the Texas unbundling experience is the importance of adequately preparing for shortages and other glitches that may occur due to the changes occurring in the market. First, government officials must ensure that the body running the electrical market (the EU equivalent of the ERCOT) has sufficient methods in place for notifying government officials when potential shortages occur. For example, in Texas, the ERCOT completely failed to alert the PUC that potential energy shortages might be occurring.⁴¹⁵ As a result, when blackouts occurred in Texas in 2006, the PUC was unprepared and unequipped to help Texans.⁴¹⁶ Companies and government officials should be operating under the premise that shortages may occur, and they must also have the correct notification and response systems in place in order to react. Blackouts cause significant economic harm and safety hazards and, as a result, must be prevented.

Not only must governing bodies have structural mechanisms in place to respond, but they must also have backup energy supplies to prevent blackouts from even happening, or, at the very least, to mitigate their deleterious effects. For instance, the Brattle group—a group hired by Texas regulators to evaluate the ERCOT—found that “Texas regulators and policy makers need to determine what level of reserve margin they desire and then determine the steps they want to take to ensure that desired reserve margin.”⁴¹⁷ Furthermore, glitches and delays sometimes occur when switching retail electricity providers. Companies need to have not only the supplies to make up for these shortages but also the necessary balancing equipment to make sure that the resources are allocated efficiently. In fact, governing bodies must have “operating reserve market institutions to support requirements for real time balancing of supply and demand for electric energy, to allocate scarce resource network transmission capacity, [and] to respond quickly and effectively to unplanned outages of transmission or generating facilities consistent with the need to maintain network voltage.”⁴¹⁸

Another lesson the EU should learn from Texas is the importance of having a clearly defined structure that is not only formally separate, but also actually separate. Part of the ERCOT’s success stems from it having “a highly unbundled market with considerable separation among

415. PUB. UTIL. COMM’N. OF TEXAS, INVESTIGATION INTO APRIL 17, 2006 ROLLING BLACKOUTS IN THE ELECTRIC RELIABILITY COUNCIL OF TEXAS REGION: PRELIMINARY REPORT 5 (Apr. 24, 2006), available at http://www.ercot.com/content/meetings/tac/keydocs/2006/0508/RollBlackouts_April_17_2006_04.pdf.

416. See THE STORY OF ERCOT, *supra* note 365, at 62–65 (describing the events surrounding the Texas blackouts in 2006).

417. REPORT, *supra* note 384, at 6.

418. Joskow, *Lessons Learned*, *supra* note 219, at 12.

generation, transmission, and retail functions.”⁴¹⁹ For example, Senate Bill 7 from 2002 was arguably one of Texas’ most pivotal legislative moments, as this bill ordered utility companies to break apart into separate generation, transmission, and distribution companies.⁴²⁰ It was this separation of entities that truly brought a high level of competition to Texas.⁴²¹ This separation created a multitude of different companies from which retail distributors could now choose.⁴²² It also further sparked greater competition because producers were now free to approach different segments of the market with which they had had no previous contact. There are a variety of ways to achieve vertical separation; however, two remain prominent. Companies separate “potentially competitive segments . . . from segments that will continue to be regulated . . . either structurally (through divestiture) or functionally (with internal ‘Chinese’ walls or ‘ring fencing’ separating affiliates within the same corporation).”⁴²³ Without these changes, competition will not be able to truly flourish as companies will still be able to discriminate in favor of affiliates.

Another structural factor that plays a significant role in ensuring the success of the unbundling process and the proliferation of a liberal market is the existence of a well-structured governing board. Because this body makes the decisions for the entire market, it is important that a variety of interests are equally represented. It “should be made up of members that are independent of the electric industry.”⁴²⁴ For instance, the ERCOT’s governing board harmed its efforts in guaranteeing a competitive market because the board was comprised of predominantly industry and commercial individuals.⁴²⁵ These individuals were not concerned with guaranteeing the highest level of market competition, but instead were focused mainly on generating the highest returns for industry players. For example, at the ERCOT’s inception, “[r]esidential consumers were woefully outgunned . . . [and] outnumbered by representatives of utilities and prospective competitors who intended to profit under the market rules they were drafting.”⁴²⁶ Having a disproportionate number of industry and commercial players on a governing board markedly increases the chances of market power abuse. Members of the governing board should also be prevented from receiving

419. Zarnikau, *Demand Participation*, *supra* note 190, at 1536.

420. *See* CHAPTER 27: ELECTRICITY, *supra* note 368, at 355.

421. *See id.* at 356 (describing the competitive market for electricity).

