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The Effectiveness of Cross-Border Pipeline Safety and Environmental Regulations (under International Law)

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The Effectiveness of Cross-Border Pipeline Safety and Environmental Regulations (under International Law)

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The Effectiveness of Cross-Border Pipeline Safety and Environmental Regulations (under International Law)

Mehdi Piri D.† and Michael Faure††

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I. Introduction

Due to the growth of energy consumption, in particular of fossil fuels such as oil and gas, the cross-border trade of fossil fuels has increased.¹ International transportation of fossil fuels has been carried out using a wide range of instruments, including both offshore and onshore transmission.² The pipeline is a cost-

¹ *BP Energy Outlook 2030*, BP STAT. REV. OF WORLD ENERGY (BP/Energy Rep., London), Jan. 2011, at 76-77, http://www.bp.com/content/dam/bp/pdf/Energy-economics/Energy-Outlook/BP_Energy_Outlook_Booklet_2011.pdf [hereinafter 2011 Energy Outlook] (noting that the world primary energy consumption has grown by 45% over the past 20 years and will likely grow another 39% over the next 20 years). During the 20th century, the rate of produced and consumed natural gas daily increased. *Id.* at 31. While the use of oil and coal as main fuels has decreased around the world, natural gas has increased. *Id.* at 35. The share of crude oil in the world's energy supply will decline during the two next decades. *See id.* at 29.

² *See BP Energy Outlook 2030*, BP STAT. REV. OF WORLD ENERGY (BP/Energy Rep., London), Jan. 2012, at 18, http://www.bp.com/content/dam/bp/pdf/Energy-economics/Energy-Outlook/BP_Energy_Outlook_Booklet-2012.pdf [hereinafter 2012 Energy Outlook] (displaying map of major trade movements in 2011 throughout the world and a chart containing information about crude and product imports and exports in

effective and relatively safe tool for the transportation of oil and gas.³ Pipelines are extensively used for terrestrial and submarine transportation of hazardous materials.⁴ In addition, there are many offshore pipelines for transporting oil from offshore facilities to coasts.⁵ An example is that found in the North Sea.⁶ From a technical perspective, cross-border oil and gas pipelines have specific differences. From a legal perspective, however, cross-border oil and gas pipelines are very similar. These similarities and differences will be explored throughout this paper.

Although pipelines are recognized as a safe way to transport petroleum,⁷ numerous pipeline accidents have occurred worldwide.⁸ Pipeline accidents have caused a significant number of personal injuries, environmental damage, and economic loss because of the types of substances transported by pipelines.⁹ The extent and amount of harm varies on a case-by-case basis depending on the location of the pipeline.¹⁰ For example, on July 30, 2004, a transit gas pipeline exploded in the Ghislenghien industrial zone approximately 50 kilometers south of Brussels,

2011).

³ Georgios A. Papadakis, *Major Hazard Pipelines: A Comparative Study of Onshore Transmission Accidents*, 12 J. LOSS PREVENTION PROCESS INDUSTRIES 91, 91 (1999); see 2012 Energy Outlook, *supra* note 2, at 34 (showing that 67.73% of the total amount of global gas exports were transmitted via pipelines).

⁴ See Papadakis, *supra* note 3, at 92 (noting major onshore pipeline accidents which mostly consist of the transmission of hazardous materials).

⁵ See *id.* at 96 (highlighting how offshore pipelines exist as a method for transporting oil).

⁶ ØYSTEIN NORENG, *THE OIL INDUSTRY AND GOVERNMENT STRATEGY IN THE NORTH SEA* 31-34 (1980).

⁷ Diana Furchtgott-Roth, *Pipelines are Safest for Transportation of Oil & Gas*, MANHATTAN INST. FOR POL'Y RES. 1, 1 (2013), available at http://www.manhattan-institute.org/html/ib_23.htm#U_3ffrywKH0; W. Kent Muhlbauer, *Modeling for Pipelines Risk Assessments*, in PIPELINE RULES OF THUMB HANDBOOK: A MANUAL OF QUICK, ACCURATE SOLUTIONS TO EVERYDAY PIPELINE ENGINEERING PROBLEMS 733, 733 (E.W. McAllister ed., 8th 2013); see also Margaret T. Okoroduda-Fubara, *Oil in the Persian Gulf War: Legal Appraisal of an Environmental Warfare*, 23 ST. MARY'S L.J. 123, 125-26 (1991) (stating that governments have a responsibility to shape their decisions with prudent care in ways that will protect the environment).

⁸ Muhlbauer, *supra* note 7, at 733.

⁹ See *id.* at 733-34; see Papadakis, *supra* note 3, at 92.

¹⁰ See Papadakis, *supra* note 3, at 92 (stating that pipeline failure can be avoided by improving safety measures, but are still possible with aging infrastructure catastrophic failures).

Belgium.¹¹ That pipeline was transporting Norwegian gas to France from the Belgian landfall of Zeepipe in Zeebrugge.¹² As a result of the accident, 24 people died and more than 120 were injured.¹³ In another incident on July 25, 2010, a massive amount of oil was released from a cross-border pipeline located in Marshall, Michigan, causing 840,000 gallons of oil to spill into Talmadge Creek and the Kalamazoo River.¹⁴ As a result of this oil spill, the air, waterways, and wetlands became contaminated, resulting in a noxious and toxic stench and death and injury to wildlife.¹⁵

Generally, gas presents a higher risk of personal injury, whereas oil presents a higher risk for environmental damage.¹⁶ Although there are various reasons for pipeline accidents, safety and environmental regulations aim to prevent and minimize the risk of accidents and their consequences.¹⁷ Undoubtedly, the applicable legal regime reflects the applicable preventive regulations as well as the compensation regime.¹⁸ A cross-border pipeline implicates multiple legal regimes, which increases the complexity of the applicable legal regime.¹⁹ To understand these complexities we will first explain what is meant by a cross-border pipeline.

For the purposes of this contribution, we consider a pipeline to be “transboundary” when it traverses the border of at least two

¹¹ *Rupture & Ignition of a Gas Pipeline*, FRENCH MINISTRY FOR ECOLOGY, SUSTAINABLE DEV. & Energy, 1–2 (Sept. 2009), available at http://www.aria.developpement-durable.gouv.fr/wpcontent/files_mf/FD_27681_Ghislengheinv_2004ang.pdf.

¹² *Belgium Gas Line Explosion*, PIPELINES INT'L (Aug. 4, 2004), http://www.pipelinesinternational.net/news/belgium_gas_line_explosion/010021/.

¹³ *Rupture & Ignition*, *supra* note 11, at 3.

¹⁴ Anthony Swift et al., *Tar Sands Pipelines Safety Risks* 1, 6 (Nat. Resources Def. Council et al., 2011).

¹⁵ *Id.* at 7.

¹⁶ *See id.* (“One of the potential toxic products of a DilBit explosion is hydrogen sulfide, a gas which can cause suffocation in concentrations over 100 parts per million and is identified by producers as a potential hazard associated with a DilBit spill.”).

¹⁷ *Id.* at 3; *see* Muhlbauer, *supra* note 7, at 733.

¹⁸ Paul Stevens, *Cross- Border Oil & Gas Pipelines: Problems & Prospects*, CTR. FOR ENERGY, PETROLEUM, & MIN. L. & POL'Y 1, 20 (2003) (“[A] cross-border pipeline must operate between differing legal and regulatory regimes.”).

¹⁹ *See id.*

countries.²⁰ However, in some cases, the pipeline only passes from an inlet country to an output country, whether terrestrial, such as the Iran-Turkey Gas Pipeline,²¹ or subsea, such as the Russia-Turkey Gas Pipeline (Blue Stream).²² In other cases, a pipeline traverses producer, transit, and consumer countries.²³ Usually, the cross-border pipeline will be the subject that determines the applicable regulatory regime.²⁴ If a cross-border pipeline involves a transit country, the transit country or countries will be included in the project.²⁵ For example, the Baku-Tbilisi-Ceyhan (BTC) Oil Pipeline departs from Azerbaijan, passes through Georgia as transit country, and reaches its final destination, the Ceyhan Oil Marine Transport Terminal in Turkey.²⁶

A cross-border pipeline is subject to different regulatory regimes since it stretches beyond national borders and is categorized as a grid-bound transport system.²⁷ A grid-bound transport system means that any accident in a section of the

²⁰ Herbert Smith Freehills, *UK: International Law Regime of Transboundary Pipelines*, MONDAQ (Oct. 11, 2002), <http://www.mondaq.com/x/18195/international+trade+investment/International+Law+Regime+of+Transboundary+Pipelines>.

²¹ Elin Kinnader, *Turkish—Iranian Gas Relationship: Politically Successful, Commercially Problematic*, OXFORD INST. FOR ENERGY STUD. 1, 7 (2010) (stating that Turkey imports almost all of its natural gas resources by pipeline from Iran).

²² A. Konoplyanik, *Russian Gas to Europe: From Long-Term Contracts, On-Border Trade and Destination Clauses to . . . ?*, 23 J. ENERGY & NAT. RESOURCES L. 282, 299 (2005).

²³ Paul Stevens, *Transit Troubles: Pipelines as a Source of Conflict*, CHATHAM HOUSE REP. 1, 1 (2009), available at https://www.chathamhouse.org/sites/files/chathamhouse/public/Research/Energy,%20Environment%20and%20Development/r0309_pipelines.pdf.

²⁴ See Sergei Vinogradov, *Cross-Border Pipelines in International Law*, 14 NAT. RESOURCES & ENV'T. 75, 75 (1999) (discussing two approaches to cross-border pipelines, the traditional and comprehensive approach).

²⁵ See Stevens, *supra* note 23, at 1-2 (stating that there are no jurisdictions to manage transit pipeline agreements because they are separate sovereign entities).

²⁶ See S. Frederick Starr & Svante E. Cornell, *The Baku-Tbilisi-Ceyhan Pipeline: Oil Window to the West*, CENT. ASIA-CAUCASUS INST. SILK RD. STUD. PROGRAM 1, 61-118 (2005), available at <http://www.silkroadstudies.org/BTC.htm> (discussing the implications of the Baku-Tbilisi-Ceyhan Pipeline for Azerbaijan, Georgia and Turkey in separate chapters).

²⁷ See Steven M. Kramer & Bret A. Sumner, *Electric Reliability in North America: Cross-Border Implications*, 14 NAT. RESOURCES & ENV'T. 81, 81 (1999) ("It is important to recognize that maintaining a reliable North American electric grid requires cross-border cooperation among the United States, Canada, and Mexico.").

pipeline would disrupt the whole chain.²⁸ Parties to a cross-border pipeline prefer to rely on regulatory regimes that ensure security of constant supply.²⁹ In addition, transboundary impacts of a cross-border pipeline accident should not be underestimated because of the lack of overarching regulations or a less advanced regulatory regime. Obstacles may arise either for the prevention of accidents or the compensation of victims.³⁰

Most of the cross-border pipelines are constructed and operated by Multinational Corporations (MNCs).³¹ As host states, MNCs usually sign separate contracts with all states involved in a cross-border pipeline project for the construction and operation of the proposed pipeline.³² Accordingly, environmental and safety regulations are often provided through contractual arrangements, as opposed to the application of national and local regulations.³³ This raises the question of how MNCs under such arrangements can be held responsible for full compliance with environmental regulations and for the protection of environmental interests. Therefore, the true effectiveness of cross-border pipeline regulations is highly dependent upon having an effective and overarching international regime.³⁴

The cross-border character of a pipeline, and the fact that safety regulations are often provided on a contractual basis in a project, raises questions concerning not only the applicable preventive regulations and their enforcement, but also the

²⁸ See Rafael Leal Arcas, *Energy Transit Activities: Collection of Intergovernmental Agreements of Oil and Gas Transit Pipelines and Commentary*, ENERGY CHARTER SECRETARIAT KNOWLEDGE CTR. 1, 7 (2014).

²⁹ See Stevens, *supra* note 23, at 22 ("Governments pursue their national interests, and these may differ.").

³⁰ See Helena Montiel et al., *Historical Analysis of Accidents in the Transportation of Natural Gas*, 51 J. HAZARDOUS MATERIALS 77, 88-89, 91 (1996) (suggesting that there may not be enough available data to provide information on victims).

³¹ Lea Hanakova, *Accountability of Transnational Corporations Under International Standards 5* (July 1, 2005) (unpublished LLM thesis, University of Georgia Law) (on file with Digital Goods, University of Georgia Law).

³² *Id.*

³³ See *id.* at 5-6.

³⁴ See Sergei Vinogradov, *Challenges of Nord Stream: Streamlining International Legal Frameworks and Regimes for Submarine Pipelines*, in GERMAN YEARBOOK OF INT'L LAW: JAHRBUCH FÜR INTERNATIONALES RECHT 241, 248 (Universität Kiel. Institut für Internationales Recht ed., 2009).

compensation regime.³⁵ Different jurisdictions are involved in the case when damage results from a transboundary pipeline and this may raise compensation difficulties for victims.³⁶ The damage may be imposed de facto³⁷ on the local community instead of on the polluter.³⁸ Exposing the potential polluter to damages is an important component of victim compensation and provides incentives for the prevention of the harm.³⁹

From an economic perspective, operators should have incentives to follow an optimal level of care.⁴⁰ Even when literature suggests that public regulation may be the primary instrument for environmental and safety risks,⁴¹ there may be an important supplementary role for liability rules as well. For the purpose of this contribution, we analyze the regulatory framework for the prevention of environmental and safety hazards in cross-border pipelines.

The crucial question at the core of this article is whether the current structure of the legal regime applicable to cross-border pipelines provides effective incentives for the prevention of safety and environmental risks. Although we recognize that liability rules will have an important supplementary effect in providing those incentives, liability rules and compensation are matters outside the scope of this contribution. Thus, we focus on the environmental and safety regime applicable to cross-border pipelines.

Using a law and economics framework, Section II provides an

³⁵ See Hanakova, *supra* note 31, at 6.

³⁶ See XUE HANQIN, *TRANSBOUNDARY DAMAGE IN INTERNATIONAL LAW* 6 (2003) (suggesting that countries may disagree on compensation for victims given that damage affecting more than one country is not “caused by human activities alone”).

³⁷ See John Warren Kindt, *International Environmental Law & Policy: An Overview of Transboundary Pollution*, 23 *SAN DIEGO L. REV.* 583, 587 (1986) (“Polluters realize that it is uneconomical to bear the costs of polluting when those costs can be shifted to another party or simply dumped onto the general public.”).

³⁸ Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 *DUKE L.J.* 931, 932 (1997).

³⁹ See Michael Faure & Gerrit Betlem, *Applying National Liability Law to Transboundary Pollution: Some Lessons from Europe & The U.S.*, *MAASTRICHT U. FAC. OF L.* 1, 2 (2009).

⁴⁰ See Stevens, *supra* note 23, at 62, 68; see also Muhlbauer, *supra* note 7, at 733.

⁴¹ E.g., Steven Shavell, *Liability for Harm Versus Regulation of Safety*, 1 (Nat'l Bureau of Econ. Res., Working Paper No. 1218, 1983).

overview of the potential risks cross-border pipelines can create, such as personal injury, environmental damage, and economic losses. Section III sketches the applicable international legal regime to cross-border pipelines. Section IV critically evaluates the safety and environmental regulations applicable to cross-border pipelines, arguing that there are serious flaws in the current structure of the regulatory regime. Section V concludes.

II. Cross-Border Pipeline Risks

Although pipelines are considered relatively safe compared to other modes of transporting hydrocarbons, the risk of accidents and their after-effects should not be underestimated.⁴² A detailed analysis of the reported accidents could give valuable insights concerning reasons why particular preventive measures failed, the type of damage incurred, and how the damage is compensated.⁴³ Thus, in assessing the effectiveness of the regulations that aim to prevent such accidents with cross-border pipelines, it is important to first address and analyze some of the cross-border pipeline accidents that have occurred in the past.⁴⁴

While numerous cross-border pipeline accidents have occurred, the exact number is difficult to ascertain.⁴⁵ Indeed, data on pipeline accidents are mainly gathered by national and international agencies.⁴⁶ Hence, oil and gas pipeline accidents have been prepared at the international and regional level.⁴⁷ Thus, for a better understanding of the potential risks related to pipelines,

⁴² Lucia Citro & Roberta Valentina Gagliardi, *Risk Assessment of Hydrocarbon Releases by Pipelines*, 28 CHEM. ENGINEERING TRANSACTIONS 85, 85 (2012) (It.), available at <http://www.aidic.it/cet/12/28/015.pdf>.

⁴³ See Montiel et al., *supra* note 30, at 78-81; see also Peter Burgherr & Stefan Hirschberg, *Severe Accident Risks in Fossil Energy Chains: A Comparative Analysis*, 33 ENERGY 538, 538-39 (2008) (Switz.) (suggesting that major accidents are more likely to be reported and that there are a variety of failures contributing to accidents during the transportation of oil and gas via pipelines).

⁴⁴ Montiel et al., *supra* note 30, at 78 (noting the importance of studying the origin of accidents through historical analysis).

⁴⁵ See RAFAEL KANDIYOTI, *PIPELINES: FLOWING OIL AND CRUDE POLITICS* 32, 37 (2012).

⁴⁶ Burgherr & Hirschberg, *supra* note 43, at 539; Montiel et al., *supra* note 30, at 79.

⁴⁷ See HANQIN, *supra* note 36, at 32 (stating that in addition to "international activities, states have also adopted a number of treaties on civil liability for certain ultra-hazardous activities").

some information will be presented based on reports of oil and gas incidents, even if they do not all relate to cross-border accidents.

It is important to stress the distinction between accidental and non-accidental damage.⁴⁸ Pipeline accidents depend upon the location and the type of pipeline⁴⁹ and are the result of a wide range of causes of failure.⁵⁰ Accordingly, many indicators influence the number and size of accidents and the associated damage.⁵¹ Pipeline projects have distinctive features compared with other industrial activities,⁵² which exacerbates the potential adverse environmental impacts resulting from them.⁵³ First, each pipeline has considerable length and passes through various sensitive environmental and residential areas creating a continuous risk of an accident alongside a route.⁵⁴ Those risks can be related to both external reasons, such as excavation works, as well as internal reasons like corrosion.⁵⁵ According to the Energy-Related Severe Accident Database (ENSAD),⁵⁶ from 1969 to 1996, the majority of all natural gas accidents involving pipelines were caused by mechanical and impact failures.⁵⁷ External causes and human errors accounted for the least number of natural gas accidents involving pipelines (the remainder was unknown).⁵⁸

Moreover, the construction and operation of a pipeline requires following the applicable state of technology, such as laying pipes

⁴⁸ *Id.* at 11, 13.

⁴⁹ See Montiel et al., *supra* note 30, at 80-82 (illustrating through diagrams that a variety of factors are considered when analyzing the cause of a pipeline accident).

⁵⁰ *Id.* at 79, 85-87.

⁵¹ W. KENT MUHLBAUER, PIPELINE RISK MANAGEMENT MANUAL: IDEAS, TECHNIQUES, AND RESOURCES 246 (3d ed. 2004).

⁵² See Burgherr & Hirschberg, *supra* note 43, at 543.

⁵³ See DAVID D. KEMP, EXPLORING ENVIRONMENTAL ISSUES: AN INTEGRATED APPROACH 200-01 (2004); Stefan Hirschberg et al., *Severe Accidents in the Energy Sector: Comparative Perspective*, 111 J. OF HAZARDOUS MATERIALS 57, 64 (2004) (Neth.).

⁵⁴ *Id.* at 200.

⁵⁵ *Id.*

⁵⁶ *Risk Assessment: Comparative Risk Assessment and the ENSAD Database*, PAUL SCHERRER INST., <http://www.psi.ch/ta/risk-assessment> (last visited October 2, 2014) (providing a comprehensive collection of severe energy related accidents).

⁵⁷ Hirschberg et al., *supra* note 53, at 64.

