ACCESS TO GAS MARKETS: A COMPARATIVE STUDY ON ACCESS TO LNG TERMINALS IN THE EUROPEAN UNION AND THE UNITED STATES

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I. INTRODUCTION

World energy markets are going through a profound change. Many countries have moved from a state driven system to a market based system, the prime example being the European Union (EU), where the objective is to create liberalized pan-European energy markets encompassing twenty-seven previously separated and largely monopolized member state markets.[1] This direction, "from-state-to-market," is contrasted with another trend: resource nationalism.[2] Led by many significant petro-states such as Russia and Venezuela, resource nationalism is currently at its heights.[3]

Energy markets have become more international, which has resulted in increased international energy trade and inter-linkages in energy networks.[4] The general trend in the member countries of the International Energy Agency (IEA) is that they become increasingly dependent on the inter-regional gas trade.[5] This is particularly true in Europe, where the indigenous production is rapidly decreasing and dependency on external

1. *See EU Energy Market Opens to Competition*, AGENCE FRANCE-PRESSE, Jul. 1, 2007, http://www.eubusiness.com/Energy/1183262401.74.

2. "Resource nationalism" is the trend whereby a country exercises greater control over natural resource development, thereby reducing the control of private international oil companies. INTERNATIONAL COMPETITION FOR RESOURCES: THE ROLE OF LAW, THE STATE AND OF MARKETS 13 (Philip Andrews-Speed ed., 2008).

3. *See id.* at 2, 8.

4. ENERGY SECURITY: MANAGING RISK IN A DYNAMIC LEGAL AND REGULATORY ENVIRONMENT (Barry Barton et al. eds., 2004) [hereinafter ENERGY SECURITY].

5. *See* James T. Jensen, Address at The LNG North America Summit 2007: Increasing Global LNG Investments (June 20, 2007) (discussing the trend towards greater reliance on interregional gas supplies).

natural gas suppliers is increasing.[6] The situation in the United States is not as bad, but dependency on external producers is increasing.[7]

Environmental concerns have finally been recognized and now form an integral part of national energy policy objectives.[8] This means increasing reliance on natural gas as the "environmentally friendly" fossil fuel.[9] Coupled with high energy prices and rapidly rising demand for energy, all this has raised concerns over security of supply. Questions that are surfacing include how to manage the international competition over recourses, how to attract the urgently needed investments, and, at the very heart of the discussion, how to maintain the western lifestyle?

This Article focuses on the international competition for liquefied natural gas (LNG). More specifically, it examines the access conditions to LNG re-gasification terminals in the European Union and the United States. After an overview of the current trends in natural gas consumption and LNG trade, the access regime of both the United States and the European Union will be examined. This Article will conclude that the increasingly real competition over LNG and associated investments have had a profound effect on the regulation of LNG terminals in the European Union and the United States. While there are certain differences at the ideological level, the

6. *See* INT'L ENERGY AGENCY (IEA), NATURAL GAS INFORMATION, at I.3 (2007) [hereinafter NATURAL GAS INFORMATION].

7. Energy Info. Admin., *Annual Energy Outlook 2008 with Projections to 2030* (2008), *available at* http://www.eia.doe.gov/oiaf/aeo/pdf/0383(2008).pdf [hereinafter *Annual Energy Outlook*].

8. *See, e.g.*, NATIONAL ENERGY POLICY DEVELOPMENT GROUP, NATIONAL ENERGY POLICY (2001) (citing various environmental policy initiatives found within U.S. energy policy such as promotion of cleaner, more efficient technologies and air quality regulatory reform); DEPT. OF ENERGY, ON THE ROAD TO ENERGY SECURITY IMPLEMENTING A COMPREHENSIVE STRATEGY: A STATUS REPORT (2005), *available at* http://www.energy.gov/media/FINAL_8-14_DOE_booklet_copy_sep.pdf.

9. *See* DEPT. OF ENERGY, *supra* note 8, at 6.

United States being more openly in favor of proprietary use of LNG facilities,[10] the realities of global natural gas markets have aligned practices on both sides of the Atlantic.

II. DEMAND FOR NATURAL GAS IN THE EU AND THE UNITED STATES

Global demand for natural gas is growing much more quickly than the supply.[11] Illustrating this phenomenon, European and North American import levels are rising much faster than export levels.[12]

Imports:

Region	Imports (million cubic meters) 1990	*2002*	*2006*
OECD Europe	178347	329719	415057
OECD North-America	44489	127510	139004
OECD Total	276663	557535	676957
World Total	534503	711879	868095

Data extracted from IEA, Natural Gas Information 2007.[13]

10. *See* 33 U.S.C. § 1507 (2007) (permitting exclusive operation of deepwater terminals by licensees in the United States); DEPT. OF ENERGY, *supra* note 8, at 5.

11. *See* BRITISH PETROLEUM, BP STATISTICAL REVIEW OF WORLD ENERGY 2008 24, 27 (2008), *available at* http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2008/STAGING/local_assets/downloads/pdf/natural_gas_section_2008.pdf [hereinafter STATISTICAL REVIEW OF WORLD ENERGY].

12. NATURAL GAS INFORMATION, *supra* note 6, at I.3, V.4–V.7 (illustrating that from 1987 to 2006 OECD total natural gas import levels rose 33% while export levels rose only 30%).

13. *Id.* at V.4–V.5.

Exports levels:

Region	Exports (million cubic meters) 1990	*2002*	*2006*
OECD Europe	64096	142500	171544
OECD North-America	43113	122391	122971
OECD Total	110000	274725	310384
World Total	534312	714866	884047

Data extracted from IEA, Natural Gas Information 2007.[14]

As the above tables indirectly show, global energy consumption is growing rapidly. According to the IEA, global energy consumption has doubled from the 1970s[15] and will keep growing at a faster pace in the foreseeable future.[16] The current estimate is that energy consumption in 2030 will be approximately fifty percent higher than in 2006.[17] In addition to

14. *Id.* at V.6–V.7.

15. *See* MARVIN S. SOROOS, THE ENDANGERED ATMOSPHERE: PRESERVING A GLOBAL COMMONS 181 (1997) (standing for the proposition that energy use in developing countries has doubled since the 1970s and appears poised to double yet again by just 2010, indicating accelerated growth).

16. FATIH BIROL, ENERGY SECURITY: WORLD ENERGY PROSPECTS AND CHALLENGES 3 (2006), *available at* http://www.cesifo-group.de/pls/guestci/download/CESifo%20Forum%202006/CESifo%20Forum%202/2006/forum2-06-focus1.pdf.

17. *Id.* at 46. It must be noted that various forecasts differ considerably from year to year due to a large number of unknown factors including: demand from emerging economies, effects of energy savings, and potential technological advances. *See* CLINGENDAEL INT'L ENERGY PROGRAMME, THE GAS SUPPLY OUTLOOK FOR EUROPE—THE ROLES OF PIPELINE GAS AND LNG 36 (2008) [hereinafter CLINGENDAEL PROGRAMME].

the increasing demand of the emerging economies, China and India in particular,[18] demand in the European Union and the United States is also rising.[19]

In the European Union, expected growth in consumption is not as high as the globally expected growth, but a rise of forty-three percent from 2002 to 2030 is expected to take place.[20] According to the European Commission (EC), most of this growth is to be met through increasing reliance on natural gas and increasing use of renewables.[21] Additionally, the current revival of nuclear-based generation may play a role in meeting this future demand.[22] Much of the increasing demand for natural gas in the European Union is due to the growing use of natural gas as the primary energy for the electricity generation.[23] In Europe, almost two-thirds of new electricity plants are gas-fired.[24] Through this growing linkage between electricity and gas, a shortage in gas supply will have a wider

18. *See, e.g.*, Kim Talus, Book Review, 1 J. WORLD ENERGY L. & BUS. 247 (2008), *available at* http://jwelb.oxfordjournals.org/cgi/reprint/1/3/247. Here two interesting questions arise. First, how much of the increase is due to the growth of population and income and how much is actually due to the relocation of companies from the United States and European Union into these countries? Part of the increase in demand for energy and minerals is simply transferred demand. *See id.* at 250. Second, is the steep raise in the demand curve in these countries simply an initial upsurge in demand of energy and minerals which will flatten out once these countries develop, or will the demand continue to grow in a similar fashion?

19. *See* STATISTICAL REVIEW OF WORLD ENERGY, *supra* note 11, at 27.