422. *See id.*

423. Joskow, *Lessons Learned*, *supra* note 219, at 12.

424. THE STORY OF ERCOT, *supra* note 365, at 11.

425. *See id.* at 25 (“The then 21-member [ERCOT] board included only four consumer representatives . . .”).

426. *Id.*

compensation from outside sources, as this will compromise the integrity of their decisions.

In addition to including consumers on the electric council's governing board and preventing outside payments to members, the size of the board itself must be minimized. Having too large a board impedes the efficient delegation and operation of duties. The ERCOT board was deemed to be too large. For instance, "Representative Wolens, one of the architects of Senate Bill 7 . . . said that the 25-member panel was too large to act efficiently."⁴²⁷ Because the efficient provision of electricity serves as the bedrock of all industries, a small board needs to be in existence so that it can act quickly and efficiently to solve problems that arise.

Like the American structure, the EU has created separation amongst vertically integrated companies.⁴²⁸ However, whereas American companies have divided the electricity market into generation companies, transmission companies, and retail distributors,⁴²⁹ the EU has merely divided companies into production and electrical generation components.⁴³⁰ The unbundling of the EU's electrical market is going to require additional separation beyond just being separate from its supplier. For example, in the EU "[l]egal unbundling led to the separation of the transmission system operator . . . providing services with characteristics of a natural monopoly (transmission and distribution through gas networks) from the rest of the vertically integrated gas undertakings (VIU), above all from gas extraction and activities."⁴³¹ Although this is a step in the right direction, the EU is going to need the transmission system operator to even further separate its transmissions and distributions functions. Like the United States, the EU needs to divide transmissions operators into separate generation, transmission, and retail companies. Also, they each must have "the necessary human, technical, financial, and physical resources to act independently from the [VIU] in terms of its organisation and decision-making power."⁴³²

The EU can learn a number of lessons from the Texas experience in the financial arena. However, perhaps the best lesson that the EU can learn from the Texas experience is the importance of instituting a nodal market pricing structure rather than a zonal market pricing structure. The nodal market structure allows for the most efficient allocation of energy resources in the system. Previously, in the zonal market system, transmission congestion was determined "through four price zones and

427. *Id.* at 40.

428. See Slabá, *supra* note 7, at 83 (describing EU unbundling efforts).

429. See *Texas Nodal Market Benefits Observed in First Six Months*, *supra* note 375.

430. See Slabá, *supra* note 7, at 83.

431. *Id.*

432. STATUS REVIEW, *supra* note 129, at 9 (internal quotation marks omitted).

energy schedule grouped in portfolios, rather than by individual unit.”⁴³³ This allowed for a lag in pricing timing and did not allow for the most efficient of resources. On the other hand, after the introduction of the nodal market system, thousands of nodes allowed for instantaneous pricing of resources. In fact, “[t]he nodal price, or the price of energy for any specific location, will change based on grid congestion.”⁴³⁴ The nodal system ensured that consumers received the lowest possible price. As the nodal system developed in Texas, evaluations were carried out to monitor both its success and efficiency. Not only were the “ERCOT Nodal Market Applications . . . operating in a stable and expected manner,”⁴³⁵ but they also “contributed to a healthier wholesale electric market, proving to be more example of innovation working in the marketplace.”⁴³⁶

Yet another lesson the EU can gather from Texas’ experience is the foundational importance of transparency both within the ERCOT and also within the market structure. For instance, the ERCOT faced major transparency problems at its inception.⁴³⁷ Despite an extremely large budget, the ERCOT blatantly refused to disclose specific details of its expenditures to the public.⁴³⁸ In fact, one consumer advocate pointed out “they adopt their budget in secret . . . and the budget results in a fee on every consumer electric bill.”⁴³⁹ It is hard to ask vertically integrated companies not to abuse their positions or to incentivize third-party market participants to take more active roles in the market when the entity leading the market is itself engaging in questionable financial activities. Even though the ERCOT had problems disclosing its own internal information, other segments of the market proved to be more transparent. The PUC forced REPs to disclose their information to the public in an Energy Facts Label.⁴⁴⁰ This was beneficial, as it would give consumers greater power to choose their product.

The area in which the EU stands to learn the most from the Texas experience is in the realm of enforcement. Although Texas has a healthy competitive market, it also has well-structured, powerful governing and enforcement agencies that help maintain the market’s competitive structure. For example, “somewhat ironically, maintaining a competitive market requires a great deal of attention and management from the

433. REPORT, *supra* note 384, at 19.

434. *Id.* at 10.

435. *Texas Nodal Market Benefits Observed in First Six Months*, *supra* note 375 (internal quotation marks omitted).