⁵⁸ See *id.*

in a trench.⁵⁹ These actions, apart from the potential risks of a pipeline's spillage and explosion, can endanger sensitive environmental areas.⁶⁰ Finally, the types of substances that are transported through the cross-border pipelines may be categorized as hazardous substances.⁶¹ A wide range of environmental and safety regulations has been envisaged to minimize the risks of such accidents and any after effects.⁶² Therefore, while risks may be mitigated through higher safety standards, application of such standards may lead to higher prices.⁶³

Natural gas, which is under high-pressure in cross-border pipelines, is flammable and has a high potential of explosion.⁶⁴ Even as a result of a small spark, a ruptured natural gas pipeline may explode and lead to a high number of personal injuries as well as property and environmental damage.⁶⁵ Oil spills, which may also occur as a result of an oil pipeline failure, can pollute the marine and land environment.⁶⁶ Oil pipelines as well as gas pipelines may readily ignite, causing an explosion with a high number of casualties.⁶⁷ Thus, some regulatory bodies have classified gas⁶⁸ and oil pipelines⁶⁹ as hazardous activities due to

⁵⁹ KEMP, *supra* note 53, at 200.

⁶⁰ *Id.* at 200-01.

⁶¹ UNITED NATIONS, *Recommendations on the Transport of Dangerous Goods* (2011), available at http://www.unece.org/fileadmin/DAM/trans/danger/publi/unrec/rev17/English/Rev17_Volume1.pdf (detailing a list of hazardous substances).

⁶² See HANQUIN, *supra* note 36, at 19, 30-32 (discussing the "existing international regimes relating to accidental damage caused by ultra-hazardous activities").

⁶³ RAFAEL KANDIYOTI, *supra* note 45, at 33 ("[U]ltimate safety can be an expensive state.").

⁶⁴ See Vladimir Stevanović, *Security of Gas Pipelines Security and Reliability of Damaged Structures and Defective Materials*, in SECURITY & RELIABILITY OF DAMAGED STRUCTURES & DEFECTIVE MATERIALS 253, 254 (Guy Pluvineage & Aleksandar Sedmak eds., 2009) (Serb.).

⁶⁵ See *id.* at 257 (stating that once the spark was initiated, other explosions succeeded).

⁶⁶ KEMP, *supra* note 53, at 200; see Hirschberg et al., *supra* note 53, at 64.

⁶⁷ R. DENYS, PIPELINE TECHNOLOGY: PROCEEDINGS OF THE 3RD INTERNATIONAL PIPELINE TECHNOLOGY CONFERENCE, BRUGHES, BELGIUM, MAY 21-24, 2000 (2000).

⁶⁸ Directive 2012/18/EC, of the European Parliament and of the Council of 4 July 2012 on the Control of Major-Accident Hazards Involving Dangerous Substances, amending and subsequently repealing Council Directive 96/82/EC, 2012 O.J. (L 197) 19 [hereinafter Parliament Directive].

⁶⁹ United Nations Convention on Environmental Impact Assessment in a Transboundary Context, app. I, Feb. 5, 1991, 1989 U.N.T.S. 310 [hereinafter U.N.

their chemical and physical features.⁷⁰ For a realistic and comparative insight on oil and gas pipeline accidents, a short report of some pipeline accidents, gathered on the basis of three different databases, is introduced in Table 1. Due to a lack of adequate information about incurred environmental damages and economical losses, Table 1 displays only the number of accidents and personal injuries. As indicated in Table 1, a considerable number of oil and gas pipeline accidents occurred during the last two decades with a high number of personal injuries.⁷¹

Convention].

⁷⁰ See Parliament Directive, *supra* note 68; U.N. Convention, *supra* note 69.

⁷¹ Details of the environmental damage and the economic losses related to those pipeline accidents could only be provided on a case-by case-basis.

Table 1: Comparative Data About Oil and Gas Pipeline Accidents in the US, Europe, and a Severe Accidents Category

	ENSAD (Only pipeline severe accidents with more than five fatalities) 1970-2005		The US (Based on the US Department of Safety) 1992-2011		The EU Western Countries The EGIG ⁷² for the onshore gas pipelines (1970 to 2010) & The CONCAWE ⁷³ for the onshore oil pipelines (1970 to 2010)	
Energy Chain	Accidents	Fatalities	Accidents	Fatalities	Accidents	Fatalities
Oil (hazardous liquids)	30 (approximately)	2500 (approximately)	5574	41	478	14
Natural Gas	197	2970	4691	340	1249	Not clear

The remainder of this section describes oil and gas pipeline accidents and their associated damage. Each subsection examines the potentially adverse impacts of oil and gas pipeline accidents from a theoretical point of view by focusing on personal injury,

⁷² See generally, *About EGIG*, EGIG, <http://www.egig.eu/about-egig> (last visited Oct. 1, 2014) (explaining that the European Gas Pipeline Data Group (EGIG) is a corporation that was established in 1982 with six European gas transmission system operators to gather data on the unintentional releases of gas in their pipeline transmission systems). The EGIG is extended to a group with fifteen major gas transmission system operators in Western Europe and is the owner of an extensive gas pipeline-incident database. *Id.*; see also *Gas Pipeline Incidents: 8th Report of the European Gas Pipeline Incident Data Group*, EGIG (2011), <http://www.egig.eu/uploads/bestanden/96652994-c9af-4612-8467-9bc6c2ed3fb3>.

⁷³ See generally, *About Us*, CONCAWE, <https://www.concawe.eu/content/default.asp?PageID=545> (last visited Oct. 1, 2010) (explaining that CONCAWE has collected spillage data on European cross-country oil pipelines with particular regard to spillages volume, cleanup and recovery, environmental consequences and causes of the incidents since 1963); see also *CONCAWE Reports*, CONCAWE, <http://www.concawe.be/content/default.asp?PageID=569> (last visited Sep. 3, 2014) (maintaining a list of monthly CONCAWE reports).

environmental damage, and economic losses. Recent examples of cross-border pipeline accidents are then presented as case studies. From a legal point of view, oil and gas pipelines have similarities, but from a technical point of view, they also have differences.⁷⁴

A. Gas Pipeline Risks

Gas pipeline accidents can cause personal injuries, large economic losses, and environmental damage.⁷⁵ Construction defects and corrosion tend to be the cause of small rupture holes, but it is ground movement that creates great rupture hole sizes.⁷⁶ The impact of such an explosion is dependent upon the various sizes of rupture holes, but the explosions have the potential to do catastrophic damage, leading to serious personal injuries and property damage.⁷⁷ From an economic perspective, a secure supply of energy, in particular of natural gas, is very important.⁷⁸ Any interruption of secure gas flow would be very costly for stakeholders.⁷⁹ Because interruptions can be so costly, not only is the initial security of supply important, but restoration of gas pipelines is likewise critical. Natural gas is transported under high pressure and is a non-storable commodity, a so-called “network bound energy carrier.”⁸⁰ Consequently, if any part of a pipeline is unable to operate and no alternative means of transportation is available, the interruption of flow reduces the security of supply

⁷⁴ David J. Ramberg, *The Relationship Between Crude Oil & Natural Gas Spot Prices & Its Stability Over Time* (June 2010) (unpublished Master's thesis, Massachusetts Institute for Technology).

⁷⁵ Anderson J. Brito & Adiel T. de Almeida, *Multi-Attribute Risk Assessment for Risk Ranking of Natural Gas Pipelines*, 94 RELIABILITY ENGINEERING & SYS. SAFETY 187, 187 (2009) (Bra.).

⁷⁶ *Id.* at 256.

⁷⁷ *Id.* at 254.

⁷⁸ See PHILIP ANDREWS-SPEED & PETER D. CAMERON, SECURITY OF INTERNATIONAL OIL AND GAS: CHALLENGES AND RESEARCH PRIORITIES 2-3 (2006); see also Hellmuth Weisser, *The Security of Gas Supply—A Critical Issue for Europe?*, 35 ENERGY POL'Y 1, 1-2 (2005) (discussing the supremacy of gas energy to oil).

⁷⁹ See PAUL STEVENS, CROSS BORDER OIL AND GAS PIPELINES: PROBLEMS AND PROSPECTS 92 (2003) (discussing the Sonatrach Gas Pipeline where involved parties share the costs involved with any interruption of Sonatrach's production in Algeria).

⁸⁰ See Henryk Faas et al., *European Security: A European Perspective*, ENERGY SECURITY: INT'L & LOCAL ISSUES, THEORETICAL PERSPECTIVES, & CRITICAL ENERGY INFRASTRUCTURES 9, 16 (2011).

through the entire chain of the pipeline.⁸¹

Moreover, “the restoration of gas supplies, once reconnected, is far more complex than for oil.”⁸² Before reconnecting, a gas engineer must be sure that the pipeline is free from any leaks or air.⁸³ This is because the presence of either can “result in serious explosions.”⁸⁴ Moreover, the restoration of gas flow is often lengthy work.⁸⁵ Long waits can endanger the security of supply for consumers, who are dependent upon a constant supply of natural gas.⁸⁶ Realizing this vital issue, the European Union prescribed specific directives in relation to the security of natural gas supply.⁸⁷ Countries must also consider the economic impacts of the construction of cross-border gas pipelines for neighboring countries, even if the pipeline itself does not pass through their territory.⁸⁸ Finally, environmental damage, such as air, water, and soil pollution can occur as a result of a gas pipeline accident as

⁸¹ See JOHN HANDMER & STEPHEN DOVERS, HANDBOOK OF DISASTER POLICIES AND INSTITUTIONS: IMPROVING EMERGENCY MANAGEMENT AND CLIMATE CHANGE ADAPTATION 25-26 (2nd ed. 2012) (discussing how a pipeline explosion in Australia resulted in a halt on the transport of gas throughout the area, only allowing limited supplies of gas to top priority facilities such as hospitals).

⁸² See PAUL STEVENS, TRANSIT TROUBLES: PIPELINES AS A SOURCE OF CONFLICT 12 (2009).

⁸³ *Id.* at 12.

⁸⁴ *Id.*; see also *Explosion Kills Two Engineers Working on West Africa Gas Pipeline*, GHANAWEB (October 31, 2012), <http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=254924>.

⁸⁵ See *Ghana Gas Pipeline Delayed to April-Minister*, REUTERS (Sept. 19, 2013, 7:09 AM), <http://www.reuters.com/article/2013/09/19/ghana-gas-pipeline-idUSL5N0HF1LS20130919>.

⁸⁶ E.g., Emmanuel Arma-Kofi Buah, Minister for Energy and Petroleum, Meet the Press 2013 Ministry of Energy and Petroleum (July 4, 2013) (reporting that gas supply has been halted for several months); *Ghana Gas Pipeline*, *supra* note 85; JOHN HANDMER & STEPHEN DOVERS, HANDBOOK OF DISASTER POLICIES AND INSTITUTIONS: IMPROVING EMERGENCY MANAGEMENT AND CLIMATE CHANGE ADAPTATION 25-26 (2nd ed. 2012) (explaining how facilities, for example hospitals, that depend on natural gas suffered during a halt in gas flow).

⁸⁷ See Council Directive 2004/67, Measures to Safeguard Security of Natural Gas Supply, 2004 O.J. (L 127) 92; see also Directive 2003/55, Concerning Common Rules for the Internal Market in Natural Gas, 2003 O.J. (L 176) 57.

⁸⁸ See *Nord Stream Ensures Unrestricted Access to Polish Ports*, NORD STREAM (March 5, 2010), <http://www.nord-stream.com/press-info/press-releases/nord-stream-ensures-unrestricted-access-to-polish-ports-337/> (discussing Poland's concerns with possible adverse effects the construction of the Nord Stream Gas Pipeline would have on sea traffic and safety in Polish ports).

well.⁸⁹ A leak in a gas pipeline emits chemicals into the air resulting in air pollution.⁹⁰ A leak occurring in a submarine gas pipeline adversely affects water and marine wildlife.⁹¹

While three theoretical risks—personal injury, economic loss, and environmental pollution—are associated with gas pipeline accidents, the actual reported damage is what accurately reflects the destructive nature of cross-border pipeline accidents.⁹² For this purpose, a few recent examples of cross-border pipeline accidents are provided in Table 2. Table 2 shows that the theoretical risks identified can emerge as actual damage in the event of a cross-border pipeline accident. This does not mean all pipeline accidents will result in personal injury, economic loss, and environmental damage.⁹³ However, how damage is assessed and reported can depend on the applicable law and the place in which the accident occurs.

⁸⁹ See generally, U.S. BUREAU OF LAND MGMT., DRAFT ENVIRONMENTAL IMPACT STATEMENT: PROPOSED 1979 OCS OIL AND GAS LEASE SALE 470 (proposed 1978) (discussing air pollution and effects of pollution on water and marine wildlife); Vladimir Stevanović, *Security of Gas Pipelines*, SECURITY & RELIABILITY OF DAMAGED STRUCTURES & DEFECTIVE MATERIALS 253, 256 (2009); STANISLAV A. PATIN, ENVIRONMENTAL IMPACT OF THE OFFSHORE OIL AND GAS INDUSTRY 220-23 (Elena Cascio trans., 1st ed. 1999) (explaining impacts on marine environments as well as air pollution); KEMP, *supra* note 53.

⁹⁰ See, e.g., U.S. BUREAU OF LAND MGMT., *supra* note 89, at 470 (discussing the various forms of gas that can be released during a gas pipeline break); PATIN, *supra* note 89; KEMP, *supra* note 53.

⁹¹ See PATIN, *supra* note 89 (discussing how the release of gas from seepage in gas-bearing structures under water can result in water pollution).

⁹² See Stevanović, *supra* note 89, at 256-57 (recounting a chemical accident in Russia where a petroleum gas leakage for several days caused a spark from a train to ignite the gasses, thereby resulting in an explosion that left 462 people dead and 706 others injured).

⁹³ *Id.* at 256 (discussing a pipeline accident in New Jersey that resulted in injury to individuals and property destruction and economic loss for the state, but makes no mention of environmental pollution).

Table 2: Recent Examples of Cross-border Gas Pipeline Accidents

Description of Pipelines	Causes of Accidents	Place of Accident & Date	Concerned Countries	Personal Injuries	Damage to the Environment	Losses in the Economy
A transit gas pipeline in Ghislenghien ⁹⁴	Leakage and explosion	Belgium 2004	Norwegian Belgium; France	24 fatalities More than 120 injured	N/A	100 million euro
The Iran-Turkey Gas Pipeline ⁹⁵	Sabotage by Kurdish separatists	Eastern part of Turkey, October 2012	Iran; Turkey	28 injured	N/A	N/A, supply was stopped for a short time
The Baku-Tbilisi-Erzurum Gas Pipeline ⁹⁶	Not clear	Eastern part of Turkey, October 2012	Azerbaijan; Georgia; Turkey	None	N/A	N/A, supply was stopped for a short time
The West African Gas Pipeline ⁹⁷	Ship anchor ruptured the pipeline	August 2012 (a break in the gas pipeline in	Nigeria; Togo; Benin; Ghana	-	A large but unclear amount of natural	Flow was stopped for nearly one year, shortfall of

⁹⁴ See *Rupture & Ignition*, *supra* note 11.

⁹⁵ See *Explosion Rock's Iran's Gas Export Pipeline in Turkey*, PRESSTV (Oct. 22, 2012), <http://www.presstv.ir/detail/2012/10/22/268050/blast-hits-iran-gas-pipeline-in-turkey/>.

⁹⁶ See *Explosion Hits Baku-Tbilisi-Erzurum Gas Pipeline; Cause Unknown*, AZERNEWS (Oct. 4, 2012), http://www.azernews.az/oil_and_gas/44402.html.

⁹⁷ See *West Africa Gas Pipeline Explosion: Ghanaian President Urges Nigeria to Intervene*, CITIZEN ONLINE (Dec. 12, 2012), <http://thecitizenng.com/happening-now/west-africa-gas-pipeline-explosion-ghanian-president-urges-nigeria-to-intervene/>.

		Togo) ⁹⁸			gas leaked into the sea	300 megawatts of power production only in Ghana
	Restoration works on the line	December 2012 (an accident in Aboadze, Ghana)		2 fatalities		

B. Oil Pipeline Accidents

Similar to gas pipeline accidents, oil pipeline accidents have the potential to cause serious personal injury, economic loss, and environmental damage. However, the extent of the harm resulting from oil pipeline accidents differs from that of gas pipelines because of the distinctive features of each substance.⁹⁹ The remainder of this subsection describes the potential risks resulting from oil transport through pipelines. This description is complemented with a few recent examples of cross-border oil pipeline accidents, as shown in Table 3.

Oil can be extremely destructive due to its rapid movement across water.¹⁰⁰ It is this feature of oil that allows it to cause widespread damage.¹⁰¹ Another dangerous feature of oil is its flammability, which can lead to explosions causing serious personal injury and property damage.¹⁰² Oil is also highly toxic to

⁹⁸ See *West African States Unhappy with WAPCo*, GHANAWEB (March 29, 2013), <http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=269411>.

⁹⁹ See EKPEN JAMES OMONBUDE, *CROSS-BORDER OIL AND GAS PIPELINES AND THE ROLE OF THE TRANSIT COUNTRY: ECONOMICS, CHALLENGES AND SOLUTIONS* 16 (2012) (explaining the technical differences in gas and oil pipelines).

¹⁰⁰ See MERVIN FINGAS, *OIL SPILL SCIENCE AND TECHNOLOGY* 196 (MERVIN FINGAS ed., 1st ed. 2011); see also MAX BLUMER, *Scientific Aspects of the Oil Spill Problem*, 1 B.C. ENVTL. AFF. L. REV. 54, 56 (1971), available at <http://lawdigitalcommons.bc.edu/ealr/vol1/iss1/4>.

¹⁰¹ *Id.* at 56.

¹⁰² See BENJAMIN K. SOVACOO, *The Costs of Failure: A Preliminary Assessment of Major Energy Accidents, 1907–2007*, ENERGY POL'Y 36, 1802–20 (2008).

ingest and can lead to serious health problems in humans.¹⁰³ Therefore, the risk of harm from contamination can cause serious personal injuries.

Also, similar to gas pipelines, interruptions in oil pipelines can have a strong economic impact. Since oil is not transported under high-pressure and is a storable commodity, the problem of interruption and security of supply is less of an issue than with natural gas. However, interruptions of oil flow in cross-border pipelines can still lead to high costs for stakeholders.¹⁰⁴ Furthermore, cleanup costs should not be underestimated.¹⁰⁵ Though oil pipelines have differing qualities from gas pipelines, the economic impact of oil pipeline accidents is still severe.

Disasters involving oil may be viewed as catastrophic oil spills that pollute the oceans. In fact, "[m]ajor oil spills . . . are one of the most serious problems of pollution from maritime transport activities."¹⁰⁶ However, oil pipeline ruptures are also extremely destructive to the environment and wildlife.¹⁰⁷ The toxicity of oil is not just a problem for humans, but for wildlife as well.¹⁰⁸ Furthermore, the damage to wildlife can last from several years to the entire lifetime of the organism.¹⁰⁹

Oil vapors can also, to some extent, be hazardous to the marine environment and its wildlife.¹¹⁰ Moreover, leakage of oil from a buried pipeline creates a major health risk for the quality of

¹⁰³ See MAX BLUMER, *supra* note 100, at 54, 56 (discussing how exposure to oil can cause cancer in humans).

¹⁰⁴ See MAMUKA TSERETELI, *The Impact of the Russia-Georgia War on the South Caucasus Transportation Corridor*, JAMESTOWN FOUNDATION 13 (2009) (discussing the economic loss Turkey experienced during a period of oil suspension).

¹⁰⁵ See Dagmar Schmidt Etkin, Environmental Research Consulting, Presentation at the Arctic and Marine Oilspill Program Technical Seminar: Worldwide Analysis of Marine Oil Spill Cleanup Cost Factors (June 2000).

¹⁰⁶ See JEAN-PAUL RODRIGUE, CLAUDE COMTOIS & BRIAN SLACK, *THE GEOGRAPHY OF TRANSPORT SYSTEMS* 279 (2006).

¹⁰⁷ See Max Blumer, *Scientific Aspects of the Oil Spill Problem*, 1 B.C. ENVTL. AFF. L. REV. 54, 56 (1971), available at <http://lawdigitalcommons.bc.edu/calr/vol1/iss1/4>.

¹⁰⁸ *Id.* at 55-57 (explaining the dangers of oil exposure to marine life).