20. EUROGAS, NATURAL GAS DEMAND AND SUPPLY—LONG TERM OUTLOOK TO 2030 2 (2007) [hereinafter EUROGAS].

21. COMMISSION OF THE EUROPEAN COMMUNITIES, GREEN PAPER: A EUROPEAN STRATEGY FOR SUSTAINABLE, COMPETITIVE AND SECURE ENERGY 11–12 (2006) [hereinafter GREEN PAPER].

22. WORLD ENERGY COUNCIL, THE ROLE OF NUCLEAR POWER IN EUROPE (2007), *available at* http://www.wec-france.org/Nucleaire.pdf.

23. *See* Directorate-General for Energy and Transportation, *European Energy and Transportation: Trends to 2030, update 2007* (Apr. 8, 2008).

24. NATURAL GAS INFORMATION, *supra* note 6, at I.4.

and more serious impact on energy supply generally.[25] This has highlighted the gas supply issues relating to dependency on external suppliers.

The European Union is increasingly dependent on natural gas imports from three countries.[26] Because of this dependence on imported energy, incidents like the brief interruption of the supply of natural gas from Russia during the Russia-Ukraine dispute in January 2006[27] raise much concern over security of supply.[28] These concerns put emphasis on the increased volumes of LNG imports. According to IEA estimates, Europe's LNG imports will grow to 60–100 billion cubic meters ("bcm") in 2010 and 80–160 bcm in 2015.[29] The wide margin is a result of the many uncertainties surrounding international gas markets: upstream investments, pipeline developments, demand in China and India, etc.[30]

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25. *See generally* Paul L. Joskow, Supply Security in Competitive Electricity and Natural Gas Markets (revised Dec. 29, 2005) (unpublished lecture material, Massachusetts Institute of Technology), *available at* http://econ-www.mit.edu/files/1183 (explaining the relationship between global natural gas supply and electricity generation).

26. GREEN PAPER, *supra* note 21, at 3.

27. *See* Alan Riley, *The Coming of the Russia Gas Deficit: Consequences and Solutions* (2006), *available at* http://shop.ceps.be/downfree.php?item_id=1389; Kim Talus, *Long-Term Gas Agreements and Security of Supply—Between Law and Politics*, 32 EUROPEAN L. REV. 535, 535 (2007).

28. *See generally* Talus, *supra* note 27. Interestingly, the dependence-related discussion has largely centered on imports of natural gas from Russia. *See, e.g.*, *id.* at 535. There are some grounds for this, but one must nevertheless wonder why Algerian supplies have not received similar attention. *See id.* Algerian supplies to the European Union are not that much behind Russian supplies. Algerian exporter Sonatrach has not always been as willing to comply with EU legislation as Russian exporter Gazprom has so far been; many of the EU member states are largely dependent on Algerian supplies and, just like Russia, Algeria is not situated in the most stable geographical area of the world. Guy Chazan, *Algeria-Russia Split on Gas Helps Europe*, WALL ST. J., Dec. 10, 2007, at A3; Kim Talus, *Long-term Gas Agreements and Security of Supply—Between Law and Politics*, 32 EUR. L. REV. 535, 545 (2007); Mark N. Katz, *Russia and Algeria: Partners or Competitors?*, 14 MID. EAST POL. 152, 154 (2007), Guy Chazan, *Bombings and Threats Shake Algeria Outlook*, WALL ST. J., Dec. 17, 2007, at A8. It seems that there is no actual reason for the exclusion of Algeria and Sonatrach from the discussion.

29. INTERNATIONAL ENERGY AGENCY, NATURAL GAS MARKET REVIEW 2007 63–64 (2007).

30. *Annual Energy Outlook*, *supra* note 7, at 58.

The use of natural gas is projected to increase until 2016 and then decrease as prices increase.[31] The U.S. Energy Information Administration (EIA) projects that "the natural gas share of the total energy consumption [will drop] from 22 percent in 2006 to 20 percent in 2030."[32] However, similarly to EU estimates, due to a large number of uncertainties, the figures are not likely to be entirely accurate. For example, the recent price increases and the political drive to reduce energy dependency may affect the demand.[33] The discussion on lifting the moratorium on offshore drilling[34] may also have a significant effect. One of the main factors affecting future demand is the need for natural gas in the power sector. EIA forecasts price increases for natural gas and, as a consequence, decreases in gas-based power production.[35] Despite this decrease, the share of LNG is projected to increase; net LNG imports are projected to grow from 0.5 trillion cubic feet in 2006 to 2.8 trillion cubic feet in 2030.[36] The reasons behind the increasing reliance on LNG in the United States include the decreasing volumes of pipeline imports from Mexico and Canada, the possibility of domestic shortages, rising natural gas prices, price volatility, and rising demand due to an increase in gas-fired electricity generation.[37]

Because of these developments, the global LNG market is increasingly important for both the European Union and the United States. The global LNG market is currently developing

31. *Id.* at 73.

32. *Id.*

33. *See, e.g.*, Energy Info. Admin., *International Energy Outlook*, 37 (2008), *available at* http://www.eia.doe.gov/oiaf/ieo/pdf/0484(2008).pdf [hereinafter *Int'l Energy Outlook*]; Press Release, Council on Foreign Relations, U.S. Energy Dependence Undercutting U.S. National Security, Council Task Force Warns (Oct. 12, 2006), *available at* http://www.cfr.org/publication/11693/us_energy_dependence_undercutting_us_national_security_council_task_force_warns.html.

34. *See, e.g.*, Michael B. Gerrard, *McCain vs. Obama on Environment, Energy, and Resources*, 23 NAT. RESOURCES & ENV'T 3 (2008) (discussing Senator McCain's and President Obama's policies regarding offshore drilling).

35. *Annual Energy Outlook*, *supra* note 7, at 74.

36. *Id.* at 78.

37. Monica Berry, *Liquefied Natural Gas Import Terminals: Jurisdiction over Siting, Construction, and Operation in the Context of Commerce Clause Jurisprudence*, 26 ENERGY L. J. 135, 137 (2005).

faster than before, and several significant changes have taken place or are on their way. These issues will now be briefly examined.

III. GLOBAL LNG MARKETS

Initially, the LNG market started to develop in Asia where, contrary to the European Union and the United States, no domestic gas resources are available.[38] Today, an increasing amount of natural gas is traded through LNG shipments, a trend which is likely to continue in the near future.[39] Factors that have helped to turn this previously marginal transportation mode into a pipeline gas alternative include:[40]

- Growing energy prices. The steady rise in primary energy prices has profoundly affected the LNG business.[41]
- The global initiative to reduce gas flaring. This translates into a need to either re-inject the gas or to transport it to markets.[42]
- Cost decreases though expansion of the supply chain. In order to ship gas over a long distance, it needs to be converted into LNG.[43] This is costly and one of the keys to global markets achieving expansion of the LNG supply chain. Expansion is facilitated through technological advances, economies of scale (more trade, larger LNG trains, and LNG ships), and, recently, through a rise in

38. *See* Donald A. Juckett & Michelle Michot Foss, *Can a "Global" Natural Gas Market be Achieved?*, *in* ENERGY AND SECURITY: TOWARD A NEW FOREIGN POLICY STRATEGY 531, 542 (Jan H. Kalicki & David L. Goldwyn eds., 2005).

39. *Id.* at 534.

40. *See id.* at 533–36.

41. *See id.* at 535.

42. Gas flaring occurs when associated gas is flared in order to enable oil production to take place. *See, e.g.*, John Donnelly, *Russia Top Offender in Gas-flare Emissions: US Study Uses Satellite Images for Findings*, BOSTON GLOBE, June 21, 2007, at A3 (describing gas flaring in Russia). Because oil and gas resources need a very similar geological environment, this is often the case. *Id.* Oil resources are often found together with gas resources. *Id.*

43. Juckett & Foss, *supra* note 38, at 534.

pipeline gas prices.[44] The LNG trade was started in 1960 and has continuously grown in volume.[45]

- The evolution of demand and supply of natural gas. The growing use of natural gas in electricity production is the result of various factors: it is perceived as an environmentally friendly option (especially compared to coal and crude oil), the use of oil for electricity production declined rapidly after the price shocks during the 1973 oil crisis, its low cost in the past (compared to other fossil fuels), and the low cost of constructing and maintaining gas-fired power plants.[46]

It is important to note that even if LNG trade is often perceived as a global trade, this is only partially true. LNG is not a truly global commodity, even if the current price levels enable LNG transportation around the world at a competitive price. There are two basic markets: the Atlantic Basin market, where both the European Union and the United States compete for shipments, and the Asia-Pacific Market, where Japan and South Korea compete over shipments.[47] In the Atlantic Basin, the European Union is in a better position to receive African supplies, whereas the United States is better positioned to receive supplies from South America and the Caribbean. However, natural gas from the main producing area, the Middle East,[48] can be shipped to both market areas, making international competition a reality.[49]

This competition has translated into several significant changes in the traditional LNG market models:

- Shipments are re-routed to take advantage of price differences in various markets. Similarly, projects that were originally planned to serve a particular market may supply a different market. For example, the LNG from

44. *See id.* at 534–35. This trend is likely to continue in the future. Demand is rising and companies have indicated their intentions to raise export prices. *See, e.g.*, Ed Crooks, *Gazprom Warns of Record Gas Prices Ahead*, FIN. TIMES, Nov. 28, 2007, at 8.