436. *Id.*

437. See THE STORY OF ERCOT, *supra* note 365, at 34 (discussing how details of the ERCOT budget was confidential).

438. *Id.*

439. *Id.* (internal quotation marks omitted).

440. See CHAPTER 27: ELECTRICITY, *supra* note 378, at 352.

state's legislature and regulatory agency."⁴⁴¹ Texas has the ERCOT, which is a non-profit organization that "functions both as a technical operator for the transmission grid and a decision-making organization that creates rules for the wholesale electricity market."⁴⁴² Because the ERCOT makes the corporate decisions for the energy grid in addition to overseeing its technical management, it can make sure that unbundling is enforced at even the most basic levels.⁴⁴³ Additionally, the ERCOT's large budget allows it to effectively enforce the rules it creates.⁴⁴⁴

The most intriguing aspect of the ERCOT, however, is its near independence from the U.S. federal government.⁴⁴⁵ Because the ERCOT market is entirely within the state of Texas, it is governed mainly by the PUC.⁴⁴⁶ Nevertheless, "for better or worse, the ERCOT's jurisdictional autonomy is clearly sustained by something other than its independence from the national electrical grid."⁴⁴⁷ The ERCOT operates in Texas in the same capacity as the FERC does at the national level. This magnitude of power endows it with an authority that vertically integrated companies hesitate to question or test. The PUC maintains a similarly powerful role within Texas. If companies will not comply with the ERCOT's orders, the PUC will step in to make sure they are followed.⁴⁴⁸ Vertically integrated companies essentially have not one but two companies making sure they follow all of the unbundling procedures. This level of enforcement ensures very little divergence from the rules. Furthermore, the PUC makes sure that the ERCOT is not using its power to manipulate or harm the market.⁴⁴⁹ It exists to "protect[] consumers, the electric markets, the reliability of the electric grid, and promotes fair competition by enforcing statutes, rules, and orders applicable to entities under its jurisdiction."⁴⁵⁰ Additionally, the PUC actively pursues enforcement cases and will impose real penalties on people who break the rules.⁴⁵¹

Although Texas has strong governing and regulatory bodies, the ERCOT's internal controls and mechanisms could be more efficient and also receive more oversight. This is something the EU should pay close

441. Adib et al., *supra* note 363, at 293.

442. THE STORY OF ERCOT, *supra* note 365, at 13.

443. See *Compliance*, ERCOT, <http://www.ercot.com/mktrules/compliance> (last visited Apr. 19, 2015).

444. See *id.*

445. See Joskow, *Lessons Learned*, *supra* note 219, at 25 (noting that the ERCOT has effectively disconnected from the rest of North America).

446. CHAPTER 27: ELECTRICITY, *supra* note 368, at 352.

447. THE STORY OF ERCOT, *supra* note 365, at 22.

448. See REPORT, *supra* note 384, at 14–15.

449. See CHAPTER 27: ELECTRICITY, *supra* note 368, at 352.

450. REPORT, *supra* note 384, at 14.

451. See Zarkin & Adib, *supra* note 385, at 14–15 (describing Public Utility Commission of Texas enforcement actions).

attention to as it strengthens its oversight bodies. For example, in a review conducted by Deloitte, the consultants concluded that, “the ERCOT lacked formal policies and documentation for most of its key business practices.”⁴⁵² It additionally stated, “the ERCOT needed guidelines and documentation for everything from the hiring of contractors to how it conducted background checks for new hires.”⁴⁵³ The ERCOT clearly must work on improving the organization and structure of its internal mechanisms. Nevertheless, the ERCOT has done an outstanding job unbundling the Texas electrical market and should still be the model after which the EU builds their governing bodies.

Like the United States, the EU has overarching regulatory and governing bodies—the CEER and the ACER—which oversee European electrical unbundling and liberalization matters.⁴⁵⁴ Unfortunately, these bodies lack the authority that their American counterparts wield as a result of both their newness and also the precarious general power balancing between the EU and its Member States.⁴⁵⁵ As a result, the EU will need to work on increasing the authoritative power of both bodies—specifically the ACER—within all of its Member States. Additionally, the EU will need to address some of the larger federalism issues that contribute to ACER’s weakness. Finally, the EU will need to make sure that NRAs receive sufficient monetary resources in order to enable these bodies to enforce unbundling at the state and local levels.