¹⁰⁹ *Id.* at 56.

¹¹⁰ See JENNIFER ANNE HILL, *OIL SPILLS AND MARINE WILDLIFE: GUIDELINES FOR A RESPONSE PLAN FOR THE ISLE OF MULL, THE HEBRIDEAN WHALE AND DOLPHIN TRUST* 38 (1999) (explaining how mammals that must periodically surface may be exposed to vapors created by oil when exposed to the atmosphere).

groundwater.¹¹¹ Thus, both marine and land environments are exposed to the potentially adverse effects of oil pipeline accidents.

Table 3: Recent Examples of Cross-border Oil Pipeline Accidents

Name of the Pipeline	Cause of the Accident	Year & Place	Involved States	Environmental Pollution & Personal Injury	Property Damage & Economic Losses
Unecha-Ventspils Pipeline ¹¹²	N/A	2007 Latvia; Belarus	Belarus; Russia; Latvia	(1) Spillage of 100 tons of diesel fuel when Russian pipeline burst in Belarussina River, flowing into Latvia. (2) Some of the spilled diesel fuel polluted a 15 km stretch of the Ulla River ¹¹³	(1) Interruption of the flow (2) Approximately €440,000 costs of cleanup actions
Société du Pipeline Sud-Européen (SPSE) ¹¹⁴	Break in a liquid hydro-carbon pipeline	2007 France	Switzerland; France; Germany	5,400 m3 of crude oil was discharged over a 5-hectare land area amidst the nature reserve	€50 million related to consequences of this leakage, with tens of millions devoted to

¹¹¹ See IGOR S. ZEKTSER, *GROUNDWATER AND THE ENVIRONMENT: APPLICATIONS FOR THE GLOBAL COMMUNITY* 84 (Lorn G. Everett ed., 2000).

¹¹² See *Belarus Environment Ministry Assessing Damage of Unecha-Ventspils Pipeline Leak*, SENNO REGIONAL EXECUTIVE COMMITTEE (Apr. 23, 2007), <http://www.senno.vitebsk-region.gov.by/en/news/region?id=64>.

¹¹³ *Pipeline Ruptures in Belarussian River*, MOSCOW TIMES (Mar. 27, 2007), <http://www.themoscowtimes.com/sitemap/paid/2007/3/article/pipeline-ruptures-in-belarussian-river/198152.html>.

¹¹⁴ FRENCH MINISTRY FOR SUSTAINABLE DEVELOPMENT, *LESSONS LEARNT FROM INDUSTRIAL ACCIDENTS* 12 (2011), available at http://impel.eu/wp-content/uploads/2012/03/brochure_gb_impel2011.pdf.

					environmental restoration
Enbridge Oil Pipeline ¹¹⁵	A rupture of the crude oil pipeline ¹¹⁵	2010 Michiga n, US	United States; Canada	(1) Over 800,000 gallons of oil spilled into Michigan, the Kalamazoo River, and adjacent areas (2) Oil polluted wildlife habitat and resulted in the closure of a large swath of the river to boaters and anglers	(1) About \$800 million only for cleanup actions (2) 150 families permanently evacuated from their homes ¹¹⁶
Kirkuk- Ceyhan Oil Pipeline ¹¹⁷	A terrorist attack	2010 Turkey	Turkey; Iraq	Two people were killed and one injured	N/A; interruption of supply for short run

C. Pipelines Safety and Standards

There is a wide range of environmental and safety standards envisaged by international, national, and private organizations to mitigate the risk of oil and gas pipeline accidents. Even still, pipeline accidents occur everywhere in the world. A few recent cross-border oil pipeline accidents are presented above in Table 3. Pipelines, similar to other industrial activities, are not completely

¹¹⁵ EPA, OIL SPILL: ANSWERS TO FREQUENTLY ASKED QUESTIONS 1 (2010), available at http://www.epa.gov/enbridgespill/pdfs/enbridge_fs_20100812.pdf.

¹¹⁶ Elizabeth McGowan & Lisa Song, 'Keystone Kops' Bungling Led to Costliest U.S. Pipeline Spill, BLOOMBERG (July 24, 2012, 12:39 PM), <http://www.bloomberg.com/news/2012-07-24/-keystone-kops-bungling-led-to-costliest-u-s-pipeline-spill.html>.

¹¹⁷ Energy News Update: Two Killed in Turkish Oil Pipeline Explosion, IRAQ ENERGY INSTITUTE (Aug. 11, 2010), <http://iraqenergy.org/news/?detailof=523&content=Two-Killed-in-Turkish-Oil-Pipeline-Explosion->.

accident-free. As Rafael Kandiyoti states, minimizing the number of accidents can satisfy public concerns to some extent.¹¹⁸ The safety of pipelines, however, can only be achieved by paying an expensive price,¹¹⁹ which not all operators may be inclined to pay.¹²⁰ Pipeline accidents occur as a result of various failures. As the literature suggests, human misconduct is the leading cause of pipeline accidents.¹²¹ Indeed, most of the accidents above occurred because of technical failures, poor maintenance, or external impacts and were therefore preventable.¹²² For instance, many oil pipeline spills in Nigeria were the result of low quality safety standards and poor maintenance by MNCs.¹²³ According to post-Soviet Russian statistics, the rate of pipeline accidents is seven times greater with Russian pipelines than with European pipelines, a discrepancy which is largely attributable to lax control and enforcement.¹²⁴ There were also accusations concerning poor maintenance of the Trans-Alaska Pipeline by BP, which led to several oil leaks in 2006.¹²⁵ This report suggested further that BP economized on the maintenance of the Trans-Alaska Pipeline.¹²⁶ Using the same line of reasoning, there is a considerable tendency for polluters to externalize their costs to local communities when the costs of compensating the victims are lower than the costs of complying with safety regulations.¹²⁷ As a result, we can conclude that the choice of standards and of enforcement mechanisms plays a vital role in minimizing oil and gas related accidents.

¹¹⁸ KANDIYOTI, *supra* note 45, at 32.

¹¹⁹ *Id.*

¹²⁰ *Id.* at 33.

¹²¹ BURGHERR & HIRSCHBERG, *supra* note 43, at 8.

¹²² See also Papadakis, *supra* note 3; see generally BURGHERR & HIRSCHBERG, *supra* note 43 (identifying human misconduct and technical failures as principal causes of pipeline accidents).

¹²³ Joshua P. Eaton, *Nigerian Tragedy, Environmental Regulation of Transnational Corporations, and the Human Right to a Healthy Environment*, 15 B.U. INT'L L. J. 261, 268 (1997).

¹²⁴ V.D. Cherniaev et al., G.A. Vdovin, E.M. Yassin & E.R. Stravrovsky, *Oil Transportation, in OIL INDUSTRY OF THE FORMER SOVIET UNION - RESERVES, EXTRACTION AND TRANSPORTATION* 222 (N. Bokseman et al., eds., 1998).

¹²⁵ KANDIYOTI, *supra* note 45, at 36.

¹²⁶ *Id.*

¹²⁷ *Id.* at 47.

III. Cross-Border Pipelines: The Legal Regime

There is no one particular international law instrument, such as a multi-lateral treaty, dealing exclusively with transboundary oil and gas pipelines.¹²⁸ There are, however, some multi-lateral and bilateral agreements that are relevant to cross-border pipelines.¹²⁹ Most of the rules that determine the applicable legal regime to a given cross-border pipeline can be found in such bilateral or multi-lateral agreements that have been entered by the states concerned, specifically in the case of transit pipelines.¹³⁰ In other cases, cross-border pipelines are commissioned through commercial contracts among oil and gas companies, including state-owned companies, e.g., the Nord Stream Gas Pipeline.¹³¹ There are also some cross-border pipelines that are commissioned via state contracts. This type of contract is entered between a host state and investors or operators (private parties).¹³² Since there is no uniform international legal regime, each cross-border pipeline has its own specific legal framework. The details of such a framework are determined by the corresponding agreement, thereby giving rise to the particular cross-border pipeline.

The relevant international and regional conventions are not exclusively focused on cross-border pipelines. First, we will discuss cross-border pipeline agreements, as they are the most important source of law on this topic. Next, we will examine the following relevant international conventions: the Energy Charter Treaty, the United Nations Convention on the Law of the Sea, and the Convention on Environmental Impact Assessment in a

¹²⁸ See Vinogradov, *supra* note 34, at 75.

¹²⁹ *Id.* at 76.

¹³⁰ See, e.g., Foreign and Commonwealth Affairs, Transmission of Natural Gas through a Pipeline between the United Kingdom of Great Britain and Northern Ireland and the Kingdom of the Netherlands, 2005, Cm. 6675, art. 2 (Neth.) [hereinafter Framework Agreement 2005]; Agreement Relating to the Transportation of Petroleum Via the Territories of the Azerbaijan Republic, Georgia and the Republic of Turkey through the Baku-Tbilisi-Ceyhan Main Export Pipeline art. 2, Nov. 18, 1999 [hereinafter Agreement Among the Azerbaijan Republic, Georgia and the Republic of Turkey].

¹³¹ T. Koivurova & I. Polonen, *Transboundary Environmental Impact Assessment in the Case of the Baltic Sea Gas Pipeline*, 25 INT'L. J. MARINE & COASTAL LAW 151, 156-57 (2010).

¹³² See, e.g., The Convention of Establishment between the Republic of Cameroon and the Cameroon Oil Transportation Company (COTCO), 1998, Law 97-16 [hereinafter COTCO Convention].

Transboundary Context.

A. Cross-Border Pipeline Agreements

Each cross-border pipeline has its distinct characteristics, given that there are different parties with disparate interests.¹³³ Consequently, distinctive regulatory regimes have been implemented for both existing and planned pipelines, with the agreements governing pipelines taking one of two general forms: framework agreements or *ad hoc* agreements.¹³⁴ The first group establishes a general set of rules and regulations concerning the construction and operation of the cross-border pipelines between two states within a framework agreement, e.g., the Norway-UK Agreement.¹³⁵ The latter group deals only with the construction and operation of a specific cross-border pipeline.¹³⁶ An example of an *ad hoc* agreement is the West African Gas Pipeline (WAGP).¹³⁷ Cross-border pipelines can be classified as either offshore or onshore pipelines, depending on the geography they traverse; from a technical point of view, onshore and offshore cross-border pipelines have distinctive features and consequently need to be regulated differently, especially in terms of environmental regulations.¹³⁸ However, whether the pipelines concerned are offshore or onshore, most cross-border pipeline agreements usually employ a similar structure and are formulated on the basis of established models. For the purposes of this Note, bilateral and multilateral cross-border pipeline agreements are

¹³³ See Stevens, *supra* note 23, at 1–2.

¹³⁴ Compare Foreign and Commonwealth Affairs, Cross-Boundary Petroleum Cooperation, 2005, Cm 6792 (Nor.) [hereinafter Framework Agreement 2007] (setting out broader agreements concerning the sharing of petroleum resources generally), with Framework Agreement 2005, *supra* note 130 (narrowing the scope of the agreement to focus on a particular pipeline project).

¹³⁵ E.g., Framework Agreement 2007, *supra* note 134, art. 2.

¹³⁶ Framework Agreement 2005, *supra* note 130, art. 2.

¹³⁷ See generally *About the Pipeline*, WEST AFRICAN GAS PIPELINE COMPANY (2014), http://www.wagpco.com/index.php?option=com_content&view=article&id=122&Itemid=84&lang=en (describing the West African Gas Pipeline as a natural gas pipeline supplying gas from Nigeria's Escravos region of the Niger Delta area to Benin, Togo and Ghana). The intergovernmental agreement was concluded between the countries in interest in 2003. *Id.*

¹³⁸ See generally J.C. Bugler, *Pipeline Safety Regulation*, in MAJOR HAZARDS ONSHORE AND OFFSHORE II (Norbert Gibson ed., 1995) (discussing the differences between onshore and offshore pipelines).

divided into *ad hoc* agreements and framework agreements.

1. Cross-Border Pipeline *Ad hoc* Agreements

For purposes of this section, cross-border pipelines will be subdivided into two categories: transit and non-transit pipelines. Non-transit pipelines are constructed for the purpose of transporting oil and gas from one country, the supplier, to another country, the consumer. Such a cross-border pipeline could be a submarine, as is the case with the Interconnector Pipeline connecting the UK to Belgium;¹³⁹ or terrestrial, such as the Iran-Turkey Gas Pipeline.¹⁴⁰ In this type of arrangement, the ownership of both the pipeline and the gas flowing within it is transferred from one state to the other at the border.¹⁴¹ By contrast, a transit pipeline starts in a supplier country, passes through a transit country or transit countries and ends in a consumer area.¹⁴² An example of a transit pipeline is the Druzhba Oil Pipeline, which runs from Russia to Europe.¹⁴³ Each transit pipeline agreement has at least three parties in interest, each located in a different sovereign entity.¹⁴⁴ In some cases, the transit state may also be a purchaser of the oil and gas transported through the pipeline as is, for example, the case with the South Caucasus Gas Pipeline.¹⁴⁵ Parties concerned in a transit project usually conclude an *ad hoc* agreement for commissioning a cross-border pipeline.¹⁴⁶ *Ad hoc* agreements are also common when the parties merely plan to construct one pipeline.¹⁴⁷

¹³⁹ See generally MARK FUTYAN, THE INTERCONNECTOR PIPELINE: A KEY LINK IN EUROPE'S GAS NETWORK (2006) (describing the role of the Interconnector pipeline in connecting British and European gas networks).

¹⁴⁰ See Kinnader, *supra* note 21.

¹⁴¹ See Stevens, *supra* note 23, at 1.

¹⁴² *Id.*

¹⁴³ FRASER CAMERON, THE POLITICS OF EU-RUSSIA ENERGY RELATIONS 28 (2010).

¹⁴⁴ See Stevens, *supra* note 23, at 1-2.

¹⁴⁵ See Host Government Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, BP Exploration Limited, Totalfinaelf E&P Caucasian Gas SA, LUKAgip N.V., Naftiran Intertrade Co. Limited, Statoil Azerbaijan, Turkish Petroleum Overseas Company Limited art. 4, Apr. 17, 2002 [hereinafter Host Agreement 2002] (conferring upon Georgia the right to divert five percent of the pipeline's annual gas flow).

¹⁴⁶ See generally Stevens, *supra* note 23 (describing the nature of cross-border pipeline relations between nations).

¹⁴⁷ *Id.*

a. The Interconnector Model

Some authors suggest that there are two models of cross-border pipeline *ad hoc* agreements: the interconnector model and the unified model.¹⁴⁸ In the interconnector model, each section of a pipeline falls under the jurisdiction of the state over whose territory it passes and is governed by that state's national law.¹⁴⁹ Usually, the interconnector system connects each national segment of a pipeline at the borders of relevant states.¹⁵⁰ In other words, the ownership of the pipeline and of the gas or oil is transferred to another state at the border.¹⁵¹ Several cross-border pipeline agreements have been constructed according to the interconnector system.¹⁵²

In the interconnector model, the safety and environmental regulations of pipelines fall under the jurisdiction of the applicable national law.¹⁵³ Therefore, each segment of a pipeline would be regulated according to different applicable laws. As a result, these model agreements do not deal with safety and environmental regulations directly. The only matter that is indirectly related to safety is the security of guaranteeing a constant supply. As the anecdotal evidence above illustrates, the constant supply of gas and oil can be interrupted as a result of an accident. This interruption in turn endangers the security of a constant supply, in the case of gas pipelines in particular.¹⁵⁴ An accident in any segment of a pipeline can threaten the interests of all stakeholders. Thus, in order to ensure the uninterrupted flow of energy, the indemnification of the interruption losses is often embedded in the intergovernmental arrangement, as a contractual provision.¹⁵⁵ It is

¹⁴⁸ Vinogradov, *supra* note 34, at 75; see also Rainer Lagoni, *Pipelines*, in VIII MAX PLANCK ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW 315, 315 (2011).

¹⁴⁹ Vinogradov, *supra* note 34, at 75; Framework Agreement 2005, *supra* note 130; see also FUTYAN, *supra* note 139, at 22.

¹⁵⁰ Vinogradov, *supra* note 34, at 75.

¹⁵¹ See KINNANDER, *supra* note 21, at 7-8.

¹⁵² See generally FUTYAN, *supra* note 139 (explaining that in projects such as the Interconnector pipeline, a unified entity owns the overall length of the pipeline and the gas on both sides of the border).

¹⁵³ Vinogradov, *supra* note 34, at 75.

¹⁵⁴ OMONBUDE, *supra* note 99, at 4.

¹⁵⁵ TSERETELI, *supra* note 104, at 13 (demonstrating if the pipeline should be damaged and closed because of any failure of the State Authorities, such as protecting the pipeline and its facilities, the government must compensate for such damage

of note that the international or regional obligations of the states concerned may be recalled for the construction or the operation of such pipelines.¹⁵⁶ In other words, the states concerned might have already committed to comply with other regional or international treaties. In such cases, they may cite such commitments in relation to those in the text of cross-border pipeline agreements.¹⁵⁷

b. The Unified Model

The unified model establishes an overarching legal framework for the entire length of a pipeline.¹⁵⁸ In this model, cross-border pipelines are constructed based on uniform regulations.¹⁵⁹ The Energy Charter Treaty Conference recommended this model through two model agreements: intergovernmental and host governmental agreements.¹⁶⁰ The intergovernmental agreement is an agreement under international law concluded by and among all states concerned, including transit states.¹⁶¹ The host governmental agreement is concluded between a host state—concerning the development, construction, and operation of a pipeline—and foreign investors—governing the respective rights and obligations of the foreign investor.¹⁶² In this type of arrangement, a consortium of multinational companies usually acts as an operator over the entire length of the pipeline.¹⁶³ Thus, the

according to Articles 10, 11 & 12 of the Host Government Agreement Between and among The Government of the Republic of Turkey and investors). A PKK (Kurdish separatists) attack on the BTC pipeline on Aug. 5, 2008 in the Turkish section of the pipeline, transporting 850,000 barrels/day of Azeri-Chirag-Guneshli (ACG) oil and Shah-Deniz condensate, costing Turkey \$300,000 a day and oil exports were immediately suspended thereafter. John C.K. Daly, *Turkey and the Problems With the BTC*, JAMESTOWN FOUNDATION (Aug. 13, 2008, 12:00 AM), http://www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=33887&no_cache=1#.VDIH7SldUjA.

¹⁵⁶ See Framework Agreement 2005, *supra* note 130, art. 2 (acknowledging the rules of international law concerning the protection of the environment from pollution, including those reflected in Part XII of the United Nations Convention on the Law of the Sea).

¹⁵⁷ *Id.*

¹⁵⁸ Vinogradov, *supra* note 34, at 75.

¹⁵⁹ *Id.*

¹⁶⁰ See The Energy Charter Treaty, Dec. 17, 1994, 2080 U.N.T.S. 95 (revised in 2004) [hereinafter The Energy Charter Treaty].

¹⁶¹ See, e.g., Host Agreement 2002, *supra* note 145.

¹⁶² *Id.*

¹⁶³ See Catherine Redgwell, *Contractual and Treaty Arrangements Supporting*

operator implements uniform regulations over the cross-border pipeline, notwithstanding the potential conflicts with national and local regulations of the host state.¹⁶⁴ By applying the unified regulatory model in all member states, the problem of applying different standards to one pipeline no longer arises. Generally, the states concerned have two different ways of implementing a unified regulatory model. They may either adopt the application of uniform regulations, thus excluding the enforcement of local and national regulations,¹⁶⁵ or give priority to the enforcement of national regulations.¹⁶⁶ Consequently, the measure of public participation in the construction of a proposed cross-border pipeline will differ depending on which of the two mechanisms is employed.

The unified regulatory regime may apply just one legal system to the entire pipeline.¹⁶⁷ However, since a unified regulatory regime can also imply the exclusion of the application of local regulations, conflicts often arise.¹⁶⁸ Nation states, if their bargaining power allows it, will seek to apply their own national law to protect local interests.¹⁶⁹ On the other hand, investors will

Large European Transboundary Pipeline Projects: Can Adequate Human Rights and Environmental Protection Be Secured?, in ENERGY NETWORKS AND THE LAW: INNOVATIVE SOLUTIONS IN CHANGING MARKETS 102, 107 (Martha M. Roggenkamp et al., eds., 2012).