45. Juckett & Foss, *supra* note 38, at 534.

46. *Id.* at 536–36.

47. CLINGENDAEL PROGRAMME, *supra* note 17, at 49, fig. 7.

48. *See Int'l Energy Outlook*, *supra* note 33, at 44.

49. *See* CLINGENDAEL PROGRAMME, *supra* note 17, at 34–39.

Qatar, originally intended for the European Union and the United States, is being shipped to Asia at a higher price.[50]

- Some gas producers have chosen not to commit all their production capacities under long-term agreements, but rather have left some capacity to take advantage of the arbitrage opportunities between various markets.[51] This trend is likely to continue, and a growing amount of non-committed LNG on the markets seems to be the future.[52]
- The emergence of medium-term (three to five year) LNG contracts.[53] For an exporter, this offers a compromise between the flexibility necessary for taking advantage of the aforementioned arbitrage opportunities and the security of demand.
- A significant future development is the elimination of middlemen. Here, the LNG producers reserve capacity or construct new terminals for their own use and market the natural gas directly.[54] The role of national companies buying natural gas from producers and reselling it on national markets is marginalized.[55] This trend is a result of increasing energy prices and the liberalization of downstream markets.

These changes highlight a significant factor concerning LNG: The flexibility of the LNG business has its risks but also its benefits. Much like oil, LNG tankers can easily be rerouted to where the best price is available.[56] Because of both this and the global nature of the trade, it may have a positive effect on gas supply security. However, the preconditions for this are that (i) sufficient volumes of uncommitted LNG are on the market, (ii)

50. *Id.* at 56.

51. *Id.* at 52–53.

52. *Id.* at 53.

53. *Id.*

54. *Id.* In the case of cooperation between several LNG companies, the restrictions imposed by EC competition law have to be noted. In particular, this concerns joint marketing and joint selling.

55. *Id.* at 52–53.

56. *See* DAMIEN GAUL & KOBI PLATT, ENERGY INFO. ADMIN., SHORT-TERM ENERGY OUTLOOK SUPPLEMENT: U.S. LNG IMPORTS—THE NEXT WAVE 1 (2007).

sufficient number of ships are available, (iii) sufficient import terminal capacity is in place, and (iv) customers/spot markets exist.

As already mentioned, the reliance on LNG is increasing in both the United States and the European Union. In both cases, this is due to increasing demand and, partially, to supply considerations that diversification brings.[57] In Europe, the main concern relates to the dependence on Russia and, to a lesser extent, Algeria.[58] This concern over the supply sources and supply routes plays in favor of LNG. As a new source of natural gas with several possible origins, such as Trinidad, Nigeria, or the Middle East, increased quantities of LNG are seen as an increase in the security of supply.[59] This has translated into several projects in various stages from planning to construction and operation. It has been suggested that the role of LNG will only rise in the future and could eventually represent approximately twenty-five percent of total EU imports of natural gas.[60] All of this translates into a very favorable business environment for natural gas, and for LNG in particular. Following the global LNG wave, new terminals are being constructed all over the European Union.[61]

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57. *See* CLINGENDAEL PROGRAMME, *supra* note 17, at 5.

58. *See* Geopolitics of EU Energy Supply (2005), *available at* http://www.euractiv.com/en/energy/geopolitics-eu-energy-supply/article-142665 ("40% of EU gas imports originate from Russia (30% Algeria . . .)").

59. *See id.*

60. *See, e.g.*, EUROGAS, *supra* note 20, at 7.

61. There are several ongoing LNG terminal projects in EU. *See* KING & SPALDING, LNG IN EUROPE: AN OVERVIEW OF EUROPEAN IMPORT TERMINALS 7 (2006), *available at* http://www.kslaw.com/library/pdf/LNG_in_Europe.pdf. The following projects are being constructed under a merchant model provided for under article 22 of Gas Directive 2003/55/EC: Eemshaven LNG Terminal (Netherlands), Grain LNG Terminal (UK), Gate Terminal Rotterdam (Netherland), Brindisi LNG Terminal (Italy), Dragon LNG Terminal (UK), South Hook LNG Terminal (UK), Isle of Grain LNG Terminal (UK), North Adriatic LNG Terminal (Italy). *Energy Regulation Insights*, (Nat'l Econ. Research Ass'n) July 2005, at 3. In addition, there are other projects in earlier stages and outside of the scope of article 22 of the Gas Directive, such as the Baltic LNG terminal, which would also provide Finland with an alternative source of gas (through the Balticconnector, also in early planning stages). Gazprom, *Gazprom Postpones Decision on Baltic LNG, Plans to Continue Study*, PLATT'S, Sept. 21, 2007, http://www.platts.com/Natural%20Gas/highlights/2007/ngp_lng_092107.xml.

The IEA has noted that this affects the global LNG trade.[62] If pipeline investments do not proceed as anticipated, this puts pressure on LNG imports, which will in turn put pressure on Atlantic and Pacific LNG suppliers, many of which are already at the limits of their supply capability.[63] This means that there is also increasing competition over LNG shipments. The LNG market is a global one. Since shipments may be, and in practice are, rerouted without significant difficulty, the risk that shipments are redirected to a location where the best price can be obtained is real, although it can be mitigated through contractual arrangements. The European Union and the United States are competing for shipments with countries such as Japan, which are accustomed to significantly higher price levels.[64] Reflecting these developments, the EIA projections suggest that the U.S. natural gas market and the LNG market in particular, will be tight because of the international competition over LNG.[65] This is also true for EU natural gas markets.[66] The increasing reliance on LNG means that, even if the current LNG regasification volumes in the European Union and the United States are adequate for current demand,[67] the growing demand translates into the need for further re-gasification capacity.

A. Access to US LNG Terminals

1. U.S. Natural Gas Markets—An Overview

The United States has several areas with significant natural gas reserves. Geographically, Arkansas, Kansas, Louisiana, Oklahoma, and Texas compose the key natural gas producing region.[68] They account for approximately half of U.S. natural

62. *See* Energy Info. Admin., *The Global Liquefied Natural Gas Market: Status & Outlook*, 1–2 (2003), *available at* http://www.eia.doe.gov/oiaf/analysispaper/global/pdf/eia_0637.pdf [hereinafter *Liquefied Natural Gas Market*].

63. *See* NATURAL GAS INFORMATION, *supra* note 6, at I.3.

64. *See* CLINGENDAEL PROGRAMME, *supra* note 17, at 54–56.

65. *See* GAUL & PLATT, *supra* note 56, at 1–4.

66. CLINGENDAEL PROGRAMME, *supra* note 17, at 9.

67. *See id.* at 57.

68. ENERGY INFO. ADMIN., MAJOR NATURAL GAS TRANSPORTATION CORRIDORS,

gas production and proven natural gas reserves.[69] While the same region consumes important volumes of natural gas, significant amounts are also transported to other consumption areas, such as the Northeast (approximately twelve percent of total U.S. demand) and the Midwest (also approximately twelve percent of total U.S. demand).[70] The distance between the consuming and the producing regions is covered with a highly sophisticated pipeline system.[71] Contrary to Europe, the pipeline network in the United States is mainly constructed according to economic incentives. Large scale pipelines transport natural gas from the production areas to the consumption areas. Prices are mainly set in trading hubs, such as the Henry Hub in Louisiana or various Transco zones along the east coast.[72] There are currently hundreds of players involved in these markets, such as producers, pipelines, and purchasers (and a large number of end-consumers).

Despite the existence of significant reserves both onshore and offshore, the United States is importing an increasing amount of natural gas.[73] In addition to the increased use of LNG, the Alaska natural gas pipeline and other projects carry an increasing amount of natural gas into the markets.[74] Despite this and the latest reports about the decreasing demand of natural gas, there is still room for increasing amounts of imports.

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http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/transcorr.html (last visited Feb. 1, 2009).