IX. THE GEOPOLITICAL PROBLEM

The final problem that the EU must address should it truly desire to unbundle and liberalize its natural gas and electrical markets is its dependence on Russian natural gas and petroleum reserves. For example, proposed provisions influence legal and regulatory rules, but

none of these provisions have the power to change the key characteristics of the gas market, [which remain the real source of the problem,] namely the lack of self-sufficiency of the EU with regard to sources of natural gas and the oligopoly nature of important gas producers out of reach of EU legislation.⁴⁵⁶

If the EU desires to be free from dependence on Russian reserves, it will need to look elsewhere for natural gas.

The solution to this problem requires discussion beyond the scope of this Article; however, I would suggest that the EU look to the United

452. THE STORY OF ERCOT, *supra* note 365, at 52.

453. *Id.*

454. See *About the European Energy Regulators*, *supra* note 133.

455. See Slabá, *supra* note 7, at 85.

456. *Id.* at 90–91.

States for natural gas in the form of LNG exports. The United States has an abundance of natural gas due to advances in fracking technology, and its supply is only increasing. The United States has enough natural gas “to power and heat our homes and businesses and run our vehicles for generations to come.”⁴⁵⁷ Also, the growth rate of U.S. natural gas production from 2006–2010 was estimated to be approximately 48%.⁴⁵⁸ Furthermore, the United States is continuing to expand its LNG production and liquefaction capacities, and the federal government has granted several export permits to American LNG export companies.⁴⁵⁹ Undoubtedly, the United States can afford to share. Although this solution may require Europe to invest significant capital in building additional LNG import facilities, the investment will have multiple benefits—most importantly energy security. For example, exporting LNG to Europe “[w]ill lower their gas bills, lift competitiveness, and strengthen their energy security.”⁴⁶⁰ As Bill Richardson stated, “[t]here are few foreign policy ‘no-brainers,’ but exporting LNG to Europe—particularly Eastern Europe—is definitely one of them.”⁴⁶¹

X. CONCLUSION

Despite the challenges Europe has faced in successfully liberalizing its natural gas and electrical markets, the possibility for the successful implementation of market liberalization in both of these areas is not out of reach. First, Europe must approach the unbundling of its natural gas market and its electrical market separately. Unbundling both markets at once will not only slow the process, but will also actively cause harm, as both markets require different mechanisms to implement change. Next, Europe must look to the United States’ example when unbundling its natural gas market in order to understand what mistakes to avoid and also to see what factors brought the United States success. Specifically, Europe should focus on its initial transition process, ensuring that the proper structural mechanisms exist in order to unbundle. It should also guard itself against overregulating the market in its pursuit of liberalization. Finally, it should endow its governing and regulatory bodies with sufficient power to ensure that they can successfully enforce the unbundling process.

457. *Market Stability*, AMERICA’S NATURAL GAS ALLIANCE, <http://anga.us/why-natural-gas/abundant/market-stability#.UqJN1ZXZXww> (last visited Apr. 19, 2015).

458. *Id.*

459. Jennifer A. Diouhy, *Obama Administration Authorizes More Natural Gas Exports*, FUEL FIX (Sep. 11, 2013), <http://fuelfix.com/blog/2013/09/11/feds-approve-lng-exports-from-dominion-cove-point-facility/>.

460. Bill Richardson, *America Should Not Try to Keep Its Shale Gas to Itself*, FINANCIAL TIMES (Nov. 21, 2013), <http://www.ft.com/intl/cms/s/0/2617d466-52c3-11e3-8586-00144feabdc0.html#axzz2mjkDByxM>.

461. *Id.*

Additionally, because the United States' unbundling of its electrical market has proven largely unsuccessful, Europe should instead look to Texas when liberalizing its electrical market, as Texas has achieved unparalleled success in the deregulation of its electrical market. Some of the lessons Europe can learn from the Texas model include implementing a strong policy and plan of action, as well as pursuing such a plan in precise, sequential steps. Also, Europe, like Texas, must understand the importance of adequate preparation in liberalizing the electrical market and must ensure that energy supplies and functioning structural mechanisms are in place to hedge against shortages and other problems that arise during the unbundling process. Next, Europe must ensure the functional separation of vertically integrated market players overseen by a strong regulatory body and governing board. Like the governing body in the natural gas market, Europe must ensure that a strong body with enough power governs the electrical market in order to guarantee that unbundling mechanisms are successfully implemented.

However, the last issue that Europe must address should it truly seek successful liberalization of its markets is gaining independence from Russian energy sources. Without adequately addressing this problem, the market liberalization measures will prove unsuccessful in the long run. Nevertheless, Europe should actively pursue the unbundling process in both its natural gas and electrical markets, as many of the initial structural changes will facilitate the move away from Russian resources and push Europe in the right direction.