¹⁶⁴ We will discuss this issue in detail *infra* Chapter IV.

¹⁶⁵ See Host Agreement 2002, *supra* note 145, art. 12 (stating that safety and environmental regulations decreed in the agreement text were given priority over local and national environmental and safety regulations).

¹⁶⁶ See, e.g., Christian Plüss, Gunthard Niederbäumer & Rolf Sägger, *Risk Assessment of the Transgas Pipeline*, 45 PIPES & PIPELINES INT'L 33, 34 (2000) (illustrating the case of the North Sea-Italy Transit Gas Pipeline where the transit state, Switzerland, implemented its own local regulations on the pipeline because its federal environmental protection law requires a risk assessment before construction of new pipelines).

¹⁶⁷ Vinogradov, *supra* note 34, at 77 (referring to a pipeline between Great Britain, Ireland, and Belgium as similar to most pipelines because there is no single regime for the pipeline and instead, jurisdiction is divided at the border of the states' continental shelves); see also Stevens, *supra* note 23, at 14 (2009); see also Redgwell, *supra* note 163, at 117.

¹⁶⁸ See generally Stevens, *supra* note 23; see also Redgwell, *supra* note 163, at 117.

¹⁶⁹ RICHARD B. KUPREWICZ, GENERAL OBSERVATION ON THE MYTH OF A BEST INTERNATIONAL PIPELINE STANDARDS 9 (2007) (applying national law depends on the existence of national regulations in relation to the construction and operation of oil and gas pipelines).

undoubtedly prefer to implement uniform codes of conduct rather than applying fragmented government regulations. As a consequence of allowing each state to apply its own regulations, the thickness of the pipe or the depth at which it has to be buried could theoretically differ.¹⁷⁰

c. The Choice

The choice of a particular model (interconnector or unified) has important consequences for the applicable legal regime. A transit pipeline can be owned or leased by a shipper of oil and gas, or can be owned by a state-owned company.¹⁷¹ When a transit pipeline is owned by a transit state, the regulatory regime is similar to the intergovernmental system.¹⁷² As argued formerly, each segment of a pipeline falls under the jurisdiction of the respective state, whereas a new regulatory regime may appear when a shipper of gas owned or leased the transit pipeline.¹⁷³

This played a role in the TransMed Pipeline, which is a gas pipeline that stretches from Algeria to Italy with transit via Tunisia.¹⁷⁴ In this project, Sonatrach, a state-owned Algerian company, constructed the Algerian segment of the pipeline. Eni, a state-owned Italian company, constructed the transit segment, including the Tunisian section and Sicily channel in the Mediterranean Sea.¹⁷⁵

2. Cross-Border Pipeline Framework Agreements

Some countries, particularly neighboring states such as the US and Canada, have a high amount of energy trade.¹⁷⁶ Countries even share oil and gas fields, as do the UK and Norway.¹⁷⁷ In order to maximize the related industrial benefits, these countries

¹⁷⁰ *Id.* (explaining how appropriate thickness of a transit pipeline is calculated).

¹⁷¹ See Konoplyanik, *supra* note 22, at 282.

¹⁷² *Id.* at 298–99.

¹⁷³ *Id.* at 299.

¹⁷⁴ *Id.*; see also STEVENS, *supra* note 23, at 10.

¹⁷⁵ STEVENS, *supra* note 23, at 19; see also Konoplyanik, *supra* note 22, at 299.

¹⁷⁶ John Bishop Ballem, *International Pipelines: Canada-United States*, 18 CANADIAN Y. B. OF INT'L L. 146, 146–47 (1980).

¹⁷⁷ Martha M. Roggenkamp, *Petroleum Pipelines in the North Sea: Questions of Jurisdiction and Practical Solutions*, 16 J. ENERGY NAT. RESOURCES & ENVTL. L. 92, 92 (1998).

have several cross-border pipelines for gathering and transporting oil and gas with framework agreements of general applicability.¹⁷⁸ Basically, terms of general applicability mean that all terms, including environmental and safety standards, can be applied to all transboundary pipelines between the respective states.¹⁷⁹ However, as state practices have shown, this does not necessarily exclude further bilateral agreements between the respective parties.¹⁸⁰ Framework agreements can be used for both onshore and offshore pipelines, however, it should be emphasized that the probability of transboundary pollution is much higher in offshore pipelines than in the case of onshore pipelines due to the fluidity of the marine environment.¹⁸¹ Thus, such pollution following of water circulation patterns may travel through a shared watercourse among riparian states.¹⁸² For that reason, offshore pipelines often require different arrangements. Moreover, the contents and structure of such framework agreements may also differ, depending upon the interests of the parties involved. In some arrangements, only general rules are decreed in the text of the agreement.¹⁸³ Accordingly, safety and environmental regulations have not been articulated in the text of the agreement and are to be developed by other possible means that are elaborated by the agreements such as an *ad hoc* consultation group, etc.¹⁸⁴ For instance, in Article IV of the US-Canada Transit Pipelines Treaty 1977, safety and environmental regulations of transit pipelines are subject to regulations established by the appropriate governmental authorities having jurisdiction over the respective pipelines.¹⁸⁵ Therefore, the type of standards, EIA procedures, inspection mechanisms, and even mutual consultation were not determined by the agreement and should be specified by other possible

¹⁷⁸ *Id.* at 100.

¹⁷⁹ *Id.*

¹⁸⁰ *Id.* at 101; see, e.g., Ballem, *supra* note 176, at 155 (explaining that Canada and the U.S. signed a pipeline framework agreement, the Pipeline Transit Treaty in 1977, which was thereafter followed by the Northern Natural Gas Pipeline agreement, which specifically deals with one project).

¹⁸¹ Roggenkamp, *supra* note 177, at 98.

¹⁸² *Id.*

¹⁸³ Vinogradov, *supra* note 34, at 76.

¹⁸⁴ Roggenkamp, *supra* note 177, at 108.

¹⁸⁵ See, e.g., Ballem, *supra* note 176, at 158–59.

instruments.¹⁸⁶

Interestingly, in some of the framework agreements, although environmental and safety regulations are basically determined by the authorities having jurisdiction over the pipeline, an adaptation of common safety and environmental standards is allowed under the terms of such agreements.¹⁸⁷ The parties involved have the duty to share all the relevant information, granting permission to officials of another state for the physical access to any infrastructure relating to the cross-border pipeline at all stages.¹⁸⁸

In sum, states with a large amount of hydrocarbon trade via pipelines are likely to create framework agreements that determine general terms of construction and operation of the pipeline while other material terms such as environmental and safety standards are determined through further agreements or other commercial arrangements.¹⁸⁹ This model has also been used for inter-field¹⁹⁰ pipelines such as the Norway-UK pipeline.¹⁹¹ Given the complexity of the regulatory regime in the transit pipelines, however, this model has yet to be applied to transit pipelines.¹⁹²

As mentioned earlier, most framework agreements hold that environmental and safety regulations should be determined by the state with sovereignty rights over the pipeline.¹⁹³ It is also possible for the states involved to prescribe a uniform set of environmental and safety rules for the entire length of the cross-border pipeline between two states.¹⁹⁴ However, establishing a general set of rules for all cross-border pipelines generalizes the scope of the agreement. One should keep in mind that each pipeline may have different technical and legal features depending upon whether oil

¹⁸⁶ *Id.*

¹⁸⁷ *E.g.*, Framework Agreement 2007, *supra* note 134.

¹⁸⁸ Framework Agreement 2005, *supra* note 130.

¹⁸⁹ Vinogradov, *supra* note 34, at 77.

¹⁹⁰ Roggenkamp, *supra* note 177, at 95.

¹⁹¹ *Id.*

¹⁹² Vinogradov, *supra* note 34, at 78 ("Compared to submarine pipelines, on-land cross-border pipelines, which remain entirely within national territories of different states, do not enjoy similar status in international law. Some general conventions may apply to these pipelines either by analogy, or if the states concerned decide so.").

¹⁹³ *Id.* at 77; *see, e.g.*, Framework Agreement 2007, *supra* note 134, at 9-10.

¹⁹⁴ *But see* Vinogradov, *supra* note 24, at 77 (describing that jurisdiction is divided at the border of the states' continental shelves in the pipeline between Great Britain, Ireland, and Belgium and that this is "[i]n common with most pipelines").

or gas is transported, for example. Consequently, only a limited number of issues can be addressed through general terms in a framework agreement.¹⁹⁵ As a result, a framework agreement always needs to be complemented by a specific agreement, protocol, or commercial contract so as to lessen potential aftereffects of accidents.¹⁹⁶

B. International and Regional Instruments

While there are no specific international or regional environmental agreements dealing specifically with the construction and operation of cross-border pipelines or the regulation of environment and safety relating to cross-border pipelines,¹⁹⁷ there are a number of international and regional treaties that are relevant for safety and environmental aspects of cross-border pipelines such as the United Nations Convention on the Law of the Sea 1982 (UNCLOS),¹⁹⁸ the Energy Charter Treaty,¹⁹⁹ and the Convention on Environmental Impact Assessment in a Transboundary Context 1991 (the Espoo Convention).²⁰⁰ Most of those instruments have a more general character and address transboundary pollution.²⁰¹ To some extent, their provisions can also be extended and applied to cross-border pipelines.

¹⁹⁵ *Id.* at 76–77.

¹⁹⁶ *Id.*

¹⁹⁷ *Id.* at 75 (“Whereas other areas of international transport and communications—maritime and river navigation, railroad, automobile or civil aviation—have been the subject of extensive regulatory efforts at the multilateral level, the same cannot be said about international oil and gas pipeline transport.”).

¹⁹⁸ United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 3 [hereinafter UNCLOS].

¹⁹⁹ The Energy Charter Treaty, Dec. 17, 1994, 2080 U.N.T.S. 95 [hereinafter Energy Charter].

²⁰⁰ Convention on Environmental Impact Assessment in a Transboundary Context, Feb. 5, 1991, 30 I.L.M. 800 (1991) [hereinafter Espoo].

²⁰¹ UNCLOS, *supra* note 198, art. 207–12; *see also* Energy Charter, *supra* note 199 at 3; *see also* Espoo, *supra* note 200, at 3 (“The Parties to this Convention . . . [are] determined to enhance international co-operation in assessing environmental impact in particular in a transboundary context.”).

1. *The United Nations Convention on the Law of the Sea 1982 (UNCLOS)*

a. *Generally*

Offshore pipelines are subject to regulations under the United Nations Convention on the Law of the Sea 1982 (UNCLOS).²⁰² UNCLOS includes regulations for the construction and operation of submarine pipelines aimed at protecting the marine environment and preventing transboundary pollution.²⁰³ In addition, UNCLOS briefly covers liability issues in the case of offshore pipeline accidents.²⁰⁴ According to UNCLOS, submarine pipelines can theoretically be laid in territorial water, in the exclusive economic zone (EEZ), the continental shelf, and in the high seas.²⁰⁵

b. *The Right to Lay Pipelines*

Roggenkamp²⁰⁶ categorizes offshore pipelines beyond the territorial maritime border of the coastal state into three groups: intra-field, inter-field, and transportation pipelines.²⁰⁷ Intra-field pipelines link the offshore field with the production installation.²⁰⁸ Inter-field pipelines connect a number of fields or installations.²⁰⁹ According to Roggenkamp, considering inter-field pipelines as part of offshore installations entails meeting certain criteria, and, therefore, not all inter-field pipelines can necessarily be categorized as such.²¹⁰ Transportation pipelines, however, connect offshore installations to the coast or, in some instances, a terminal on the coast of another state.²¹¹ Offshore pipelines can be characterized as an integral part of offshore installations or they can be recognized as transportation pipelines for jurisdictional purposes.²¹² Each of these groups has distinctive features under

²⁰² UNCLOS, *supra* note 198, at 25.

²⁰³ *Id.* at 106.

²⁰⁴ *Id.* at 61.

²⁰⁵ *Id.*; see also Roggenkamp, *supra* note 177, at 95.

²⁰⁶ Roggenkamp, *supra* note 177, at 95.

²⁰⁷ *Id.*

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ *Id.* at 96.

²¹¹ Roggenkamp, *supra* note 177, at 92.

²¹² *Id.* at 92-93.

UNCLOS. According to Article 79 of UNCLOS, transportation pipelines that may pass through the continental shelf and EEZ of other states have a *sui generis* character under international law.²¹³ While coastal states cannot impede their construction, the delineation of the course for laying such pipelines on the continental shelf is subject to the consent of coastal states.²¹⁴ Moreover, a coastal state can ask for additional safety and environmental regulations in order to protect existing installations and the marine environment on its continental shelf and in the EEZ.²¹⁵ The pipeline's operator may also be obligated to act under the law of a source country, place of registration, or another jurisdiction.²¹⁶ For instance, in some countries such as Norway, the nation's own regulations should be applied to the entire length of pipelines that originated from that nation, regardless of where they are laid.²¹⁷ The construction of a submarine pipeline within the recognized territory of a coastal state subjects the pipeline to the coastal state's national laws.²¹⁸ Articles 58 and 79 of UNCLOS detail the guidelines for pipelines in the EEZ and on the continental shelf.²¹⁹ Article 58 of UNCLOS determines the rights and duties of states in the EEZ.²²⁰ This Article recognizes the right of all states to lay submarine pipelines in the EEZ.²²¹ Further, it asserts that all states shall have due regard to the rights and duties of coastal states and shall comply with the laws and regulations adopted by coastal states.²²²

Therefore, an operator of a pipeline shall comply with the regulations of the respective coastal state, regardless of any other regulations that may also govern the pipeline.²²³ Similarly, Article 79 of UNCLOS emphasizes the right of all states to lay submarine

²¹³ See Vinogradov, *supra* note 34, at 22.

²¹⁴ UNCLOS, *supra* note 198, art. 79.

²¹⁵ *Id.* art. 79(2).

²¹⁶ Roggenkamp, *supra* note 177, at 100-01.

²¹⁷ *Id.* at 101.

²¹⁸ UNCLOS, *supra* note 198, art. 58(3).

²¹⁹ *Id.* arts. 58, 79.

²²⁰ *Id.* art. 58.

²²¹ *Id.* art. 58(1).

²²² *Id.* art. 58(3).

²²³ *Id.*

pipelines on the continental shelf.²²⁴ However, this right is limited as coastal states have the right "to take reasonable measures for the exploration of the continental shelf, the exploitation of its natural resources and the prevention, reduction and control of pollution likely resulting from pipelines."²²⁵ Furthermore, it is expressly stipulated that laying a pipeline on the continental shelf is subject to the consent of coastal states.²²⁶ However, a coastal state may not impede laying or operating such pipelines on its continental shelf for the aforementioned reasons.²²⁷

Tullio Treves argues that under UNCLOS, conflicts can arise between the freedom to lay cables and pipelines in the EEZ and on the continental shelf, and, on the other hand, the recognized rights and jurisdiction of coastal states.²²⁸ One could, for example, claim that a coastal state could, de facto through the conditions which it imposes concerning the delineation of the course of the pipeline, deny or impede the laying of the particular pipeline.²²⁹ Such conflicts have occurred in practice.²³⁰ Conflicts arose, for example, between Norway and Denmark concerning the safety requirements to be applied in the case of the Ekofisk-Emden pipeline in the Danish section, where Denmark was the transit state.²³¹

On the other hand, UNCLOS allows all states to lay submarine pipelines on the seabed beyond the continental shelf.²³² Both land-locked and coastal states enjoy this right.²³³ However, UNCLOS does not grant sovereignty rights over the area where a pipeline is

²²⁴ UNCLOS, *supra* note 198, art. 79(1).

²²⁵ *Id.* art. 79(2).

²²⁶ *Id.* art. 79(3).

²²⁷ *Id.* art. 79(5).

²²⁸ See Tullio Treves, *The International Tribunal for the Law of the Sea and the Oil and Gas Industry*, SECOND INTERNATIONAL OIL AND GAS CONFERENCE – MANAGING RISK – DISPUTE AVOIDANCE AND RESOLUTION 10–11 (2007) (noting that many pollution disputes can be settled through proceedings before domestic tribunals or private international arbitration); see also Roggenkamp, *supra* note 177, at 105–06 (discussing, for example, the conflict between Norway and Denmark concerning safety requirements of the Ekofisk-Emden pipeline in the Danish section as a transit state).

²²⁹ Roggenkamp, *supra* note 177.

²³⁰ *Id.* at 106.

²³¹ *Id.*

²³² UNCLOS, *supra* note 198, art. 112.

²³³ *Id.*

laid.²³⁴ As a result, on the high seas, contrary to the continental shelf, states cannot impede the construction of new pipelines under the pretense of protecting existing pipelines in the area.²³⁵ Rather, states planning to install new pipelines should take reasonable measures not to damage existing pipelines.²³⁶ Nevertheless, since pipelines in the high seas do not yet exist, the issue is not a focal point of this research.

c. Environmental Regulations

UNCLOS contains relevant rules concerning cross-border pipelines.²³⁷ In this respect, a distinction can be made between the duties of the coastal states for the prevention of accidents under their jurisdiction and the responsibilities of the respective states for the prevention of transboundary pollution. Article 145 of UNCLOS holds that a related authority shall adopt appropriate regulations for the prevention, reduction, and control of pollution and other hazards to the marine environment in the high seas, including both the land-based pipelines and pipelines connected to the offshore facilities and installation, unless other arrangements had been prescribed.²³⁸

In addition, Articles 207 and 208 of UNCLOS aim to protect the marine environment.²³⁹ The Articles distinguish between land-based pipelines and pipelines connected to an offshore installation, and have different rules applicable to both.²⁴⁰ Article 207 contains general rules for land-based pipelines.²⁴¹ Land based pipelines are used to transport hydrocarbons from one coast to another.²⁴² One such example, the Nord Stream Gas Pipeline, passes between Russia and Germany through the Baltic Sea.²⁴³ Article 208

²³⁴ Vangah Francis Wodie, *The High Seas, in* INTERNATIONAL LAW: ACHIEVEMENTS AND PROSPECTS 885, 893 (Mohammed Bedjaoui ed., 1991).

²³⁵ *Id.*

²³⁶ UNCLOS, *supra* note 198, arts. 113-14.

²³⁷ *Id.* arts. 87, 112-13.

²³⁸ *Id.* art. 145.

²³⁹ *Id.* arts. 207-08.

²⁴⁰ *Id.*

²⁴¹ *Id.* art. 207.

²⁴² Alexander Lott, *Marine Environmental Protection and Transboundary Pipeline Projects: A Case Study of the Nord Stream Pipeline*, 27 MERKOURIOS-UTRECHT J. INT'L & EUR. L. 55, 56 (2011).

²⁴³ *Id.*

concerns offshore activities under the jurisdiction of coastal states, including industrial installations.²⁴⁴ As we mentioned earlier, inter-field pipelines (between different oil fields) are assumed to be an integral part of offshore installations and hence are not considered transportation pipelines (rather as a part of the offshore installation).²⁴⁵ Article 207 obliges states to comply with internationally recommended rules and standards.²⁴⁶ Article 208 is, however, much more flexible and provides coastal states with the discretionary power to adopt appropriate regulations.²⁴⁷ Article 207 thus addresses transportation pipelines, whereas Article 208 deals with inter-field and intra-field pipelines.²⁴⁸

Both articles mention the duty to establish and follow regional standards and procedures aimed at the prevention, reduction, and control of pollution of the marine environment.²⁴⁹ According to Article 207, in establishing regional standards, states should take into consideration the specific characteristics of the area, including the regional features and economic capacity for establishing regional rules.²⁵⁰ The importance of these regional considerations becomes apparent when neighboring coastal states convene to establish regional standards and each asserts its own opinion regarding varying levels of protection.²⁵¹ Hence, this problem can arise in the case of transportation pipelines (Article 207) but not for inter-field and intra-field pipelines.²⁵² The latter are in principle subject to the domestic regulations of coastal states.²⁵³ In the same line of reasoning, Yoshifumi Tanaka argues that under UNCLOS, the obligations of states to prevent pollution from land-

²⁴⁴ UNCLOS, *supra* note 198, art. 208.