69. *See id.*

70. *See id;* FEDERAL ENERGY REGULATORY COMMISSION, NATURAL GAS MARKETS: MIDWEST, http://www.ferc.gov/market-oversight/mkt-gas/midwest.asp (last visited Feb. 1, 2009); FEDERAL ENERGY REGULATORY COMMISSION, NATURAL GAS MARKETS: NORTHEAST, http://www.ferc.gov/market-oversight/mkt-gas/northeast.asp (last visited Feb. 1, 2009).

71. ENERGY INFO. ADMIN., TRANSPORTATION PROCESS AND FLOW, http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/process.html (last visited Feb. 1, 2009).

72. Monika Ehrman, *Competition is a Sin: An Evaluation of the Formation and Effects of a Natural Gas OPEC*, 27 ENERGY L.J. 175, 195 (2006).

73. *See* CLINGENDAEL PROGRAMME, *supra* note 17, at 54.

74. FRED BOSSELMAN ET. AL., ENERGY, ECONOMICS AND THE ENVIRONMENT, 440 (2000).

Based on the current regulatory scheme and division of regulatory competence between the state and federal level, the U.S. natural gas markets may be divided into intrastate and interstate levels. The U.S. interstate gas markets are regulated by the Federal Energy Regulatory Commission (FERC) pursuant to the Natural Gas Act of 1938,[75] which does not regulate the state markets.[76] FERC's jurisdiction is limited to transportation in the interstate pipelines and to certain sales, as well as to persons engaging in these transactions.[77] The importation and exportation of natural gas to or from the United States is regulated by FERC and the U.S. Department of Energy (DOE), pursuant to Section 3 of the Natural Gas Act.[78] FERC is responsible for review and approval of the siting, construction, and operation of natural gas import and export facilities, and DOE is responsible for authorization of contracts governing importing and exporting natural gas.[79]

2. Import Facilities for LNG

Imports and exports of natural gas are authorized by a preliminary and mandatory order from FERC.[80] In considering whether an order will be issued for a particular application and project, FERC will examine whether the project is consistent with public interest.[81] If FERC has doubts about the

75. Natural Gas Act of 1938, 15 U.S.C. § 717 (2006).

76. 15 U.S.C. § 717(c).

77. 15 U.S.C. § 717(b).

78. 15 U.S.C. § 717.

79. Energy Policy Act of 2005, 15 U.S.C. § 717(b)–(c) (2006). Under federal law, FERC has the exclusive authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal. 15 U.S.C. § 717b(e). In addition to regulation at the federal level, the siting, construction, expansion, or operation of an LNG terminal is also subject to state level regulation. *See generally* Rachel Clingman & Audrey Cumming, *The 2005 Energy Policy Act: Analysis of the Jurisdictional Basis for Federal Siting of LNG Facilities*, 2 TEX. J. OIL, GAS, & ENERGY L. 57 (2007) (providing a short overview of the relationship between state and federal legislation, including doctrines such as the Commerce Clause). S*ee also* AES Sparrows Point LNG, LLC v. Smith, 527 F.3d 120, 122–23 (4th Cir. 2008) (holding that the exclusive authority of FERC to authorize the siting, construction, and operation of LNG terminals under section 3 of the Natural Gas Act preempts local law).

80. Natural Gas Act, 15 U.S.C. § 717b(a) (2006).

81. *Id.*

compatibility with public interest, the project's parties have an opportunity to be heard.[82] FERC has wide powers in considering an application. It may grant the application, in whole or in part, or with such modifications and upon such terms and conditions as it deems necessary or appropriate.[83] It may also, from time to time, for good cause shown, make such supplemental orders as it may find necessary or appropriate.[84] In this case, the parties will again be afforded an opportunity to be heard.[85]

In case the importation or exportation of natural gas takes place between the United States and a country with whom it has a free trade agreement requiring national treatment for trade in natural gas and with respect to LNG: (1) the importation of such natural gas shall be treated as a "first sale" within the meaning of section 3301(21) of Title 15 of the U.S. Code[86] and (2) FERC will not, "on the basis of national origin, treat any such imported natural gas on an unjust, unreasonable, unduly discriminatory, or preferential basis."[87] Also, in this case there is a presumption of consistency with public interest and the application for importation will be granted without modification or delay.[88] In addition to a successful application procedure, importation is still subject to other federal rules such as (1) the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.), (2) the Clean Air Act (42 U.S.C. 7401 et seq.), and (3) the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.). Also, the rules relating to LNG terminals have to be fulfilled.

82. *See id.*

83. *Id.*

84. *Id.*

85. *Id.*

86. Natural Gas Act, 15 U.S.C. § 717b(b). The term "first sale" means any sale of any volume of natural gas (i) to any interstate pipeline or intrastate pipeline; (ii) to any local distribution company; (iii) to any person for use by such person; (iv) which precedes any sale described in clauses (i), (ii), or (iii); and (v) which precedes or follows any sale described in clauses (i), (ii), (iii), or (iv) and is defined by the Commission as a first sale in order to prevent circumvention of any maximum lawful price established under this chapter.15 U.S.C. § 3301(21)(2006).

87. Natural Gas Act, 15 U.S.C. § 717b(b).

88. *Id.* § 717b(c).

3. LNG Terminals—Licenses and Permits

Currently, the federal government has a strong interest in LNG terminals, including an interest to simplify, clarify, and unify—at the federal level—the siting and construction of LNG terminals.[89] This strong interest is reflected in the current content of Title 15 of the US Code.[90] Also, the Energy Policy Act of 2005 seems to be a reflection of this.[91]

Under federal law, FERC has the exclusive authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal.[92] Once an application to site, construct, expand, or operate an LNG terminal has been received, FERC will take the following steps:

> (A) set the matter for hearing; (B) give reasonable notice of the hearing to all interested persons, including the State commission of the State in which the LNG terminal is located . . . ; (C) decide the matter in accordance with [the] subsection; and (D) issue or deny the appropriate order accordingly.[93]

FERC cannot, before January 1, 2015,

> (i) deny an application solely on the basis that the applicant proposes to use the LNG terminal exclusively or partially for gas that the applicant or an affiliate of the applicant will supply to the facility; (ii) condition an order on (I) a requirement that the LNG terminal offer service to customers other than the applicant, or any affiliate of the applicant securing the order; (II) any regulation of the rates, charges, terms, or conditions of

89. *See* Clingman & Cumming, *supra* note 79, at 63.

90. *See* 15 U.S.C. § 717 (a)–(c) (2006).

91. *See* Energy Policy Act of 2005, Pub. L. No. 109–58, § 311, 119 Stat. 685, 686 (2005).

92. 15 U.S.C. § 717b(e). *See generally* Clingman & Cumming, *supra* note 79, at 63, 69–72.

93. 15 U.S.C. § 717b(e)(2). After the 2005 amendments, the law also provides a direct and expedited appeal to the U.S. Courts of Appeals from most federal or state agency decisions under federal law. § 717r(d). It now also authorizes FERC to create a binding schedule for agencies which review projects that fall under FERC's jurisdiction. § 717n(c). To facilitate the process, FERC is required to create both a pre-filing process and a single consolidated record for appeals from all agency decisions. It must also consult states during the application process. § 717n(d).

> service of the LNG terminal; or (III) a requirement to file with the Commission schedules or contracts related to the rates, charges, terms, or conditions of service of the LNG terminal.[94]

In other words, there is no effective third party access or common carrier type arrangement for LNG terminals in the United States.[95] Except for the aforementioned limitations, FERC can approve the application in whole or part, with such modifications and upon such terms and conditions as it finds necessary or appropriate.[96]

In addition to regulation at the federal level, the siting, construction, expansion, or operation of an LNG terminal is still subject to state-level regulation. In particular, the states' rights to authorize LNG facilities include the ability to effectively veto a project by denying permits required under the Clean Water Act, the Coastal Zone Management Act (CZMA), and the Clean Air Act.[97] Also, during FERC review of a project under the National Environmental Policy Act, a state can act as a cooperating agency and can therefore contribute to the environmental review.[98]

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94. § 717b(e)(3)(A)–(B).

95. *See* Berry, *supra* note 37, at 175–76 (stating that in 2002, the U.S. decided to remove the regulatory barriers from the construction of LNG terminals in the so-called Hackberry case, where FERC stated that it would not, under certain conditions, apply a cost-of-service regulation and open-access obligations to the LNG-terminals, and approved a market-based rate-making mechanism for the terminal).

96. 15 U.S.C. § 717b(a).

97. Jacob Dweck, et al., *Liquefied Natural Gas (LNG) Litigation After the Energy Policy Act of 2005: State Powers in LNG Terminal Siting*, 27 ENERGY L.J. 473, 481–85 (2006) (discussing the CZMA as the primary body providing for a state veto power and the Clean Air Act and Clean Water Act as providing for state regulation).

98. *See id.* at 481–82; Coastal Zone Management Act of 1972, Pub. L. No. 92-583, § 307(c), 86 Stat. 1280, 1285 (1972). According to FERC,

> [a]n LNG project proponent must certify that the proposed activity in a designated coastal zone complies with the enforceable policies of the affected state's coastal zone management program. If the state does not concur with the certification, no FERC approval to construct may be granted. This applies to all Federal permits and authorizations, including FERC and the U.S. Army Corps of Engineers. A finding of inconsistency can be appealed to the Secretary of Commerce.

FEDERAL ENERGY REGULATORY COMMISSION, LNG: LAWS AND REGULATIONS, http://www.ferc.gov/industries/lng/gen-info/laws-regs/state-rights.asp (last visited Feb. 1,

B. Access to EU natural gas markets

1. EU Natural Gas Markets—An Overview

The European Union does not possess sufficient indigenous resources to satisfy its energy demand and is therefore dependent on external sources.[99] Furthermore, the production in the European Union is declining; the reserves in the North Sea are at the end of their capacity,[100] the reserve-to-production (R/P) ratio for the United Kingdom has dropped from sixteen years in the 1980s to seven years in 2000[101] and to six years in 2006,[102] and, while the R/P ratio for the Netherlands has remained steadier, it is currently only 22.3.[103] This means that the European Union is becoming increasingly dependent on external supplies.

Main sources of natural gas for the European Union are Algeria, Russia, and Norway.[104] Algeria exports through pipelines to Italy, Spain, and Portugal.[105] Total pipeline exports from Algeria to the European Union in 2006 were 34,383 million

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2009); *e.g.*, Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, § 401(a)(1), 86 Stat. 816, 877–78 (1972) (stating that a certification of compliance with the state's water quality standards is required from the responsible state agency for any activity, including construction of LNG facilities, that may result in a discharge into navigable waters); Clean Air Act, Pub. L. No. 88-206, §5, 77 Stat. 392, 396 (1963) (explaining that if the responsible state agency does not issue the permit, the project cannot go forward); *see also* Dweck et al., *supra* note 97, at 482–87.

99. NATURAL GAS INFORMATION, *supra* note 6, at I.3; *see supra* text accompanying notes 5–6.

100. *See* Armelle Lecarpentier, Cedigaz, Session Presentation at OAPEC-IFP Joint Seminar: European Gas Supply Increasing Needs for Diversification (June 18, 2008), *available at* http://www.oapecorg.org/publications/SeminarIFP2008/cd17062008/Session%201/Armelle%20Lecarpentier%20pres%20powerpoint.ppt.

101. JONATHAN STERN, SECURITY OF EUROPEAN NATURAL GAS SUPPLIES: THE IMPACT OF IMPORT DEPENDENCE AND LIBERALIZATION 7 tbl.1 (2002).

102. BRITISH PETROLEUM, BP STATISTICAL REVIEW OF WORLD ENERGY 2006 22 (2006), *available at* http://www.bp.com/liveassets/bp_internet/switzerland/corporate_switzerland/STAGING/local_assets/downloads_pdfs/pq/pm_statistical_review_of_world_energy_full_report_2006.pdf.

103. *Id.* The reserves of the other EU Member States (Denmark, Germany, Italy, Poland, and some others) are insignificant and not taken into consideration here.

104. GEOPOLITICS OF EU ENERGY SUPPLY, *supra* note 58.

105. *See* NATURAL GAS INFORMATION, *supra* note 6.

cubic metres.[106] LNG was shipped from Algeria to the following EU countries: Belgium, France, Greece, Italy, Spain, and the United Kingdom. Total volume for the European Union was 19,610 million cubic metres in 2006.[107] Russia exports through pipelines to Austria, Belgium, the Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, Poland, and the Slovak Republic.[108] Total pipeline exports to the European Union in 2006 were 114,321 million cubic metres.[109] Insignificant amounts of LNG, if any, were shipped from Russia to EU countries.[110] Norway's exports through pipelines to Austria, Belgium, the Czech Republic, France, Germany, Italy, and Poland totaled 68,327 million cubic metres in 2006.[111] Unlike the European Union, these three source countries still possess sufficient resources to meet the increasing demand for several decades. Russia is currently responsible for twenty-two percent of world gas production[112] with an R/P ratio of around 77.8 years.[113] Algeria produces three percent of the world's gas[114] with an R/P ratio of 53.3 years.[115] For Norway, the R/P ratio is slightly smaller at 33 years.[116] Comparing the past records with the development of R/P ratios, it is also very likely that these figures will change in the future.[117]

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106. *Id.* at II.36.

107. *Id.*

108. *Id.* at II.37.

109. *Id.* at II.37–38.

110. *Id.* at II.29.

111. *Id.* at II.32.

112. INT'L ENERGY AGENCY, KEY WORLD ENERGY STATISTICS 13 (2007).

113. MARIJKE ZEWUSTER ET AL., ABN AMRO, RUSSIA, A PROMISING AND EXCITING BUSINESS ENVIRONMENT 25 (2007), *available at* http://www.abnamro.nl/nl/images/ABN_AMRO_Rusland_rapport.pdf.

114. INT'L ENERGY AGENCY, *supra* note 112, at 13.

115. Jonathan Stern, *A Constrained Future for International Gas Trade?*, 72 Oxford Energy Forum tbl.1 (2008), *available at* http://www.fief.ru/content/32/1/article/Stern_ForumReviseClean.doc.

116. UPSTREAMONLINE, WORLD PROVEN GAS RESERVES, http://www.upstreamonline.com/market_data/?id=markets_gasreserves (last visited Feb. 1, 2009).

117. *See* STERN, *supra* note 101, at 7. *A* number of unknown variables make these calculations not entirely accurate. The larger the reference area is, the more difficult these calculations become. First we must distinguish between proven and unknown reserves. Proven reserves are those which are currently known and proven to exist. This,

As a significant difference to U.S. practice, the natural gas prices in the continental European Union have traditionally been linked to competing fuels, namely oil prices.[118] However, this trend is slowly changing, in particular for LNG. More and more contracts, those in the United Kingdom in particular, are linked to gas spot prices in the National Balancing Point, a virtual trading hub in the United Kingdom, or some other major hub.[119]

2. EC-level and national-level regulation of markets

Before examining the access regulations in the European Union, one significant point must be made: In the EC legal order, the authority to regulate energy markets is divided between member states and the European Community.[120] It is therefore necessary to heed both EC-level and national-level regulations when examining the regulatory framework for access to gas markets and LNG facilities. Despite the legislative instruments at the EC level with a harmonizing effect, there are significant differences in regulatory requirements and the role of the state in national markets.[121] This is a result of traditions,

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obviously, changes from time to time and, despite the fears of depletion voiced over three decades ago, the proven reserves of Algeria, the former Soviet Union states and Norway are much greater today than 30 years ago. *Id.; see also* NATURAL GAS INFORMATION, *supra* note 6, at II.50–51 (showing that new reserves are continually being provided, and that the size of reserves may be larger than originally anticipated. The opposite holds as well: recoverable reserves may turn out to be less than originally anticipated).

118. *See Liquefied Natural Gas Market*, *supra* note 62, at 3–4.

119. *See* Bastian Schwark, *Important New Nodes; Gas Hubs and Their Impact on Competition*, NETWORK INDUSTRIES Q. (2006) (explaining the rising number of hubs and traded volumes, with the greatest prominence placed on the National Balancing Point (NBP)). The problem here is the underdeveloped nature of the EU gas trade. *See id.* The low liquidity and very limited number of players mitigate the practicality of the price being indexed to hub prices. *Id.*

120. *See* Mehmet Ugur, Chairman, Univ. of Greenwich Bus. School, Paper Presentation at the European Union Studies Association 10th Biennial International Conference: Regulatory Quality in EU Network Industries: Evidence on Telecommunications, Gas, Electricity and Rail Transport pt. 3.1 (May 17, 2007), *available at* http://www.unc.edu/euce/eusa2007/papers/ugur-m-04c.pdf (explaining that the energy regulatory regime in EU network industries is the product of both national and EU-level legislation).