²⁴⁵ Roggenkamp, *supra* note 177, at 95.

²⁴⁶ See PHILIPPE SANDS & JACQUELINE PEEL, PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW 373 (2012) (arguing that because the provisions of Article 207 have been followed by regional and global instruments the article now reflects customary international law).

²⁴⁷ UNCLOS, *supra* note 198, art. 208 (requiring further that Articles 60 and 80, which deal with offshore installations on the continental shelf and in the EEZ, are to be followed).

²⁴⁸ *Id.* arts. 207-08.

²⁴⁹ *Id.*

²⁵⁰ *Id.* art. 207(4).

²⁵¹ *Id.*

²⁵² *Id.* arts. 207-08.

²⁵³ UNCLOS, *supra* note 198, art. 208.

based sources (Article 207) prove less demanding than those concerning sea-bed sources which are subject to the national jurisdiction of the coastal state (Article 208).²⁵⁴ Article 207 states are merely required to “take into account” internationally agreed regulations, whereas Article 208 stipulates that the states adopt laws and regulations which shall be no less effective than international rules and standards.²⁵⁵ Article 206 of UNCLOS recognizes the right of a coastal state to assess the potential impacts of activities falling within its jurisdiction that might cause substantial or significant changes to the marine environment.²⁵⁶ The Convention emphasizes several times the deference to the coastal states for their own environmental regulations on the continental shelf.²⁵⁷ Thus, it could be stressed that all activities, including innocent passage and other legitimate conduct within the continental shelf and the EEZ of a coastal state, are governed by the environmental and safety regulations of that state.²⁵⁸

In order to prevent transboundary pollution, Article 194 of UNCLOS details some measures to prevent and control pollution of the marine environment.²⁵⁹ According to the first paragraph of this article, states individually or jointly shall take necessary measures to prevent, reduce, and control pollution of the marine environment from any source by using the best practicable means in accordance with their capabilities.²⁶⁰ This article indirectly considers transboundary pollution as it suggests that states harmonize their policies and take steps to ensure that they do not cause environmental damage to other states.²⁶¹ Although this

²⁵⁴ Yoshifumi Tanaka, *Regulation of Land-Based Marine Pollution in International Law: a Comparative Analysis Between Global and Regional Legal Framework*, 66 ZEITSCHRIFT FÜR AUSLÄNDISCHES ÖFFENTLICHES RECHT UND VÖLKERRECHT [HEIDELBERG J. OF INT’L LAW] 535, 543 (2006).

²⁵⁵ *Id.*

²⁵⁶ *Id.* at 566-68 (listing several regional instruments containing the obligation of undertaking the EIA for contracting parties, including Article 7(1) of the 1992 Helsinki Convention, Article 6 of the 1992 OSPAR Convention, and Article VIII(1) of the 1990 Kuwait Protocol to the Kuwait Regional Convention for the Protection of the Marine Environment Against Pollution from Land-Based Sources).

²⁵⁷ YOSHIFUMI TANAKA, *THE INTERNATIONAL LAW OF THE SEA* 129 (2012).

²⁵⁸ UNCLOS, *supra* note 198, art. 206.

²⁵⁹ *Id.* art. 194.

²⁶⁰ See Tanaka, *supra* note 254, at 542 (proposing that this article covers both land and sea based activities).

²⁶¹ UNCLOS, *supra* note 198, art. 194(2).

article does not mandate joint cooperation, the recognition of such collaboration can be considered the first step toward the transboundary environmental impact assessment that was created following the Espoo Convention in 1991, and which will be discussed below.²⁶²

The second paragraph of Article 194 outlines the duties of States to prevent transboundary pollution resulting from activities under their jurisdiction.²⁶³ Further, Article 195 acknowledges the possible transfer of pollution from one state into other states.²⁶⁴ According to this article, states shall not directly or indirectly transfer damages or hazards from one area to another.²⁶⁵ This article generally identifies transboundary pollution and the states' obligations to prevent transboundary pollution that could potentially result from that accident.²⁶⁶ Nevertheless, states have the discretion to regulate the methods and instruments used to prevent this transboundary pollution from occurring.²⁶⁷ However, deference to each nation's laws should be complemented by setting appropriate regional environmental standards.²⁶⁸ Otherwise, the inconsistencies of the regulations might disrupt the ecological balance of the marine environment due to the application of different standards.²⁶⁹ In such cases, an adjacent state may implement a lower quality type of standard concerning the prevention of environmental pollution. As a result, some challenges may emerge among neighboring states due to the lack of a comprehensive environmental framework. This is the classic example of a transboundary externality: in the absence of an international regulatory regime, states may reap the benefits from economic exploration of pipelines and externalize harm to their

²⁶² See *infra* ch. 3, sec. B, pt. 3.

²⁶³ UNCLOS, *supra* note 198, art. 194(2).

²⁶⁴ *Id.* art. 194(3).

²⁶⁵ *Id.* art. 194.

²⁶⁶ *Id.*

²⁶⁷ *Id.*

²⁶⁸ *Id.* art. 194(1).

²⁶⁹ Alexander Korshenko & Alvin Gasim Gul, *Pollution of the Caspian Sea*, in THE CASPIAN SEA ENVIRONMENT 109 (Aleksey N. Kosarev ed., 2005) (describing the Caspian Sea as the world's largest inland sea with a unique ecosystem that has been threatened by oil and gas activities, including the exploitation and production by some coastal states). In the absence of marine environmental standards, some states might externalize pollution cost by applying lower quality standards). *Id.*

neighbors.²⁷⁰ For instance, the oil company, BP, has oil exploration and extraction activities in the Azerbaijan section of the Caspian Sea.²⁷¹ Iran claims that these exploration and extraction activities caused pollution in Iranian marine coastal waters and that a complaint will be filed with international tribunals if pollution in the Caspian Sea by BP continues.²⁷²

Article 213 of UNCLOS aims to enforce the aforementioned Article 207. The Article mentions that states shall take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conferences to prevent, reduce, and control pollution of the marine environment from land-based sources.²⁷³ However, since this article does not make clear which precise enforcement mechanisms are preferred, enforceability of Article 213 of UNCLOS is doubtful.²⁷⁴

In sum, it can be held that UNCLOS not only emphasizes the importance of pollution resulting from offshore pipelines, but also highlights the transboundary impact and duties of respective states, not only coastal states, to prevent such pollution by adopting internationally recommended standards. Moreover, UNCLOS takes into account the problem of applying double standards to a pipeline and its aftereffects. This problem was addressed by focusing on regional features and economic capacities of the respective states.

d. Conclusion

The obligations contained in UNCLOS are vague and imprecise. As a result, UNCLOS leaves many ambiguities or simply suggests states to draft regulatory solutions without any

²⁷⁰ UNCLOS, *supra* note 198, art. 213.

²⁷¹ See generally Korshenko & Gul, *supra* note 269.

²⁷² See *Iran Likely to Sue Azerbaijan for Polluting Caspian Sea*, FARS NEWS AGENCY (Jan. 28, 2013), <http://www.payvand.com/news/13/jan/1243.html>.

²⁷³ UNCLOS, *supra* note 198, art. 213.

²⁷⁴ For instance, in *The MOX Plant Case (Ireland v. United Kingdom)*, Ireland invoked Article 213 for the implementation of standards established through competent international organizations or diplomatic conferences. NATALIE S. KLEIN, *DISPUTE SETTLEMENT IN THE UN CONVENTION ON THE LAW OF THE SEA* 150-52 (2005). However, the UNCLOS Tribunal pointed out the flexible terminology adopted by UNCLOS and then argued that most of the provisions of Part XII (Protection and Preservation of the Marine Environment) are in the nature of soft law. *Id.*

precise suggestions.²⁷⁵ UNCLOS does not impose an express obligation on states to establish a regional framework or harmonize standards and other measures in order to prevent transboundary pollution.²⁷⁶ Accordingly, a pipeline operator might lay an offshore pipeline in the jurisdiction of a state with less effective regulations and enjoy the state's advantages.²⁷⁷ In addition, although transboundary pollution is recognized as a source of conflict, UNCLOS does not prescribe a clear duty for the States to regulate and prevent such pollution from all sources, including pipelines.²⁷⁸ When UNCLOS was drafted, it was considered an important step due to its rules on the delineation course of the pipelines and distinction of different types of pipelines with distinct governance regimes.²⁷⁹ However, the main goal of UNCLOS was not the regulation of offshore pipelines. Therefore, its provisions remain very general. Due to the increasing number of planned and already constructed offshore pipelines, the creation of a new international framework that also accounts for regional needs may be necessary.

2. *The Energy Charter Treaty*

The Energy Charter Treaty (the "ECT") is an international treaty established in 1994 to develop international cooperation in the energy sector, including trade, transit, investments and energy efficiency.²⁸⁰ Article 7 of the ECT is dedicated to transit issues in which oil and gas pipelines are expressly regarded as means of energy transport.²⁸¹ Although the ECT is an international agreement that establishes a multilateral framework for cross-

²⁷⁵ Maki Tanaka, *Lessons from the Protracted MOX Plant Dispute: A Proposed Protocol on Marine Environmental Impact Assessment to the United Nations Convention on the Law of the Sea*, 25 MICH. J. INT'L L. 337, 356 (2003).

²⁷⁶ *Id.*

²⁷⁷ *See id.*

²⁷⁸ *Id.*

²⁷⁹ *See generally* Ricardo Pereira, *The Exploration and Exploitation of Energy Resources in International Law*, in ENVIRONMENTAL AND ENERGY LAW 199 (K. Makuch & R. Pereira eds., 2012) (arguing that UNCLOS gives further control to coastal states).

²⁸⁰ *See generally* Energy Charter, *supra* note 199.

²⁸¹ *Id.* art. 7(b) (describing "Energy Transport Facilities" as consisting of high-pressure gas transmission pipelines, high-voltage electricity transmission grids and lines, crude oil transmission pipelines, coal slurry pipelines, oil product pipelines, and other fixed facilities specific for handling energy materials and products).

border cooperation in the energy industry, namely pipelines, the rights and obligations of Member Parties under international law are not affected.²⁸² Hence, the regulations of the ECT have to be implemented by its signatory states to the extent that the ECT does not derogate from other rules of international law or from existing bilateral or multilateral agreements of the Member States in a specific pipeline project.²⁸³ Additionally, it is worth mentioning that the main body of the ECT does not regulate the construction and operation of cross-border pipelines.²⁸⁴

a. Article 19 ECT

Most ECT regulations deal with investment, trade, and transit issues, (issues that are not a focal point of this paper). Nonetheless, Article 19 of the ECT embraces the environmental aspects of energy transportation.²⁸⁵ This article contains the duties of the Contracting Parties to strive to minimize harmful environmental impacts occurring within the energy sector, either within or outside its area.²⁸⁶ Interestingly, this article stresses the need to act in an economically efficient manner.²⁸⁷ In the main

²⁸² *Id.* (“Nothing in this article shall derogate from a Contracting Party’s rights and obligations under international law including customary international law, existing bilateral or multilateral agreements, including rules concerning submarine cables and pipelines.”).

²⁸³ *See id.*

²⁸⁴ Richard Happ, *The Nord Stream Pipeline: Settlement of Disputes Under the Energy Charter Treaty?*, in GERMAN YEARBOOK OF INTERNATIONAL LAW: JAHRBUCH FÜR INTERNATIONALES RECHT 341, 344 (Universität Kiel. Institut für Internationales Recht ed., 2009).

²⁸⁵ Energy Charter Treaty, *supra* note 199, art. 19.

²⁸⁶ *Id.*

²⁸⁷ *See id.*

Art.: (1) In pursuit of sustainable development and taking into account its obligations under those international agreements concerning the environment to which it is party, each Contracting Party shall strive to minimize in an economically efficient manner harmful Environmental Impacts occurring either within or outside its Area from all operations within the Energy Cycle in its Area, taking proper account of safety. In doing so each Contracting Party shall act in a Cost-Effective manner. In its policies and actions each Contracting Party shall (j) promote international awareness and information exchange on Contracting Parties’ relevant environmental programmes and standards and on the implementation of those programmes and standards; (k) participate, upon request, and within their available resources, in the development and implementation of appropriate environmental programmes

body of the ECT, only Article 19 provides specific recommendations regarding safety and environmental regulations.²⁸⁸ As we will discuss later, Article 19 explicitly expresses leading principles of international environmental law, such as the polluter pays principle, sustainable development, and the precautionary principle.²⁸⁹ However, not only is Article 19 non-binding,²⁹⁰ but according to Articles 26 and 27 of the ECT, compulsory dispute settlement under the ECT does not include pre-investment regulatory obligations.²⁹¹ Hence, this contribution will mainly examine Article 19 of the ECT. Additionally, the Secretariat of the Energy Charter Treaty has suggested two model agreements, which we will discuss and analyze. The discussion of Article 19 and the proposed model agreements provide useful insights into cross-border pipeline safety and environmental regulations considered by the ECT.

in the Contracting Parties. (2) At the request of one or more Contracting Parties, disputes concerning the application or interpretation of provisions of this article shall, to the extent that arrangements for the consideration of such disputes do not exist in other appropriate international fora, be reviewed by the Charter Conference aiming at a solution. (3) For the purposes of this Article: (a) "Energy Cycle" means the entire energy chain, including activities related to prospecting for, exploration, production, conversion, storage, transport, distribution and consumption of the various forms of energy, and the treatment and disposal of wastes, as well as the decommissioning, cessation or closure of these activities, minimizing harmful Environmental Impacts; (b) "Environmental Impact" means any effect caused by a given activity on the environment, including human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interactions among these factors; it also includes effects on cultural heritage or socio-economic conditions resulting from alterations to those factors; (c) "Improving Energy Efficiency" means acting to maintain the same unit of output (of a good or service) without reducing the quality or performance of the output, while reducing the amount of energy required to produce that output; (d) "Cost-Effective" means to achieve a defined objective at the lowest cost or to achieve the greatest benefit at a given cost.

Id.

²⁸⁸ Energy Charter Treaty, *supra* note 200, art. 19.

²⁸⁹ *See id.*

²⁹⁰ ROSEMARY LYSTER & ADRIAN BRADBROOK, ENERGY LAW AND THE ENVIRONMENT 59 (2006); *see generally* Waelde, Thomas & Kolo, *Environmental Regulation, Investment Protection and Regulatory Taking in International Law*, 50 INT'L & COMP. L.Q. (2001).

²⁹¹ *See* Clare Shine, *Environmental Protection Under the Energy Treaty Charter*, in THE ENERGY CHARTER TREATY: AN EAST-WEST GATEWAY FOR INVESTMENT AND TRADE 520, 536 (Thomas W. Waelde ed., 1996).

The primary aim of Article 19 is cost-effective sustainable development.²⁹² To further this purpose, the article recognizes the precautionary principle and the polluter pays principle as fundamental rules for the prevention and compensation of transboundary damage.²⁹³ Article 19 highlights the importance of market-oriented pricing concerning environmental costs and the benefits of the energy cycle.²⁹⁴ Further, similar to UNCLOS, the article recommends cooperation in the field of internationally compatible environmental standards for the energy sector.²⁹⁵ In addition, Article 19 emphasizes the promotion of public awareness and development of transparent assessment at an early stage prior to decision-making procedures and subsequent monitoring due to the importance of disclosing information concerning energy-sector activities and their environmentally adverse impacts.²⁹⁶

For a better understanding of Article 19 of the ECT, its obligations can be summarized as follows: each contracting party shall (1) strive to minimize in an economically efficient manner harmful environmental impacts from occurring, (2) take precautionary measures to prevent or minimize environmental degradation, (3) co-operate in the field of international environmental standards, (4) promote public awareness of the environmental impacts of energy systems, and (5) promote international awareness and information exchange in contracting parties' relevant environmental programs and standards and on the implementation of those programs and standards.²⁹⁷

Interestingly, in principle, all the prescribed duties mentioned under Article 19 are also applicable to cross-border pipelines.²⁹⁸ For a better understanding, they are analyzed case by case. Article 19 suggests the importance of acting in an environmentally sound and efficient manner as one of its main rules.²⁹⁹ In fact, many countries mandate the evaluation of harmful impacts of the

²⁹² See Energy Charter Treaty, *supra* note 199, art. 19.

²⁹³ See *id.*

²⁹⁴ *Id.*

²⁹⁵ *Id.*

²⁹⁶ *Id.*

²⁹⁷ *Id.*

²⁹⁸ See generally Energy Charter Treaty, *supra* note 199, art. 19.

²⁹⁹ See *id.*

construction and operation of a proposed cross-border pipeline,³⁰⁰ and some international and regional instruments regulate it as a binding duty.³⁰¹ Hence, it can be held that an environmental impact assessment can be used as one of the instruments for the evaluation of environmentally adverse impacts prior to the decision-making, according to Article 19 of the ECT.³⁰²

Emphasizing international environmental standards³⁰³ can be helpful for the standardization of environmental and safety regulations applicable to cross-border pipelines. This emphasis may help to avoid the implementation of double standards over a pipeline and the associated side-effects of such double standards.³⁰⁴ The promotion of public awareness and participation in the decision-making process are valuable instruments for preventing conflicts of interest between operators and local communities.³⁰⁵ Whenever public information about such projects and their harmful effects on the environment increases, the possibility of externalizing the pollution cost to local communities will decrease.³⁰⁶

b. Model Agreements for Cross-Border Pipelines

The Secretariat of the Energy Charter Treaty prepared some model agreements for facilitating complex cross-border projects.

³⁰⁰ See, e.g., Directive 2011/92, of the European Parliament and of the Council of 13 December 2011 on the Assessment of the Effects of Certain Public and Private Projects on the Environment, 2011 O.J. (L 26) 11 (2012).

³⁰¹ See, e.g., United Nations Convention on Environmental Impact Assessment in a Transboundary Context, Feb. 25, 1991, 1989 U.N.T.S. 310.

³⁰² Directive 2011/92, art. 2.; see Energy Charter Treaty, *supra* note 199, art. 19.

³⁰³ International environmental standards are a broad and vague concept that can be defined in different ways. As S.S. Olson states, there is too much divergence at the international level to have harmonized environmental standards. S.S. OLSON, INTERNATIONAL ENVIRONMENTAL STANDARDS Handbook 6, 135 (1999). If environmental standards merely constitute a technical code of conduct, it is more meaningful to refer to internationally compatible standards. This definition refers to those standards that are mainly applied by states, whether they are produced by international agencies such as the International Standardization Organization (ISO) or by national organizations such as the ASTM (American Society of Testing and Material) as well as by private institutes such as Det Norske Veritas (DNV). *Id.*

³⁰⁴ See *id.*

³⁰⁵ D.K. ANTON & D.L. SHELTON, ENVIRONMENTAL PROTECTION AND HUMAN RIGHTS 312-14 (2011).

³⁰⁶ *Id.*

Due to the importance of cross-border pipeline arrangements, two model agreements have been prepared in relation to oil and gas cross-border pipelines. These model agreements are referred to as the Intergovernmental Agreement (IGA) and the Host Governmental Agreement (HGA).³⁰⁷ The contents of such a model are not binding for the parties to the ECT.

The IGA is an international treaty under international law.³⁰⁸ This model agreement recommends each state establish safety and environmental standards that are internationally compatible and acceptable and at least as stringent as the World Bank Group Environmental, Health, and Safety Standards and Guidelines.³⁰⁹ The recognition of those internationally recommended standards for cross-border pipelines is an important step towards the harmonization of environmental and safety regulations.³¹⁰ However, the World Bank Group standards encompass a wide range of standards, including those applicable to oil and gas pipelines.³¹¹ These standards are more general types of the safety and environmental regulations.³¹² The standards do not, however, contain very precise prescriptions concerning the technical features with which a cross-border pipeline should comply.³¹³ Hence, it might be argued that these standards need to be complemented by other required technical or safety standards. Moreover, the reference to internationally compatible and acceptable environmental and safety standards is rather vague and

³⁰⁷ See *infra* Sec. IV (discussing the function of those model agreements).

³⁰⁸ See Redgwell, *supra* note 163, at 106.

³⁰⁹ ENERGY CHARTER SECRETARIAT, MODEL INTERGOVERNMENTAL AND HOST GOVERNMENT AGREEMENTS FOR CROSS-BORDER PIPELINES ART. 10 (2007), available at http://www.encharter.org/fileadmin/user_upload/document/ma-en.pdf.

³¹⁰ See *id.*

³¹¹ *Environmental, Health, and Safety Guidelines*, INTERNATIONAL FINANCE CORPORATION: WORLD BANK GROUP, <http://www.ifc.org/wps/wcm/connect/554e8d80488658e4b76af76a6515bb18/Final++General+EHS+Guidelines.pdf?MOD=AJPERES> (last visited Sep. 9, 2014).

³¹² For instance, in relation to distribution gas pipelines, the standards refer to international standards for structural integrity and operational performance. See *Environmental Health and Safety Guidelines on Gas Distribution Systems*, INTERNATIONAL FINANCE CORPORATION: WORLD BANK GROUP (Apr. 30, 2007), <http://www.ifc.org/wps/wcm/connect/9c6e3d0048855ade8754d76a6515bb18/Final+-+Gas+Distribution+Systems.pdf?MOD=AJPERES>.

³¹³ See *id.*

invites different interpretations.³¹⁴

According to a study of a few IGAs, most IGAs do not directly deal with safety and environmental regulations.³¹⁵ In some cases, IGAs only refer to general terms or to HGA's.³¹⁶ Since only HGA's provide more specific information on environmental and safety standards, we will now turn to those agreements.

The HGA is a model for an agreement between a host state and investors.³¹⁷ This model is not considered an international treaty under the 1969 Vienna Convention on the Law of Treaties.³¹⁸ On the basis of the HGA, the agreed environmental and safety standards shall be set forth in the Appendix of said agreement.³¹⁹ Theoretically, these standards should be selected based on the consent of parties.³²⁰ In practice, these standards are mostly chosen based on the relative bargaining power of the parties involved.³²¹ According to the HGA model, the host government should agree with the standards that are set forth in the Appendix and should consent to any action taken by operators.³²² Furthermore, participating parties of HGAs often give priority to provisions decreed by an HGA over national or local regulations.³²³

³¹⁴ See *id.*

³¹⁵ See, e.g., Agreement Among the Hellenic Republic, the Republic of Turkey and the Italian Republic Concerning the Development of the Turkey-Greece-Italy Gas Transportation Corridor, July 26, 2007.

³¹⁶ See, e.g., Agreement Among the Azerbaijan Republic, Georgia and the Republic of Turkey, *supra* note 130.

³¹⁷ ENERGY CHARTER SECRETARIAT, *supra* note 309.

³¹⁸ If only one party to an agreement is a state and another party or parties are private actors, the agreement cannot be considered an international treaty. See Redgwell, *supra* note 163; see also *Anglo-Iranian Oil Company Case (U.K. v. Iran)*, 1952 I.C.J. Rep. 93 (July 22, 1952).

³¹⁹ See ENERGY CHARTER SECRETARIAT, *supra* note 309, art. 16.

³²⁰ *Id.*

³²¹ See *infra* Sec. IV (discussing the importance of the bargaining power of the parties involved).

³²² ENERGY CHARTER SECRETARIAT, *supra* note 309, art. 16.

³²³ For instance, in the South Caucasus Gas Pipeline, according to the host governmental agreement, safety and environmental regulations decreed in the text of the agreement were given priority over the local and national environmental and safety regulations. See *Host Government Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, BP Exploration (Azerbaijan) Limited, Totalfinaelf E&P Caucasian Gas SA, Lukagip N.V., Statoil Azerbaijan a.s., Naftiran Intertrade Co. (NICO) Limited, Turkish Petroleum Overseas Company Limited*, Apr. 17, 2002, art. 12 [hereinafter *Host Government Agreement*].

Those model agreements are categorized within the scope of soft law instruments and the application of them is non-binding for Contracting Parties.³²⁴ However, since the ECT model agreements have been implemented in several cross-border pipeline projects and are going to be applied to new projects by Contracting Parties, it is interesting to look more closely at this model agreement. We will do so by selecting one particular case study. It concerns the safety and environmental regulations contained in the agreement concerning the South Caucasus Gas Pipeline ("SCP").³²⁵ The SCP was constructed according to the terms of the ECT and the mentioned model agreements.³²⁶ The SCP transfers natural gas from Azerbaijan as a producer country, traverses Georgia as a transit country, to reach the final destination in Turkey as a consumer country.³²⁷ The HGA between Georgia and investors for the construction and operation of the SCP was concluded in London in 2002.³²⁸

In Article 12 of the SCP HGA, it was clearly mentioned that applicable environmental and safety standards and practices for the project shall be set forth in Appendix 4 and shall be applicable, notwithstanding any conflicting standards and practices otherwise required by the Georgian law.³²⁹ According to Appendix 4, technical and environmental standards are regulated separately.³³⁰ Selection, implementation, monitoring, and inspection of those standards are primarily duties of the operator in charge.³³¹ The Government of Georgia can determine a representative on its

Between and Among The Government of Georgia and State Oil Company of the Azerbaijan Republic]; *see also id.* app. 4.

³²⁴ *See* ENERGY CHARTER SECRETARIAT, *supra* note 309, introductory note ¶ 30.

³²⁵ Host Government Agreement Between and Among The Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323.

³²⁶ *See generally id.*

³²⁷ *See id.* art. 12.

³²⁸ *Id.*

³²⁹ *Id.*; *see* Redgwell, *supra* note 163, at 106 (stating that standards which are set forth in the HGA explicitly prevail over any standards applicable according to domestic law).

³³⁰ *See* Host Government Agreement Between and Among The Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, app. 4 (separating technical standards and environmental standards into paragraphs 2 and 3).

³³¹ *Id.* app. 4 ¶ 1.1(i).

behalf.³³² The Government's representative has the right to inspect the SCP under certain conditions.³³³ The Government representative shall have the right to observe (by submitting a prior notice before inspecting) on the condition that he does not interfere in the application of safety rules.³³⁴

Interestingly, in Appendix 4 of the SCP HGA, a large number of technical standards are mentioned, including technical standards from the US, the UK, as well as other international technical standards.³³⁵ The operator can select each type of standards, based on its own discretion.³³⁶ In addition, the operator has the right to use other Western standards in cases where the specified technical standards are silent or incompatible.³³⁷

In relation to environmental and safety standards, as was suggested by the IGA model referred to above, the World Bank environmental standards should be implemented by Member Parties as minimum standards.³³⁸ In the case of the SCP HGA, environmental standards should be implemented that are compatible with such standards that are generally observed by the international community with respect to comparable natural gas pipeline projects, but not lower than those applicable in the UK.³³⁹ However, there are a few exceptions mentioned to the application of those regulations:

- (1) Environmental standards other than those which establish a liability can be implemented;
- (2) Those standards should not include the regulatory administrative structures or procedures;
- (3) If those standards are not compatible with the specific technical standards of this agreement, the SCP participants shall follow those standards and practices which are

³³² *Id.* art. 2 ¶ 2.2.

³³³ *Id.* app. 4 ¶ 1.2.

³³⁴ *Id.*

³³⁵ See Host Government Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, app. 4 ¶¶ 2.1-2.2 (discussing technical standards in several countries).

³³⁶ *Id.* app. 4 ¶ 2.1 (stating that SCP participants determine the relevant technical standard).

³³⁷ *Id.*

³³⁸ See *id.* app. 4 ¶ 3.

³³⁹ *Id.* app. 4 ¶ 2.2.

compatible; and

- (4) If any authority with jurisdiction over the pipeline enacts such environmental standards which are in a different form or more stringent, those standards shall not be subject to the project.³⁴⁰

As described in the above paragraphs, the technical and environmental regulations that were mentioned in the SCP HGA's Appendix encompass a wide range of regulations emanating from different countries in the world.³⁴¹ These standards should basically be selected and enforced by the operator.³⁴² Defining and implementing those standards in the manner proposed by the SCP HGA has some pros and cons. The advantages can be summarized as follows:

- (1) The operator has better knowledge, thus, he/she can choose the most appropriate regulations;
- (2) The state cannot put pressure on operators by requiring extra environmental regulations (regulatory taking);³⁴³ and
- (3) Incorporating high quality standards into the agreement underlines the obligations of parties to protect the environment.

This can be considered a step ahead compared with many investor-state agreements, which notably narrow the scope of the application of the domestic law of the host states, but also do not include any specific environmental commitments.³⁴⁴

However, this kind of arrangement also has a few potential disadvantages or at least ambiguities. For instance, although a

³⁴⁰ *Id.* app. 4 ¶ 2.7.

³⁴¹ *See infra* sec. 4.

³⁴² Host Government Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, app. 4.

³⁴³ As literature and arbitration cases have indicated, environmental regulations of the host state aiming to intervene in an investment are considered a risk to foreign investment. M. SORNARAJAH, *THE INTERNATIONAL LAW ON FOREIGN INVESTMENT* 77-78, 110-11 (Cambridge University Press, 3d ed. 2010) (highlighting foreign investment issues due to state regulation of human rights and environmental concerns and the clash between protection of the environment and protection of foreign investment).

³⁴⁴ Some agreements do not expressly set out environmental and safety standards. Instead they require operators to carry out investment projects in accordance with technical and safety standards prevailing in the petroleum industry. *See, e.g.*, COTCO Convention, *supra* note 132; *see generally* Lorenzo Cotula, *Reconciling Regulatory Stability and Evolution of Environmental Standards in Investment Contracts: Towards a Rethink of Stabilization Clauses*, J. WORLD ENERGY L. & BUSINESS 158, 158-179 (2008).

wide range of technical standards was prescribed as permitted codes, the distinctive features of each of these technical standards were not taken into account.³⁴⁵ Further, although a wide range of technical standards was listed, it was not clear which of them was principal or auxiliary.³⁴⁶ Hence, monitoring and inspecting those standards becomes an impossible task for public authorities. In addition, environmental standards were not accurately defined in the text of the agreement.³⁴⁷ The agreement only refers to vague notions such as "other Western standards," or refers to environmental standards "not lower than those applicable in the UK."³⁴⁸ As a result, the choice of applicable technical, safety, and environmental standards is, to some extent, subject to the discretion of the operator.³⁴⁹ Monitoring and inspecting by public authorities therefore becomes extremely difficult.³⁵⁰ Moreover, if environmental and safety standards are not clear, this will also create difficulties for victims to obtain compensation based on liability, if they should prove that the operator violated applicable environmental and safety standards.³⁵¹ This presupposes at least that there is no ambiguity as far as applicable safety standards are concerned.

In sum, the ECT model agreements have several functions in the interaction between the parties, allowing them to create a cross-border pipeline agreement. The goal of those model agreements is to elaborate uniform regulations over the entire length of the pipeline.³⁵² Furthermore, by referring to the World Bank regulations as the minimum safety level, those model

³⁴⁵ See generally Richard B. Kuprewicz, *General Observations On the Myth of a Best International Pipeline Standard*, ACCUFACTS INC. (March 31, 2007), http://pstrust.org/docs/best_standard_report.pdf (reviewing differences between technical standards of pipelines).

³⁴⁶ See generally *id.* (reviewing differences between technical standards of pipelines).

³⁴⁷ See generally Host Government Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323.

³⁴⁸ *Id.* app. 4 ¶¶ 2.1–2.2.

³⁴⁹ See *id.* app. 4, Code of Practice.

³⁵⁰ See *id.*

³⁵¹ See *id.*

³⁵² See generally ENERGY CHARTER SECRETARIAT, *supra* note 309 (discussing the model agreements).

agreements, to some extent, aim at ensuring a minimum quality of the applicable standards.³⁵³ The problem, however, is that there is a large degree of discretion given to the operators in relation to those standards.³⁵⁴ This discretionary power may impede an effective application of safety standards or it may hinder a proper inspection by public authorities.³⁵⁵ It is questionable to what extent the ECT and its associated model agreements can provide an effective tool for preventing damage resulting from cross-border pipelines.³⁵⁶

3. The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)

a. Working of the Espoo Convention

The Convention on Environmental Impact Assessment in a Transboundary Context (the “Espoo Convention”) is a regional convention under the auspices of the United Nations Economic Commission for Europe.³⁵⁷ Due to the rapid increase of transboundary environmentally harmful activities, the Espoo Convention set up obligations of Contracting Parties to assess environmentally adverse impacts of certain hazardous activities and to consult affected states prior to decision-making.³⁵⁸ According to Neil Craik, only the Espoo Convention and the Protocol on Environmental Protection to the Antarctic Treaty formulate detailed requirements for transboundary EIAs.³⁵⁹ Large diameter oil and gas pipelines are included in the list of the

³⁵³ See *id.* app. 4 ¶ 3.1 (requiring SCP participants to conform to World Bank environmental standards).

³⁵⁴ See *id.* app. 4., Code of Practice.

³⁵⁵ See *id.*

³⁵⁶ See *infra* Sec. IV.

³⁵⁷ Espoo, *supra* note 200, Preamble.

³⁵⁸ Before the adoption of the Espoo Convention, several steps had been taken to implement transboundary EIAs. These steps were initiated in 1972 with the United Nations Conference on the Human Environment in Stockholm and were followed by the UNCLOS. See Wiek Scharge, *The Convention on Environmental Impact Assessment in a Transboundary Context, in THEORY AND PRACTICE OF TRANSBOUNDARY ENVIRONMENTAL IMPACT ASSESSMENT* 29, 29–30 (Kees Bastmeijer & Timo Koivurova eds., 2008).

³⁵⁹ NEIL CRAIK, *THE INTERNATIONAL LAW OF ENVIRONMENTAL IMPACT ASSESSMENT* 101 (2008).

hazardous activities in Appendix I of the Espoo Convention.³⁶⁰ Thus, the terms of the Espoo Convention are applicable to cross-border pipelines as well. Cross-border pipelines are even considered complex activities under the Espoo Convention.³⁶¹ Strategic environmental assessments are therefore required.

The main aim of the Espoo Convention is to prevent, reduce, and control adverse transboundary impacts (Article 2).³⁶² For this purpose, an environmental impact assessment of such activities is mandated prior to granting permission to execute those activities.³⁶³ For a better understanding, we will briefly introduce the procedure to be followed in the case of a transboundary environmental impact assessment according to the Espoo Convention.³⁶⁴

Basically, a state of origin (a contracting party that envisages to undertake particular activities in its jurisdiction) should submit required information about possible transboundary impacts to an affected state (a contracting party likely to be affected by the transboundary impact of a proposed activity) and to the public in the area likely to be affected.³⁶⁵ According to Article 3, a state of origin must inform an affected state no later than when it informs its own public.³⁶⁶ A state of origin shall also provide possibilities for making comments or objections on the proposed activity by affected states and their public.³⁶⁷ In other words, as Koivurova & Polonen explain, the Espoo Convention requires Contracting

³⁶⁰ U.N. Convention on Environmental Impact Assessment in a Transboundary Context, *supra* note 301, app. I ¶ 8.

³⁶¹ Exchange of Good Practices, Large-Scale Transboundary Projects, Application of the Espoo Convention to Complex Activities, Note by the Secretariat, U.N. Economic Comm'n for Eur., on its 12th mtg. at ¶ 3(a), ECE/MP.EIA/WG.1/2009/4 (May 11-13, 2009) [hereinafter UN Economic and Social Council].

³⁶² MARIE-LOUISE LARSSON, THE LAW OF ENVIRONMENTAL DAMAGE: LIABILITY AND REPARATION 140 (1999). Meanwhile, this Convention, and particularly Article 2, does not pose any duty to prevention of transboundary harm. CRAIK, *supra* note 359, at 103.

³⁶³ *See id.* at 140.

³⁶⁴ *See generally* Espoo, *supra* note 200, arts. 1-20 (laying out the procedure to be followed in case of a transboundary environmental impact assessment).

³⁶⁵ *See id.* art. 2, ¶¶ 2, 6.

³⁶⁶ For countries that have no scoping procedures, there will be some problems in complying with Article 3 of the Espoo Convention because a state of origin may find out transboundary adverse impacts of proposed activities after its own public participation. *See generally* Scharge, *supra* note 358, at 39-40.

³⁶⁷ *See* Espoo, *supra* note 200, art. 2, ¶ 5.

Parties to conduct a national environmental impact assessment that also includes the observation and participation of the potential affected foreign actors.³⁶⁸

Under the Espoo Convention, an affected party also has an active role.³⁶⁹ The transboundary EIA will only be continued if an affected state intends to participate in the transboundary EIA procedure.³⁷⁰ However, when an affected party intends to participate, it should submit obtainable information relating to the possible adverse impacts of the proposed activity under its jurisdiction.³⁷¹ After such exchange of information, and by gathering the observations of the affected public concerning the proposed activity, the state of origin shall finally decide about granting the project or not.³⁷² During the consultation period, according to Article 5 of the Espoo Convention, the state of origin can also consider the possible alternatives, including the no-action option.³⁷³

Indeed, the Espoo Convention follows the same procedure as was suggested by UNCLOS and by the ECT for the establishment of the EIA prior to the decision-making procedure. The Convention provides for a transboundary environmental impact assessment process, which should be undertaken prior to granting the project, by focusing on the affected states and their local communities.³⁷⁴ To analyze the application of the Espoo Convention to cross-border pipelines in practice, the EIA of the

³⁶⁸ Koivurova & Polonen, *supra* note 131, at 153.

³⁶⁹ See Espoo, *supra* note 200, art. 3, ¶¶ 3-4.

³⁷⁰ Koivurova & Polonen, *supra* note 131, at 153 (stating that the affected state must confirm its willingness to participate in the transboundary EIA procedure).

³⁷¹ When there exists disagreement between parties in relation to significant adverse impacts of non-listed proposed activities, the Convention provides the parties with general criteria, including size, location, and effects to assist in determining the environmental significance of non-listed activities. However, the wording of the Convention, by referring to the fact that parties “may” consider those criteria to determine environmental adverse impacts of proposed non-listed activities, leaves a gap for an accurate examination of those criteria. See John Woodliffe, *Environmental Damage and Environmental Impact Assessment*, in ENVIRONMENTAL DAMAGE IN INTERNATIONAL AND COMPARATIVE LAW: PROBLEMS OF DEFINITION AND VALUATION 133, 140 (Michael Bowman & Alan Boyle eds., 2012).

³⁷² See Espoo, *supra* note 200, art. 6, ¶ 2.

³⁷³ See *id.*, art. 5.

³⁷⁴ See generally *id.* (laying out the transboundary environmental impact assessment process).

Nord Stream Gas Pipeline, which was done in accordance with provisions of the Espoo Convention, is examined as a case study.

b. The EIA in the Nord Stream Gas Pipeline-case

The Nord Stream Gas Pipeline (NSGP) is a 1,220 kilometers long transmission offshore natural gas pipeline (two parallel lines).³⁷⁵ This pipeline crosses the exclusive economic zones of Russia,³⁷⁶ Finland, Sweden, Denmark and Germany, as well as the territorial waters of Russia, Denmark, and Germany.³⁷⁷ The NSGP transfers Russian gas to Germany.³⁷⁸ Although some debates were raised in relation to the inclusion of the NSGP under the Espoo Convention,³⁷⁹ the competent authorities of Germany, Denmark, Sweden, Finland, and Russia, as states of origin (since the NSGP passes through their jurisdictions), unanimously concluded in a meeting on April 19, 2006, that the NSGP Project falls under Article 3 of the Espoo Convention.³⁸⁰ It is noteworthy that the course of constructing the NSGP primarily falls under UNCLOS. The reason is that it concerns, as mentioned, an offshore natural gas pipeline in the exclusive economic zone of the states of origin. We mentioned above that according to Article 79 of the UNCLOS, laying such pipelines on the continental shelf is subject to the consent of the coastal states.³⁸¹ However, as mentioned before, the UNCLOS does not explicitly specify the duty to apply an EIA.³⁸²

³⁷⁵ *Fact Sheet: The Nord Stream Pipeline Project*, NORD STREAM (Aug. 2014), <http://www.nord-stream.com/press-info/library/> (follow the "Nord Stream Pipeline Project" hyperlink).