121. *See, e.g.*, MICHAEL BARNIER, EUROPEAN COMM'N, SECOND REPORT ON ECONOMIC & SOCIAL COHESION 107, 107–08 (2001), *available at* http://ec.europa.eu/

history, and the resource base in each member state. Certain states have significant natural gas resources while others do not.[122] This obviously impacts the regulatory choices of various member states.

The applicable EC legislation (the Gas Directive) relates to issues such as access to markets, nondiscrimination, and third-party access.[123] These issues, in general, due to their nature and having regard to the internal market objective of the EC, can be better addressed at the EC level. The applicable national legislation, on the other hand, may relate to areas that have not been subject to full harmonization at the EU level and to issues that can be dealt with on a national level. These national requirements may relate to import, export and other type licenses, environmental permits, land and property-related rules, as well as taxation.[124] As these are scattered around various laws and regulations, and as they are subject to changes, I will not enter into a very detailed analysis of these rules.

3. Access to existing LNG terminals in the European Union

Existing re-gasification terminals are operated by LNG system operators.[125] Under EC law, "LNG system operator" means a "natural or legal person who carries out the function of liquefaction of natural gas, or the importation, offloading, and re-gasification of LNG and is responsible for operating a LNG

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regional_policy/sources/docoffic/official/reports/pdf/p2_en.pdf (discussing the varied scenario of energy costs and prices among the EU states).

122. *See* CLINGENDAEL INT'L ENERGY PROGRAMME, NATURAL GAS SUPPLY FOR THE EU IN THE SHORT TO MEDIUM TERM 8 (2004) (stating that the major EU gas producers are the UK, the Netherlands, Germany, Denmark, Italy, Austria, and Ireland).

123. *See* Council Directive 2003/55, art. 31, 2003 O.J. (L 176) 3 (EC) [hereinafter Council Directive 2003/55] (explaining the European Commission's control regarding the existence of nondiscriminatory access, including third-party access, to the internal gas market).

124. *See, e.g.*, *id.* art. 3 (granting EU member states the power to undertake operations relating to security, regularity, quality and price of supplies, and environmental protection).

125. *See LNG Business Rules*, GTE POSITION (Gas Transmission Europe), July 2, 2004, at 3 [hereinafter *LNG Business Rules*].

facility."[126] The LNG system operator is under an obligation to operate, maintain and develop the LNG facilities and not to discriminate between system users or classes of system users.[127] If the system operator is part of an integrated company, this obligation refers in particular to favoritism towards its related undertakings, to provide all other system operators sufficient information to ensure system reliability and efficient use of the system, and to provide the users of the system enough information to enable efficient access to the system.[128]

The access to several parts of the gas supply chain, including LNG facilities, transmission, and distribution systems have to be based on published tariffs.[129] These tariffs have to be applicable to all eligible customers, including supply undertakings, and they must be applied "objectively and without discrimination between system users."[130] Access tariffs that can be charged to the shippers are set individually by member states.[131] However, the Gas Directive requires that the tariffs (or the methodologies underlying their calculation) be approved by the national regulatory authorities and be published before their entry into force.[132] Therefore, the access and capacity allocation procedures should be available to each shipper.[133]

Access to the gas supply chain, including LNG terminals, can only be refused where there is a lack of capacity or where the access to the system would prevent another entity from carrying out public service obligations,[134] the latter reason being less likely to be the case with re-gasification terminals than with important pipelines or interconnectors.[135] Access can also be

126. Council Directive 2003/55, *supra* note 123, art. 2.

127. *Id.* art. 8.

128. *See id.*

129. *Id.* art. 18.

130. *Id.*

131. *See, e.g.*, Decree No. 2005-1616 of Dec. 20, 2005, Journal Officiel de la République Française [J.O.] [Official Gazette of France], Dec. 23, 2005, p. 19814 (setting access tariffs in France).

132. Council Directive 2003/55, *supra* note 123, art. 18.

133. *See LNG Business Rules*, *supra* note 125, at 5.

134. Council Directive 2003/55, *supra* note 123, art. 21.

135. The public service obligations allowed under the Gas Directive are activities that would have a greater impact on downstream supply, such as pipelines or

denied because of serious economic and financial difficulties with take-or-pay contracts.[136] Where access is denied, the LNG system operator is under an obligation to provide for duly substantiated reasons for the refusal.[137]

In assessing the technical and/or available capacity of an LNG re-gasification terminal, it is necessary to distinguish between three different processes with different capacity constraints: unloading, storage, and send-out, which includes vaporizers and pumps.[138] Additionally, the transmission capacity of the pipeline system that the terminal feeds into can function as a bottleneck.[139] Where the capacity of the existing LNG terminals is fully used and the potential importer cannot use them for access, one significant possibility is to consider constructing a new terminal.[140]

IV. NEW LNG TERMINALS

As the global LNG boom is putting the entire LNG chain under stress, it is possible that an importer does not find sufficient, available (i.e. non-contracted) capacity in the existing re-gasification terminals, at least to an extent that could be used as a basis for any larger operation (which, in the case of a new

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interconnectors, than on upstream supply points such as re-gasification terminals. *See* Council Directive 2003/55, *supra* note 123, art. 3 (limiting public service obligations to those relating to security and environmental protection).

136. *Id.* art. 21.

137. *Id.*

138. *See LNG Business Rules*, *supra* note 125, at 4–5. In principle, LNG storage and/or temporary LNG storage can also be treated separately. *See* Council Directive 2003/55, *supra* note 123, art. 2 (explaining that an LNG facility includes temporary storage but not permanent storage, thus differentiating between the two).

139. *See LNG Business Rules*, *supra* note 125, at 5 (implying that bottlenecks occur as a result of pipeline transmission capacity).

140. *See* Christian Schmollinger, *Algeria Eyeing More US Access to Balance European LNG* Sales, NAT. GAS WK., Nov. 11, 2002, http://www.mem-algeria.org/actu/comn/articles/lng_sales.htm. This scenario is obviously much more likely to take place than are alternative means of accessing the market since, natural gas business being a network-bound business, the other main alternative would be pipeline access. Access to the existing upstream pipelines is very difficult yet often more feasible than constructing a new pipeline. *See id.* (demonstrating that while it is possible to expand existing terminals as well as construct new ones, the challenges inherent in constructing a new LNG terminal are significantly more notable).

player or significant extension of previous activities, would be required). Also, the global trend toward shorter term contracts, and even spot contracts, may affect the availability of capacity in LNG terminals.[141] In this case, to provide the commercial operation with sufficient guarantees of access to markets, another alternative scenario is to construct a new LNG re-gasification terminal to be used by the importer alone or in part.[142] In the latter case, the remaining part should normally be offered to third parties in accordance with the access rules explained in the previous section.[143]

Under article 22 of the Gas Directive, a major new piece of the gas infrastructure, including LNG facilities, can be exempted from the mandatory third party access rules and tariff systems.[144] The conditions for an exemption are that:

> (a) the investment must enhance competition in gas supply and enhance security of supply; (b) the level of risk attached to the investment is such that the investment would not take place unless an exemption was granted; (c) the infrastructure must be owned by a natural or legal person, which is separate at least in terms of its legal form from the system operators in whose systems that infrastructure will be built; (d) charges are levied on users of that infrastructure; (e) the exemption is not detrimental to competition, the

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141. *See* CLINGENDAEL INT'L ENERGY PROGRAMME, THE ROLE OF LIQUEFIED NATURAL GAS (LNG) IN THE EUROPEAN GAS MARKET 13 (2003) (explaining that the trend toward short term contracts and spot sales has led to a greater return for surplus LNG production capacity). *See generally* Dagobert L. Brito & Peter R. Hartley, *Expectations and the Evolving World Gas Market*, 28 ENERGY J. 1–23 (2007) (explaining further future trends in the world gas market).

142. *See, e.g.*, Selin Arkut, *Dubai to Build LNG Regasification Terminal*, ARABIANBUSINESS.COM, Apr. 23, 2008, http://www.arabianbusiness.com/517325-dubai-to-build-lng-regasification-terminal (illustrating the importance of building an LNG regasification terminal in order to create access to the global LNG market and to meet a growing energy demand).

143. *See* Council Directive 2003/55, *supra* note 123, art. 18. An exemption from regulated tariffs could be sought, allowing the operator to seek higher return for his or her investment. *See* Jean-Paul Pinon, *Gas-Market Access Key Element in European LNG Terminal Regulations*, LNG OBSERVER, (2007) (arguing that the purpose of the exemptions is to provide incentives for risky investors, with the invested capital rewarded according to a predetermined formula).