³⁷⁶ The Russian Federation has signed but not yet ratified the Espoo Convention. *See Convention on Environmental Impact Assessment in a Transboundary Context*, U.N. TREATY CONVENTION, https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtldsg_no=XXVII-4&chapter=27&lang=en (last visited Oct. 15, 2014). But with regard to the Nord Stream Project, Russia is acting as a Party of Origin to the extent possible under its legislation. *See* BENDIK SOLUM WHIST, *NORD STREAM: NOT JUST A PIPELINE 7* (Fridtjof Nansen Inst. 2008). Hence, for the purpose of this article the term "Parties of Origin" as used herein shall include the Russian Federation.

³⁷⁷ *See Fact Sheet: The Nord Stream Pipeline Project*, *supra* note 375.

³⁷⁸ *Id.*

³⁷⁹ Koivurova & Polonen, *supra* note 131, at 158.

³⁸⁰ *Espoo Report Chapter 3: Legal Framework and Public Consultation*, NORD STREAM 62 (Feb. 2009), <https://www.nord-stream.com/press-info/library/?pk=73> (follow the "Espoo Report Chapter 3: Legal Framework and Public Consultation" hyperlink).

³⁸¹ UNCLOS, *supra* note 198, art. 79.

³⁸² *Id.*

Its references to determining environmental impacts³⁸³ are rather vague and unclear and, at a minimum, do not include an explicit obligation to conduct a transboundary EIA.³⁸⁴

To obtain the permission from the mentioned states, the Nord Stream Company, as an operator, was involved in extensive consultations with each of the countries concerned (as states of origin), to be certain that the NSGP fully complied with the respective national legislation.³⁸⁵ In addition to those five nations, the NSGP may affect Estonia, Latvia, Lithuania, and Poland as affected states; however, no segment of the NSGP falls under their jurisdiction.³⁸⁶ Therefore, these four states, as affected states, were also part of the consultation process.³⁸⁷ In conformity to the provisions of the Espoo Convention, each of the states of origin as well as the Russian Federation opened its EIA procedure to all the states of origin and affected states.³⁸⁸ The involvement of that many states and parties of course increased the level of complexity of the EIA of the project.³⁸⁹

Various types of documents both at the national as well as at the international level were prepared by the Nord Stream Company and translated into all affected nations' languages in view of the public participation.³⁹⁰ The public in the origin and affected states, including governmental authorities and non-governmental actors, provided documents and sent comments concerning the EIA of the project.³⁹¹ Eventually, the final EIA report was prepared and submitted to the states of origin to obtain their permission.³⁹² All permits to begin construction were received by February 2010 from the states of origin.³⁹³

³⁸³ *Id.* art. 194.

³⁸⁴ See Alexander Lott, *Marine Environmental Protection and Transboundary Pipeline Projects: A Case Study of the Nord Stream Pipeline*, 27 MERKOURIOS-UTRECHT J. INT'L & EUR. L. 55, 61 (2011).

³⁸⁵ *Id.* at 62.

³⁸⁶ *Id.*

³⁸⁷ *Id.*

³⁸⁸ *Id.*

³⁸⁹ *Id.*

³⁹⁰ See Lott, *supra* note 384, at 62.

³⁹¹ See *id.* at 60.

³⁹² See *id.* at 62.

³⁹³ See *id.* at 68.

The EIA of the NSGP has been considered by many authors as a model way of how a transboundary EIA may be applied under the Espoo Convention.³⁹⁴ However, there are also a few critical points concerning the transboundary EIA procedure in the NSGP. One of the main criticisms related to the fact that the EIA report inadequately examined alternative routes of the NSGP.³⁹⁵ This was an issue for one of the states of origin (Finland), one of the affected states (Estonia); the European Parliament; and, finally, for the Espoo Secretariat.³⁹⁶

Originally, Finland, as a state of origin, after receiving the second EIA report, notified the Nord Stream Company about its concerns in relation to the lack of studying the alternative routes of the NSGP near the Russian island of Gogland and the route in the South of the Gulf of Finland (Estonian Section).³⁹⁷ But the Nord Stream Company informed Finland that after consultation with the Russian authorities, the Company did not intend to investigate a possible alternative route in the territorial waters of Russia.³⁹⁸ Since Russia is not a member of the Espoo Convention, it could easily decline permitting a feasibility study in its own territorial waters.³⁹⁹ Moreover, the Espoo Convention articulates that an alternative route could only be examined in the jurisdiction of the states of origin (Article 5).⁴⁰⁰ In addition, the request of the Company to conduct seabed studies in Estonia's Exclusive Economic Zone was rejected by the Estonian authorities.⁴⁰¹ The legal basis of that rejection by Estonia could, to some extent, be considered questionable under UNCLOS.⁴⁰²

The second contentious issue was raised by the European Parliament in publishing the European Parliament Resolution on

³⁹⁴ See Koivurova & Polonen, *supra* note 131; see also Vinogradov, *supra* note 34, at 248.

³⁹⁵ See Koivurova & Polonen, *supra* note 131, at 169.

³⁹⁶ *Id.*; see also UN Economic and Social Council, *supra* note 361.

³⁹⁷ See Koivurova & Polonen, *supra* note 131, at 169.

³⁹⁸ *The NSGP Environmental Impact Assessment Report*, NORD STREAM, <http://www.nord-stream.com/press-info/library/?q=environmental+impact+assessment+report&category=&type=&page=6&country=> (last visited July 16, 2013).

³⁹⁹ See *id.*

⁴⁰⁰ See Espoo, *supra* note 200, art. 5.

⁴⁰¹ See Lott, *supra* note 384, at 61.

⁴⁰² Vinogradov, *supra* note 34, at 261.

the Environmental Impact of the Planned Gas Pipeline in the Baltic Sea to Link Up Russia and Germany.⁴⁰³ This resolution reflects environmental concerns in relation to the construction and operation of the NSGP by emphasizing the inadequacy of the environmental impact assessment.⁴⁰⁴ Those concerns contained a wide range of environmental and strategic issues.⁴⁰⁵ The European Parliament resolution *inter alia* referred to a lack of adequate descriptions of the environmental conditions in the Baltic Sea, a lack of a precise examination of the agricultural and industrial emissions polluting the Baltic Sea, the need to evaluate them in proportion with the possible environmental threats caused by the NSGP, and the lack of attention to the potential threats to the security of the NSGP and possible alternative routes (not limited to the states of origin and, including onshore routes).⁴⁰⁶

As mentioned, according to the Espoo Convention Protocol, the cross-border pipelines are listed as a complex large-scale project.⁴⁰⁷ This Protocol mandates that parties run a strategic environmental assessment for complex activities.⁴⁰⁸ The Secretariat of the Espoo Convention underlined the strategic dimension of cross-border pipelines and the necessity of conducting a strategic environmental assessment for the NSGP.⁴⁰⁹ However, as Koivurova & Polonen correctly state, focusing on the duty of states of origin to conduct the SEA, the Member Parties of the Espoo Convention cannot mandate that a company conduct a strategic environmental assessment.⁴¹⁰ Hence, it is in principle a duty of the states of origin to conduct the SEA by themselves.⁴¹¹

Generally, the Espoo Convention is considered to be one of the more progressive regional environmental instruments aimed at the

⁴⁰³ Resolution on the Environmental Impact of the Planned Gas Pipeline in the Baltic Sea to Link Up Russia and Germany, EUR. PARL. DOC. ¶¶ 10, 17, 20, 22, 24, 25, 25, 33 (0614/2007 and 0952/2007) (2008) [hereinafter European Parliament].

⁴⁰⁴ *Id.*

⁴⁰⁵ *Id.*

⁴⁰⁶ *Id.*

⁴⁰⁷ Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context, U.N. Econ. Comm'n for Eur. Annex I, U.N. Doc. ECE/MP.EIA/2003/2 (May 21, 2003).

⁴⁰⁸ *Id.* art. 4.

⁴⁰⁹ See UN Economic and Social Council, *supra* note 361.

⁴¹⁰ See Koivurova & Polonen, *supra* note 131, at 179.

⁴¹¹ See *id.*

prevention of transboundary environmental impacts, which is also applicable to cross-border pipelines.⁴¹² The EIA of the NSGP was conducted in an innovative manner as a large-scale project which came under the application of the Espoo Convention.⁴¹³ However, notwithstanding the fact that conducting an EIA with respect to this NSGP project is certainly to be considered a positive, a variety of comments can still be made.

First, the case of the NSGP project shows that the Espoo Convention can only be correctly implemented in practice if all states concerned, including the states of origin and the affected states, are members to the Espoo Convention. Otherwise a proper application of the EIA to proposed cross-border pipelines may not be achieved. For instance, in the case of the NSGP project, the affected states were members of the Espoo Convention and hence participated in the EIA process, but not in the final decision-making process with respect to the NSGP.⁴¹⁴ Some of the affected states seriously criticized the effectiveness of the EIA on the project.⁴¹⁵ In this particular case the main problem was obviously the fact that a decision on the pipeline was finally made in Russia, which is not a member to the Espoo Convention.⁴¹⁶ As a result, in those cases where some states (or even just one state) are not members to the Convention, the states may externalize pollution costs to other states concerned and vice versa.

Second, according to Article 5 of the Espoo Convention, possible alternative routes for the proposed projects can only be suggested in states of origins' territories.⁴¹⁷ As the cases of

⁴¹² Mari Koyano, *The Significance of the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) in International Environmental Law: Examining the Implications of the Danube Delta Case*, 26 J. INT'L. ASS'N. FOR IMPACT ASSESSMENT 299, 299 (2008).

⁴¹³ See Koivurova & Polonen, *supra* note 131, at 180; see also Lott, *supra* note 384, at 62.

⁴¹⁴ See *The NSGP Environmental Impact Assessment Report*, *supra* note 398.

⁴¹⁵ *Nord Stream Baltic Sea Pipeline Assessments Breach EU Laws*, Estonian Environmental Groups Alert European Commission, ESTONIAN FUND FOR NATURE, <http://www.elfond.ee/en/news/896-nord-stream-baltic-sea-pipeline-assessments-breach-eu-laws-estonian-environmental-groups-alert-european-commission> (last visited July 16, 2013); *Nord Stream Faces More Obstacles*, NEWEUROPE ONLINE (May 5, 2009), <http://www.neurope.eu/article/nord-stream-faces-more-obstacles>.

⁴¹⁶ See *The NSGP Environmental Impact Assessment Report*, *supra* note 398.

⁴¹⁷ Espoo, *supra* note 200, art. 5.

Estonia and Russia, as affected state and non-member state, indicated, an alternative route for the affected parties may be more environmentally sound than in the state of origin.⁴¹⁸ Moreover, according to the EU Parliament, all possible alternative routes for the construction of such pipelines, in particular the terrestrial route, should be taken into consideration by the decision-makers.⁴¹⁹

Third, one commentator suggested the elaboration of joint EIA procedures.⁴²⁰ The joint EIA, as Francisco M. Hernández suggests, can improve public participation and avoid conflicts in integrating different EIAs for the specific project.⁴²¹ This observation can be applicable if all the states concerned agree with the establishment of a joint EIA, instead of applying their national regulations separately.⁴²² Otherwise, as was the case in the NSGP, each state will evaluate the EIA reports only based on their own national regulations.⁴²³

Fourth, in accordance with Articles 3, 4, and 5 of the Espoo Convention, the EIA report should be published by the state of origin.⁴²⁴ This provides an appropriate opportunity for the affected state governments, as well as for local communities and NGOs, to make comments on the proposed project.⁴²⁵ The state of origin that finally decides to grant the proposed project should take into consideration commented observations during the decision-making procedures.⁴²⁶ However, the only mechanism adopted by the Espoo Convention to ensure the contribution of the commented observations in an appropriate manner is to afford legal recourse only for the affected states, and not for the local communities to challenge the final EIA report.⁴²⁷ As a matter of fact, some authors

⁴¹⁸ See Koivurova & Polonen, *supra* note 131, at 169.

⁴¹⁹ See European Parliament, *supra* note 403.

⁴²⁰ See Francisco M. Hernández, Analysis of the Espoo Convention as Applied to Mega Projects: The Case of Nord Stream 37 (May 2008) (unpublished Master of Science thesis, Lunds Universitet) (on file with author).

⁴²¹ See *id.*

⁴²² *Id.*

⁴²³ See *The NSGP Environmental Impact Assessment Report*, *supra* note 398.

⁴²⁴ See European Parliament, *supra* note 403, arts. 3-5.

⁴²⁵ See *id.*

⁴²⁶ See Espoo, *supra* note 200, art. 6.

⁴²⁷ See *id.* art. 15.

also dispute the quality of the EIA under the Espoo Convention in the case of the Nord Stream Gas Pipeline.⁴²⁸ These concerns were mostly aimed at the reliability of the gathered data.⁴²⁹ Nevertheless, no legal mechanism is suggested for dealing with those issues under the Espoo Convention.⁴³⁰

Of course we do realize that those observations may sound slightly naïve. In practice, cross-border pipeline projects represent large economic and thus, unavoidably, political interests. Those interests may often outweigh the pure environmental interests that are at stake in such a project as well.

IV. Evaluation of Safety and Environmental Regulation of Cross-Border Pipelines

As indicated in previous sections, cross-border oil and gas pipelines have been hypothesized to pose a range of potential damage. This damage can be classified as transboundary damage. Accordingly, given the legal frameworks applicable to cross-border pipelines described in section II, a wide range of regulations can be applicable to those pipelines, at least in principle.⁴³¹ The question that arises is how effective those regulations are for the prevention of transboundary and transnational damage? To answer this question, this section tries to analyze the effectiveness of the mentioned regulations to prevent such damage. In this respect, we will not examine detailed technical standards (also because they are often laid in agreements between parties which remain confidential). However, based on the construction of the regulatory framework as sketched in section III, we will formulate a few sources of concern regarding the effectiveness of this regulatory framework as far as its ability to adequately prevent environmental harm and promote safety is concerned.⁴³²

One of the aims of the environmental conventions discussed in section III is to minimize environmental pollution (in particular

⁴²⁸ See Koivurova & Polonen, *supra* note 131, at 173.

⁴²⁹ *Nord Stream Assessment Seriously Underestimates Environmental Consequences of the Baltic Sea*, WORLD WIDE FUND FOR NATURE (May 7, 2009), <http://wwf.panda.org/?uNewsID=163682>.

⁴³⁰ See generally Espoo, *supra* note 200 (suggesting no legal mechanism).

⁴³¹ See *supra* Sec. II.

⁴³² See *supra* Sec. III.

transboundary pollution).⁴³³ As a result, in the first subsection of this section, the effectiveness of those conventions for the prevention of transboundary pollution in the case of cross-border pipelines is considered by using a few examples.

In applying the unified model, safety and environmental standards are mainly chosen by an operator in charge.⁴³⁴ The operators in charge should enforce these regulations, which can be derived from international standards, private standards (trade-association standards and self-regulations), or even national standards of other states.⁴³⁵ In fact, the public authorities of host states are only entitled to monitor this process in a narrow scope.⁴³⁶ To an important extent this amounts to self-regulation⁴³⁷ or, as it is sometimes referred to, private environmental governance.⁴³⁸ The question arises whether this application of private standards, or at least standards that a private MNC chooses to comply with, adequately incorporates the potential externalities created by cross-border pipelines. In other words, as Kandiyoti argues, given two distinctive modes of operation of the same companies in different countries, there are some concerns in relation to protecting the environment by multinational corporations.⁴³⁹ The second subsection will analyze the potential problems that may result from such a model.

A. Transboundary Damage

As we already argued, the transportation of oil and gas via cross-border pipelines may result in transboundary damage.⁴⁴⁰ Usually this transboundary damage will take the form of

⁴³³ See *id.*

⁴³⁴ See *infra* Subsec. B.

⁴³⁵ See *id.*

⁴³⁶ See *id.*

⁴³⁷ See generally Roger Van den Bergh, *Towards Efficient Self-Regulation in Markets for Professional Services*, in EUROPEAN COMPETITION LAW ANNUAL 2004, THE RELATIONSHIP BETWEEN COMPETITION AND THE LIBERAL PROFESSION (Claus-Dieter Ehlermann & Isabela Atanasiu eds., 2006).

⁴³⁸ See generally Michael P. Vandenbergh, *Private Environmental Governance*, (Vanderbilt Law & Econ., Working Paper No. 13-10, 2013), available at http://ssrn.com/abstract_ID=2237515.

⁴³⁹ Kandiyoti, *supra* note 45, at 38.

⁴⁴⁰ See *supra* Sec. IV.

environmental pollution.⁴⁴¹ The economic basis for this transboundary damage is that polluters externalize harm to others (in this case across-the-border), thus not internalizing pollution costs.⁴⁴²

In a typical transboundary pollution case, a state of origin might decline to exercise more stringent regulations on the local industry when benefits would be obtained by other states.⁴⁴³ Additionally, an affected state often suffers from a lack of information about the adverse impacts of such activities.⁴⁴⁴ Even with this information, affected states may have some obstacles for the establishment of litigation against polluters and eventually for the enforcement of the decision in the source state.⁴⁴⁵ As a consequence, a state of origin uses the benefits of the polluting activity and externalizes pollution costs to an affected state.⁴⁴⁶ The affected state bears the costs of pollution but does not enjoy the benefits of such activities in most cases.⁴⁴⁷

In the literature, as well as at the policy level, various instruments have been suggested to deal with the problem of transboundary pollution.⁴⁴⁸ The goal of those instruments is to force polluters in the source state to internalize the externality

⁴⁴¹ *Id.*

⁴⁴² See John Warren Kindt, *International Environmental Law and Policy: An Overview of Transboundary Pollution*, 23 SAN DIEGO L. REV. 583, 591–92 (1986).

⁴⁴³ See Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE L.J. 931 (1997).

⁴⁴⁴ RENÉ LEFEBER, *TRANSBOUNDARY ENVIRONMENTAL INTERFERENCE AND THE ORIGIN OF STATE LIABILITY* 32 (1996).

⁴⁴⁵ *See id.*

⁴⁴⁶ *See id.*

⁴⁴⁷ *See id.*

⁴⁴⁸ For instance, the OECD Council Recommendations on Principles Concerning Transfrontier Pollution, adopted in 1974: After tipping its hat in the direction of the Stockholm Declaration, “the Council urged that transboundary pollution disputes are resolved on the basis of what is called a “principle of non-discrimination.” Under this principle, the source states should agree to control transboundary pollution to levels considered acceptable in comparable circumstances in the source state itself, and should agree to afford the same rights in judicial and administrative proceedings to persons in an affected state as to persons in the source state. *See Recommendation of the Council on Principles Concerning Transfrontier Pollution*, 14 November 1974, Organization for Economic Co-Operation and Development, C (74)224, available at <http://acts.oecd.org/Instruments/ShowInstrumentView.aspx?InstrumentID=12>.

caused through their polluting activities.⁴⁴⁹ For the purposes of this study it is important to stress that transboundary pollution can of course result from both onshore and offshore pipelines.⁴⁵⁰ In fact, as we identified above, only a few international and regional conventions deal with the prevention of transboundary pollution resulting from cross-border pipelines, namely UNCLOS and the ESPOO Convention.⁴⁵¹

1. Transboundary Pollution Under UNCLOS and the Espoo Convention

We showed that questions could be asked regarding the effectiveness of UNCLOS as an instrument to prevent transboundary pollution. According to Article 194 of UNCLOS, in order to prevent transboundary pollution of the marine environment, states should ensure that activities under their jurisdiction do not cause damage to other states and to their environment.⁴⁵² In Article 195, transboundary pollution, which might result from pipeline accidents, is identified and, as a consequence, states are obliged to prevent such transboundary pollution.⁴⁵³ However, as the text of these two articles shows, the extent to which transboundary pollution will be prevented by effective legal instruments is in fact left to the discretionary power of the polluter states.⁴⁵⁴ These states, nonetheless, have obligations pursuant to Articles 194 and 195, which are further developed by Articles 207 and 213.⁴⁵⁵

Article 213 holds that states shall take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conferences to prevent, reduce, and control pollution of the marine environment from land-based sources.⁴⁵⁶ This article establishes a duty for states to regulate

⁴⁴⁹ See *id.*

⁴⁵⁰ See *supra* Section IV.