144. Council Directive 2003/55, *supra* note 123, art. 22.

> effective functioning of the internal gas market, or the efficient functioning of the regulated system to which the infrastructure is connected.[145]

This possibility to apply for an exemption also applies to significant increases of capacity in existing facilities and to modifications in existing facilities that would enable the development of new sources of gas supply.[146] This addition is very relevant for LNG re-gasification terminals.

The first, and one of the most central requirements from a decision-making point of view (the other central one being the level of risk-related conditions), is that the investment must enhance competition in gas supply and enhance security of supply.[147] It follows that the possibility for an exemption is generally not available where a dominant position would be created or reinforced, or where the exemption would reduce the scope for diluting existing dominant positions, or where a similar competing infrastructure would not likely be constructed.[148] The investors must show that the level of risk attached to the investment is sufficiently high to justify an

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145. *Id.*

146. *Id.*

147. *Id.* In electricity, article 7 of Regulation 1228/03/EC contains a similar exemption regime, but with the notable difference that it does not include a reference to security of supply; the comparable condition of that Regulation reads only that the investment must enhance competition in electricity supply. Council Regulation 1228/2003, art. 7, 2003 O.J. (L 176) 7 (EC) [hereinafter Council Regulation 1228/2003]. It might be, however, that the beneficial effect of further linkages between member states through new interconnections is presumed to exist in all cases and there was accordingly no need to make an explicit reference to enhancement of security of supply.

148. Note of DG Energy & Transport on Directives 2003/54–55 and Regulation 1228/03 in the Electricity and Gas Internal Market, Exemptions from Certain Provisions of the Third Party Access Regime, 1–2 (Jan. 30, 2004) [hereinafter Note of DG Energy & Transport]. However, it must be noted that where the exemption covers an interconnection, various possibilities exist: (i) competition is enhanced in both markets, (ii) competition is enhanced in one market while the effect on the other market is very limited, (iii) competition is enhanced in one market and lessened in the other market, and (iv) competition is lessened in both markets. *Id.* It is clear that an exemption is possible in scenario (i) and very unlikely in scenario (iv). *See* Kim Talus, *First Experience Under the Exemption Regime of EC Regulation 1228/2003 on Conditions for Access to the Network of Cross-Border Exchanges in Electricity*, 23 J. ENERGY & NAT. RESOURCES L. 266, 271 (2005). However, scenarios (ii) and (iii) are much less clear. *See id.*

exemption.[149] Further, applying the principle of proportionality, the extent (in terms of time and scope) of the exemption should also correspond to the level of risk.[150] As an exemption is a deviation from the general rule, it should always be as restrictive as possible. Factors that determine the level of risk are the expected overall cost of the project, the expected return on the investment, the foreseen amortization period, and the cost of capital.[151] In addition to these factors affecting the level of the risk involved in an investment, the investors should show actual risks associated with the project. These risks can, among other things, be commercial, technical, regulatory, or political.

The requirement that the investor be a legal person separate from the national transmission system operator (TSO)[152] can be fulfilled if the investor is not the TSO, or where the investor TSO has created a project company to run the project and the exempted section of the supply chain. This also relates to the requirement that the charges must be levied by the users of the infrastructure.[153] When read together, these requirements state that the portion of the facility that is exempted from price regulation should not have any of its costs underwritten through regulated charges.[154]

The final requirement is that the exemption not be detrimental to competition, the internal market, or the regulated system to which the infrastructure is connected.[155] This is linked with the first requirement. They both aim to preserve competitive gas markets. Where the first condition requires that the investment must "enhance competition" in gas supply,[156] this condition requires that the exemption not be "to the detriment of competition or the effective functioning of the internal . . . market" or of the appropriate regulated system.[157]

149. Council Directive 2003/55, *supra* note 123, art. 22.

150. Note of DG Energy & Transport, *supra* note 148, at 5.

151. *Id.*

152. Council Regulation 1228/2003, *supra* note 147, art. 7.

153. *Id.*

154. *See id.*

155. *Id.*

156. *Id.*

157. *Id.*

The European Commission illustrates this with an example: in a market with significant concentration, the exemption should not imply a restriction on the possibility of entry of any type.[158] It is clear that the more competitive gas markets are, the greater the chance for an exemption.

It is significant to note that the decision should not be a simple exemption from all provisions provided for in article 22.[159] On the contrary, the exemption is granted only on a case-by-case basis; therefore, even if all conditions are met, an exemption is not automatically granted, and a partial exemption covering only a part of the capacity of the new infrastructure, or of the new additional capacity, is possible and preferred.[160] If an exemption is granted, the awarding national authority can also impose conditions regarding the duration of the exemption and nondiscriminatory access to, for example, part of the infrastructure's capacity.[161] In such cases, account shall be taken of the additional capacity to be built, the expected time horizon of the project, and national circumstances.[162] Also, when granting an exemption the relevant authority may approve or set the rules and mechanisms for management and allocation of free capacity, insofar as this does not prevent the implementation of long-term contracts.[163]

When making the decision on the above-explained factors, the following factors, among others, should be considered: (i) duration of contracts, (ii) additional capacity to be built or the modification of existing capacity, (iii) the time horizon of the project, and (iv) national circumstances.

158. Note of DG Energy & Transport, *supra* note 148, at 5–6.

159. *See id.* at 4.

160. Note of DG Energy & Transport, *supra* note 148, at 4.

161. *See* Council Directive 2003/55, *supra* note 123, art. 22.

162. *Id.*

163. *Id.*

V. EU AND U.S. ACCESS REGIMES – A COMPARISON

The regulatory choices on both sides of the Atlantic are similar. In both cases, the change of paradigm—from state to market—translates into open access in most parts of the gas supply chain. In the United States, this was initially done through Order Number 436[164] and then complemented by Order Number 636.[165] Essentially, Order 436 instituted a model of open-access, nondiscriminatory transportation to permit local distribution companies, industrial users, and other players in the downstream gas markets to purchase natural gas directly from gas merchants as an alternative to purchasing their requirements from the pipeline companies in a particular distribution area under the pipelines' bundled sales services.[166] While Order 436 (and other previous orders) had tried to promote nondiscriminatory access to transportation services without dealing with issues relating to vertical integration, Order 636 required functional unbundling of transportation and sales.[167] Merchant pipelines were forced to separate sales activities and transportation services into different units.[168] Order 636 did not require any kind of divestiture in form of ownership unbundling; instead, it required that the companies engage in an internal restructuring of their company activities.[169] The idea behind this functional unbundling was to ensure equal transportation services for third-party gas and pipeline companies' own gas.[170] Functional unbundling had the

164. Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 50 Fed. Reg. 42,408 (Federal Energy Regulatory Commission Oct. 9, 1985) (Order # 436) [hereinafter Order No. 436].

165. Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 18 C.F.R. § 284 (1992) (Order No. 636) [hereinafter Order No. 636].

166. Order No. 436, *supra* note 164.

167. *Id.*; Order No. 636, *supra* note 165.

168. Order No. 636, *supra* note 165.

169. *See* FRED BOSSELMAN, JIM ROSSI & JACQUELINE LANG WEAVER, ENERGY, ECONOMICS AND THE ENVIRONMENT 591 (2000).

170. *See id.*

sought-after result: it increased competition between various gas sellers and mitigated the market power of pipeline companies, at least to a certain degree.[171]

In the European Union, this was done progressively. In 1998, Directive 98/30/EC still provided member states with a choice between negotiated access and regulated access;[172] but the new regime of Directive 2003/55/EC in 2003 limited the possibilities to apply the negotiated access regimes to specific parts of the gas supply chain, such as storage.[173] According to article 18 of Directive 2003/55/EC, third-party access to the transmission and distribution system, and LNG facilities, has to be based on published tariffs.[174] These tariffs have to be applicable to all eligible customers, including supply undertakings, and they must be applied objectively and without discrimination between system users.[175]

Despite this initial similarity between the two regimes, important differences exist. Many of them result directly from the different geopolitical situation of the two markets. While the United States has a fairly well-functioning natural gas market with hundreds of players, the European Union is largely dependent on a very small number of players trading through bilateral long-term gas purchase agreements.[176] This difference is also reflected in the energy regulation.

The increasing international competition over the resources and the sudden boom in the international LNG business has forced both markets to consider ways to attract urgently needed

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171. *See* ENERGY INFO. ADMIN., FERC ORDER 636: THE RESTRUCTURING ROLE (1992),http://www.eia.doe.gov/oil_gas/natural_gas/analysis_publications/ngmajorleg/ferc636.html (last visited Feb. 1, 2009).

172. Council Directive 98/30 arts. 14–16, 1998 O.J. (L 204) 7 (EC).

173. Council Directive 2003/55, *supra* note 123, arts. 18–19.

174. *Id.* art. 18.

175. *Id.*

176. Andrej Juris, *Development of Competitive Natural Gas Markets in the United States*, 141 PUB. POL'Y FOR THE PRIVATE SECTOR 4–5 (1998), http://rru.worldbank.org/documents/publicpolicyjournal/141juris.pdf; Anne Neumann & Christian von Hirschhausen, *Less Long-Term Gas to Europe? A Quantitative Analysis of European Long-Term Gas Supply Contracts* 175–76 (German Inst. for Econ. Res., Working Paper No. 7, 2004), *available at* ://www.tu-dresden.de/wwbwleeg/publications/wp_gg_07_hirschhausen_neumann.pdf.

investment into the LNG supply chain. In both cases, this is done by providing exceptions from general third-party access regimes. As could easily be detected from the examination of the respective regimes, a clear and fundamental difference can be found between the solutions on both sides of the Atlantic. In the United States, the former open access regime for LNG terminals was abolished for an initial period of approximately fifteen years by the 2005 Energy Policy Act, establishing instead the rule of proprietary ownership for LNG terminals.[177] In the European Union, the legislature has maintained the open access regime for LNG terminals.[178] New re-gasification terminals are therefore subject to third-party access rules.

As was previously discussed, the need to attract necessary financing and provide for security of supply has brought the European Union closer to the U.S. model.[179] In practice, all new LNG terminals can be exempted from general third-party access rules. Out of a total of six applications for article 22 exemptions submitted by July 2005, five concerned LNG terminals and one concerned natural gas interconnectors.[180] The European Community has indicated that, in principle, all new LNG facilities are eligible for exemption from TPA and other related obligations under article 22 of the Gas Directive.[181] The only situation where such an exemption would perhaps not be granted is where the owner of the facility is an ex-incumbent and the new facility would further increase its market dominance and/or where this investment would have a negative

177. Sutherland, Asbill & Brennan LLP, Legal Alert: *Energy Policy Act of 2005: Title III as it relates to LNG*, Aug. 18, 2005, 1–2, http://www.sutherland.com/files/News/bf4a9db8-9577-403e-95e7 fa1e3ff13afa/Presentation/NewsAttachment/d705c9cf-b37d-4bf0-8a0d-7b2070931567/legalalertenergypolicyactof2005august172005LNG.pdf.

178. KING & SPALDING, LNG IN EUROPE: AN OVERVIEW OF EUROPEAN IMPORT TERMINALS 3 (2006) http://www.kslaw.com/library/pdf/LNG_in_Europe.pdf.

179. *See supra* Part III.

180. Fabrizio Hernandez & Monica Gandolfini, *EU Exemptions to TPA for New Gas Infrastructures*, 24 ENERGY REG. INSIGHTS 7 (2005), *available at* http://www.nera.com/NewsletterIssue/ER_Insights_Issue24_7.2005.pdf.

181. Note of DG Energy & Transport, *supra* note 148, at 6.

impact on the investment conditions for other new LNG re-gasification plants.[182] The logic here is that the anti-competitive effects could outweigh the positive security benefits.

The U.S. approach seems to be more pragmatic. In order to attract new investments in a timely manner, LNG import facilities are essentially treated as sources of supply rather than parts of the supply chain.[183] New terminals are therefore categorically outside the scope of any open access regimes. The approach in the European Union is more rigid, and the subscription to TPA is stronger. While the end result is largely the same, the necessary regulatory exemptions increase the regulatory burden of the constructor. As an exemption may also be revoked,[184] the regulatory risk for the operator increases. Finally, unlike the United States, the exemption in the European Union is limited in time.[185]

These differences are significant. A recent study in the European Union showed that companies active in EU markets, most of which are also active in the United States, were pursuing opportunities to develop their own LNG terminals or to gain access to third-party terminals in new EU countries.[186] Additionally, all companies that were interviewed for the study considered an exemption from regulated TPA either essential or desirable, and that there was a risk with a partial exemption in the form of stranded capacity.[187] This is particularly significant considering that some of the interviewed companies noted that if they had to choose an alternative terminal they would prefer U.S. markets, being the more liquid market where no regulatory interventions on LNG terminals take place.[188]

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182. *See id.* at 2–3; *see also* Fabrizio Barbaso, *Deputy Director-General for Energy, European Comm'n, Speech at 15th International Conference & Exhibition on Liquefied Natural Gas: Impact of LNG on the European Gas Market* (Apr. 24, 2007), *available at* http://www.lng15.com/noticias.asp?noticia=25.

183. *See* CLINGENDAEL PROGRAMME, *supra* note 17, at 54.

184. Council Directive 2003/55, *supra* note 123, art. 22.

185. *See id.*

186. *See* NERA ECONOMIC CONSULTING, THIRD PARTY ACCESS TO LNG TERMINALS, at 153 (Nov. 10, 2006) (prepared for European Regulators Group for Electricity and Gas).

187. *Id.* at 160.

188. *Id.*

Another interesting trend in the regulation of the LNG business that is common for the two markets relates to the level of regulation. It seems that the regulation of gas infrastructure, the LNG supply infrastructure in particular, is moving from the state/national to the federal/EU level. The member states' right to make decisions over the applicable rules concerning re-gasification terminals has, in both cases, been compromised in favor of the federal level. One possible explanation is the need to consider the overall picture as a central part of the decision-making over these terminals. This means that the systemic aspect of energy security is taken into consideration. Energy security is more than the sum of various critical sections of the energy infrastructure; it is more than the elements of the system. The entire system must be considered when a policy is drafted.[189] With the increasing reliance on LNG on both sides of the Atlantic, this systemic aspect must be considered. Another possible explanation is, of course, more cynical and relates to the desires of the Commission and/or FERC to increase their respective powers.

VI. CONCLUSION

This Article has examined and compared access conditions to LNG terminals in the European Union and the United States. The central finding of the Article is that, despite some underlying ideological differences, the harsh realities of the global LNG market have aligned in their approaches. In both cases, internal competition is compromised to be internationally competitive. Still, differences exist and, it seems, the U.S. regulation of re-gasification terminals proves to be more attractive for a potential LNG importer.[190]

However, the access regime is not the only factor that dictates the choice of an importer or even the fate of a planned LNG terminal. It is the market that, in the end, determines whether the approved LNG terminal is built.[191] In addition to

189. ENERGY SECURITY**,** *supra* note 4, at 7.

190. *See supra* note 186 and accompanying text.

191. *See* Barbaso, *supra* note 182 (predicting the effects on the EU market if the price of LNG continues to fall).

the fact that the economic issues surrounding global LNG business are increasingly complicated,[192] the demand for natural gas in the United States and the European Union and the increased competition from other LNG projects at various stages affect the business case of a given project. In the United States, industry participants have predicted that only twelve of the forty LNG terminals that are currently being considered will ever be built.[193] This seems right for the European Union, as well.

Many of the Asian countries rely completely on LNG.[194] The main LNG consumers of the region, Japan, Taiwan, and South Korea, belong to this category.[195] The Asian market is expected to grow and the historically high LNG price levels continue to exist.[196] This means that the European Union and the United States will have to compete with these countries over LNG imports. In this competition, favorable access conditions are only a part of the puzzle. A more important factor is undoubtedly the market price. Unless significant new investments are made in various segments of the natural gas supply chain, including exploration, production, pipelines, and LNG facilities, the current prices are unlikely to drop.[197] Even with such investments, it will take years before they have an effect on the markets. Because of this, the European Union and the United States share yet another significant feature: both markets must, in the future, be prepared to pay increasingly high prices for LNG shipments.

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192. The fact that the European Union and the United States have to compete with high gas price countries like Japan for LNG shipments, and that shipments can and are being redirected to the location where the best price can be obtained, are examples of these complications. *See supra* note 51 and accompanying text.

193. *See* Federal Energy Regulatory Commission, Industries, Liquefied Natural Gas (LNG), http://www.ferc.gov/industries/lng.asp (last visited Feb. 1, 2009). There are currently fifteen facilities under FERC jurisdiction in the continental United States. *Id.* Here it must be noted that it seems as though the greatest demand for these facilities is on the east coast. *Id.* This, however, is an area where there is important local opposition against new terminals. *Id.*

194. CLINGENDAEL PROGRAMME, *supra* note 17, at 55.

195. *Id.*

196. *Id.* at 55–56.

197. *See supra* Part III.B.