⁴⁵¹ See *supra* Section III.

⁴⁵² See UNCLOS, *supra* note 198.

⁴⁵³ *Id.*

⁴⁵⁴ *Id.*

⁴⁵⁵ *Id.*

⁴⁵⁶ As mentioned, these provisions mostly fall under the domain of soft law. See

transboundary pollution. However, as Alan E. Boyle correctly argues, UNCLOS does not determine the content and extent of laws and regulations to be adopted by states.⁴⁵⁷ In addition, international rules and standards are vague concepts and should be clarified precisely.⁴⁵⁸ International standards encompass various types of standards of different dimensions and levels.⁴⁵⁹

Under UNCLOS, if a state is the owner of a pipeline, the state should comply with internationally compatible standards in order to prevent marine pollution.⁴⁶⁰ If the owner of the pipeline is a multinational corporation or if the pipeline is a transit one, which needs to obtain an authorization of host states,⁴⁶¹ the authorizing states shall apply such regulations as compatible with the international standards for the prevention of marine pollution. However, in some cases, an adjacent state may have a different level of regulations, particularly with regard to the threshold for marine environmental pollution.⁴⁶² Consequently, the problem may arise that double standards are applied with respect to the same environmental component.⁴⁶³ Further, as Boyle notes, the "States' obligation is only to 'take account of' internationally agreed rules and standards, but not necessarily to adopt them."⁴⁶⁴ Thus, in practice, states still retain wide discretion in the way they

KLEIN, *supra* note 274, at 150-52.

⁴⁵⁷ Alan E. Boyle, *Marine Pollution Under the Law of the Sea Convention*, 79 AM. J. INT'L L. 347, 347 (1985).

⁴⁵⁸ E.G. HINKELMAN, *DICTIONARY OF INTERNATIONAL TRADE* 572 (8th ed. 2008); G. MORGAN & R. WHITLEY, *CAPITALISMS AND CAPITALISM IN THE TWENTY-FIRST CENTURY* 168 (2012).

⁴⁵⁹ *Id.*

⁴⁶⁰ Boyle (1985) argues that compatible standards may refer to international conventions already established at the time, aiming at the control of vessel pollution. International conventions include: International Convention for the Prevention of Pollution of the Sea by Oil (London Convention), Adopted on 12 May 1954, and entered into force on 26 July 1958; and the International Convention for the Prevention of Pollution from Ships (MARPOL) Adopted on 1973 (Convention), 1978 (1978 Protocol), 1997 (Protocol - Annex VI); entered into force on 2 Oct. 1983 (Annexes I and II). See Boyle, *supra* note 457, at 352. Problems still remain since, not one international convention has established safety standards with respect to cross-border pipelines.

⁴⁶¹ UNCLOS, *supra* note 198, art. 79.

⁴⁶² D. ALEXANDER & R.W. FAIRBRIDGE, *ENCYCLOPEDIA OF ENVIRONMENTAL SCIENCE* 398 (1999).

⁴⁶³ Q.N. MENG, *LAND-BASED MARINE POLLUTION: INTERNATIONAL LAW DEVELOPMENT* 33 (1987).

⁴⁶⁴ Boyle, *supra* note 457, at 354.

regulate pollution.

According to Articles 207 and 208 of the UNCLOS, states shall endeavor to harmonize their policies for the prevention of marine pollution at the appropriate regional level.⁴⁶⁵ Putting an emphasis on the importance of harmonizing standards, particularly by focusing on regional characteristics may be an effective means for meeting a developing country's needs. It is a valuable approach in order to avoid implementing double standards for regulating transboundary pollution. Nevertheless, in examining states' practice, most of these regional agreements in relation to the protection of the marine environment do not specifically establish such standards and rules.⁴⁶⁶ It can be held that to an important extent this obligation to strive for the harmonization of policies with respect to the prevention of marine pollution has remained an empty shell.⁴⁶⁷

As a corollary, it can be argued that under the terms of UNCLOS, states are obliged to prevent transboundary pollution, which might also result from cross-border pipelines. However, they can apparently do so at their own discretion. This may lead to the implementation of double standards in a marine body by coastal states. In addition, under UNCLOS states are not obliged to inform affected states about adverse impacts of hazardous projects.⁴⁶⁸ Therefore, the possibility of transboundary pollution resulting from cross-border pipelines remains under UNCLOS.⁴⁶⁹

2. The Example of the Blue Stream Gas Pipeline

As we mentioned, there is no adequate published data concerning the damage that results from cross-border pipelines.

⁴⁶⁵ UNCLOS, *supra* note 198, arts. 207-08.

⁴⁶⁶ For instance, according to Article 18 of the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention, 2003), Contracting Parties are obliged only to cooperate in formulating standards. However, no standards have been established so far. See Framework Convention for the Protection of the Marine Environment of the Caspian Sea, Nov. 4, 2003, 44 ILM 1 (2005).

⁴⁶⁷ Of course one may hold that "the OSPAR Convention is an example" of the cooperation for establishing regional standards. See Rainer Lagoni, *Regional Protection of the Marine Environment in the Northeast Atlantic Under the OSPAR Convention of 1992*, in THE STOCKHOLM DECLARATION AND LAW OF THE MARINE ENVIRONMENT 183, 198 (Myron H. Nordquist, John Norton Moore & Said Mahmoudi eds., 2003).

⁴⁶⁸ See UNCLOS, *supra* note 198.

⁴⁶⁹ *Id.*

However, just to illustrate the problem, we can refer to the Blue Stream Gas Pipeline (BSGP), which is a cross-border pipeline that falls under the scope of UNCLOS.⁴⁷⁰ The BSGP is designed for the export of up to 16.0 billion cubic meters of gas each year.⁴⁷¹ This 1,250 km long gas pipeline traverses a 373 km onshore section (Russian Federation), a 398 km offshore section across the Black Sea (Russian territorial water and continental shelf plus Turkish continental shelf and territorial water), and a 444 km onshore section from Samsun to Ankara (Turkey).⁴⁷² The segment of the international water is 340 km long or 87% of the entire marine segment.⁴⁷³

The Black Sea is one of the semi-closed marine bodies, only connected with the Mediterranean Sea through the Bosphorus Strait.⁴⁷⁴ Due to its particular ecological circumstances, many studies claim that the Black Sea is in critical condition and highlights the threats that might exacerbate the sensitiveness of this area.⁴⁷⁵ The BSGP has two distinctive sections: one that falls under the law of the coastal states and a second that is subject to international law.⁴⁷⁶ In the onshore sections and territorial waters of Russia and Turkey, the BSGP was constructed under the jurisdiction of Russian and Turkish laws.⁴⁷⁷ The BSGP's section that is located on the continental shelves of Russia and Turkey is subject to UNCLOS.⁴⁷⁸ Thus, UNCLOS can be applied to the international part of the pipeline.⁴⁷⁹

It is important to mention that neither the Russian Federation⁴⁸⁰

⁴⁷⁰ See Nikolai Grishin, *Environmental Impact Assessment of a Transboundary Pipeline in the Black Sea Region (Legal and Environmental Aspects)*, Ecoterra Environmental Assessment Agency, ECE/ENHS/NONE/2005/8 10 (2005).

⁴⁷¹ *Id.*

⁴⁷² *See id.*

⁴⁷³ *Id.*

⁴⁷⁴ *Id.*

⁴⁷⁵ *Id.*

⁴⁷⁶ See Laurence P. Mee, *The Black Sea in Crisis: A Need for Concerted International Action*, 21 J. HUM. ENV'T 27 (1992); see also J.W. Redman et. al., *Petroleum and PAH Contamination of the Black Sea*, in 44 Marine Pollution Bulletin 48 (2002).

⁴⁷⁷ See Mee, *supra* note 476, at 27; see also Readman et al., *supra* note 476, at 48.

⁴⁷⁸ See Mee, *supra* note 476, at 27; see also Readman et al., *supra* note 476, at 48.

⁴⁷⁹ See Grishin, *supra* note 472.

⁴⁸⁰ *Id.*

nor Turkey is a member to the Espoo Convention. Hence, neither Turkey nor Russia is obliged to conduct a transboundary EIA.⁴⁸¹ However, an EIA for the pipeline concerned was conducted by the pipeline's operator according to Russian national law.⁴⁸² This EIA has also been performed in accordance with Article 123 of UNCLOS.⁴⁸³ Of course, UNCLOS does not contain any obligation to conduct a transboundary EIA.⁴⁸⁴

The EIA for this particular project has been undertaken by the operator.⁴⁸⁵ This was Gazprom, a Russian stated-owned company.⁴⁸⁶ According to the EIA Report, the impacts of the pipeline on the ambient air and water (gas leakage and corrosion) should be negligible in most conditions and would only be significant in a few conditions.⁴⁸⁷ It is not clear whether the affected states have been informed about the results of the EIA or not.⁴⁸⁸

On the other hand, an independent report, which was submitted by an NGO,⁴⁸⁹ had some critical observations concerning the EIA of the BSGP. This report examined the technical and environmental impacts of the construction and operation of the BSGP.⁴⁹⁰ According to the mentioned report, owing to the depth

⁴⁸¹ *Id.*

⁴⁸² *Id.*

⁴⁸³ Article 123 of UNCLOS stipulates that States bordering an enclosed or semi-enclosed sea should cooperate with each other in the exercise of their rights and in the performance of their duties with regard to the protection and conservation of the marine environment. *See* UNCLOS, *supra* note 198, art. 123.

⁴⁸⁴ *See generally id.* (providing that non-members do not have an obligation to conduct a transboundary EIA).

⁴⁸⁵ *See* Grishin, *supra* note 470.

⁴⁸⁶ *See id.*

⁴⁸⁷ The habitat and livelihoods of coastal populations could be affected by a pipeline accident, due to, for example, a rupture near the coast or a rupture caused by a landslide. The theoretical predictions in the feasibility study allow for the possibility of fire and explosive hazards. On the submarine section of the pipeline, losses to the fishing industry are put at US \$ 29,800 during the construction phase (at 1996 prices) and US \$ 259,500 a year during operation. Payment for atmospheric pollution during the construction phase was put at 503,200 rubles (at 1996 prices) and for a possible accidental discharge of methane, at 7.28 million rubles. *Id.*

⁴⁸⁸ *See id.*

⁴⁸⁹ *See* Antonio Tricarico, *Oil in the Caspian*, ECA WATCH (Sep. 2001), available at http://www.eca-watch.org/problems/oil_gas_mining/caspoil/bluestream.html.

⁴⁹⁰ *Id.*

and ecological circumstances of the Black Sea, any leakage resulting from the BSGP may contaminate water deeper than 100 to 200 meters.⁴⁹¹ The geological characteristics of the Black Sea seabed might be sufficient for the destruction of the pipeline.⁴⁹² This could be caused by earthquakes or by other reasons.⁴⁹³ Gas breakthrough from the pipeline will lead to emissions of high amounts of compressed gas into the water mass and then into the atmosphere, which could endanger the water and sediments.⁴⁹⁴ These threats might affect the Russian, Ukrainian, Turkish, and Georgian coasts.⁴⁹⁵ Finally, the report asserts the inadequacy of the EIA, which was conducted by the beneficiary operator and under its own regulations.⁴⁹⁶

3. *Lessons Learned*

A lesson that can be learned from the BSGP project, regardless of verifying the authenticity of those reports, is that UNCLOS is not able to deal adequately with these types of projects.⁴⁹⁷ Since the states of origin do not have any express obligation or responsibility to consult with affected states about the environmental impacts of such projects, they may undermine the environmental interests of the affected states.⁴⁹⁸ This issue may appear in two forms: first, the states of origin might underestimate transboundary risks of such activities; second, even when they do recognize the potential transboundary risks of such activities, they are not obliged to consult the affected states under UNCLOS.⁴⁹⁹

Of course the Espoo Convention would apply to this situation.⁵⁰⁰ On paper the impact from transboundary pollution resulting from a cross-border pipeline could be reduced as a result of the transboundary EIA.⁵⁰¹ This is due to the fact that the Espoo

⁴⁹¹ *Id.*

⁴⁹² *See id.*

⁴⁹³ *See id.*

⁴⁹⁴ Tricarico, *supra* note 489.

⁴⁹⁵ *See id.*

⁴⁹⁶ *Id.*

⁴⁹⁷ *See supra* Sec. IV, Subsec. 2.

⁴⁹⁸ *See id.* Subsection 1.

⁴⁹⁹ *Id.*

⁵⁰⁰ *See generally* Espoo, *supra* note 200.

⁵⁰¹ *See id.* arts. 2.

Convention forces states of origin to notify and consult with affected states prior to making a decision concerning the construction of a cross-border pipeline.⁵⁰² Unfortunately, in assessing the effectiveness of the Espoo Convention, there are doubts regarding its ability to achieve the aim of preventing transboundary pollution.

First, it should be mentioned that applying the Espoo Convention only works well in practice when all littoral states of a marine body participate in the EIA procedures. Otherwise, similar to the NSGP's EIA, which is discussed in Section II, such an incomplete EIA opens the door for transboundary pollution.⁵⁰³ Second, according to the provisions of the Espoo Convention, alternative routes for the construction of a cross-border pipeline can be suggested only within the territory of a state of origin; the Espoo Convention does not require considering alternative routes beyond the state of origin's territory, even if those alternative routes would be more environmentally sound.⁵⁰⁴

Third, the Espoo Convention does not oblige the state of origin to stop the proposed activity on the basis of adverse transboundary environmental impacts.⁵⁰⁵ The Espoo Convention only forces a state of origin to take into consideration adverse transboundary impacts within its decision-making procedures; therefore, the Espoo Convention, to a large extent, reflects the domestic EIA laws of the state of origin.⁵⁰⁶ As a result, the Espoo Convention enables the public of the affected party to have access to the domestic EIA procedures to the same extent as local residents of the state of origin.⁵⁰⁷ Thus, the substantive effectiveness of the transboundary EIA is highly dependent upon the effectiveness of the domestic EIA.⁵⁰⁸

⁵⁰² See *id.* arts. 2-3.

⁵⁰³ See *supra* Sec. II.

⁵⁰⁴ For example, although in a feasibility study south of Gogland Island (the Russian territory) was suggested by Finland as a better route, the developer in the Nord Stream Gas Pipeline's EIA procedure did not accept that Russia did not grant such permission. Koivurova & Polonen, *supra* note 131, at 169.

⁵⁰⁵ See Phoebe N. Okowa, *Procedural Obligations in International Environmental Agreements*, 67 BRIT. Y.B. INT'L. L. 275, 288 (1997).

⁵⁰⁶ John H. Knox, *The Myth And Reality Of Transboundary Environmental Impact Assessment*, 96 AM. J. INT'L L. 291, 291 (2002).

⁵⁰⁷ See *id.*

⁵⁰⁸ See *id.*

Since other international instruments are lacking, a state of origin can still externalize pollution costs to affected states.⁵⁰⁹ Of course, one could hold that a state of origin could equally be affected by the adverse impact from the cross-border pipeline. Hence, it will undoubtedly also have some incentives to attend to the safety of the cross-border pipeline. However, the problem is that the state of origin enjoys the benefits of the project and may hence be more inclined to regard those benefits and disregard the ensuing environmental harm. For the affected states, the problem is not only that they suffer from transboundary environmental pollution, but also that they do not enjoy the same benefits from the project.⁵¹⁰

B. Applicable Standards to Transboundary Pipelines

Cross-border oil and gas pipelines are multi-billion dollar projects that require a high amount of investment, technological knowledge, and equipment.⁵¹¹ Thus, the proposed pipelines are often attained by cooperation of MNCs.⁵¹² As noted, applying environmental regulations to cross-border pipelines is strongly related to the legal framework that governs the project.⁵¹³ In considering the unified model agreements, which are regulated under the ECT, an operator should apply a uniform set of regulations containing technical, safety, and environmental standards to the entire length of a pipeline.⁵¹⁴ The operating companies of such pipelines are mainly joint ventures⁵¹⁵ or international consortiums⁵¹⁶ that are constituted by the participation of MNCs and state-owned companies. The applicable regulations—which can be self-regulations, trade association codes, or even national standards of the other

⁵⁰⁹ See *Infra* Sec. 3, Subsec. b.

⁵¹⁰ See *id.*

⁵¹¹ See *Infra* Sec. 1 [Introduction].

⁵¹² See *id.*

⁵¹³ See *id.*

⁵¹⁴ See *Infra* Sec. 2 [The Energy Charter Treaty]; see *Infra* Section 1, Subsection b [the Unified Model].

⁵¹⁵ See, e.g., THE WEST AFRICAN GAS PIPELINE COMPANY, http://www.wagpco.com/index.php?option=com_content&view=article&id=46&Itemid=78&lang=en (last visited July 22, 2013).

⁵¹⁶ See, e.g., *Company Profile*, NORD STREAM GAS PIPELINE COMPANY, <http://www.nord-stream.com/about-us/> (last visited July 22, 2013).

states⁵¹⁷— are usually selected by an operator and written in the respective agreement. In addition, in some cases, even the EIA of a proposed pipeline, which is conducted by independent international consulting firms, might not be subject to the affirmation of a host state.⁵¹⁸

Considering the unified model of cross-border pipelines, in which the entire length of a pipeline is operated uniformly in different states, applying uniform standards to the entire pipeline seems reasonable.⁵¹⁹ It is presumed that the operator in charge has better information on optimal safety standards.⁵²⁰ Hence, applying a desired set of standards suggested by the operator can ensure the stable running of the project.⁵²¹ This set of regulations should finally be confirmed by host states as a set of uniform standards through relevant agreements.⁵²² According to the ECT, the technical and environmental regulations, which should be agreed to by all participants and described in the annex, should be internationally compatible and acceptable standards that are at least as stringent as the World Bank Group.⁵²³ Nevertheless, a question arises regarding what the specific relationship is between the standards laid down in the agreement and the domestic regulations of the host states.

The answer to this question depends upon the status of the applicable regulations in the unified regime. Generally, the applicable law to cross-border pipelines in the unified model can be divided into two categories: (1) an operator is required to comply with the domestic regulations of a host state, and (2) an MNC involved in the project is excluded from complying with environmental and safety regulations of a host state by establishing

⁵¹⁷ In the case of South Caucasus Gas Pipeline, American and British national standards and trade associations' standards have been agreed upon as technical and environmental standards. See Host Governmental Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, app. 4.

⁵¹⁸ See *id.*

⁵¹⁹ See *supra* Sec. 1, Subsec. b [the Unified Model].

⁵²⁰ See *id.*

⁵²¹ See generally Mark B. Baker, *Private Codes of Corporate Conduct: Should the Fox Guard the Henhouse?*, 24 U. MIAMI INTER-AM. L. REV. 399 (1993) (providing arguments in favor of applying private codes of conduct by MNCs).

⁵²² See *id.*

⁵²³ See Energy Charter, *supra* note 199, at 22.

a contractual clause in the host governmental agreement.⁵²⁴

The first possibility is, therefore, that the operator has to comply with the host states' safety and environmental regulations.⁵²⁵ To the extent that those domestic regulations are effective, they could give the operator incentives to internalize pollution costs.⁵²⁶ In that case, the host state should also monitor the pipeline.⁵²⁷ Effectively, this would mean that the same regulations apply to both domestic projects and a cross-border pipeline. One example is the new Swiss section of the North Sea-Italy Pipeline (Transitgas pipeline) that was commissioned in 2003.⁵²⁸ In that case, the federal environmental protection law of Switzerland, as a transit state, was applied to the pipeline.⁵²⁹ Therefore, before the construction of a pipeline, a risk assessment was conducted based on the safety regulations of the transit country, Switzerland.⁵³⁰ As a result, the route for the unacceptable zone was changed into a tunnel and for intermediate zones, preventive measures, such as increasing the pipeline depth of cover and concrete slab, and covering and increasing pipeline thickness, were applied in order to minimize the risks of an accident and of pollution.⁵³¹ The aforementioned mechanism can be enforced effectively when a host state has the capacity to

⁵²⁴ See, e.g., *The Pipeline System*, TRANSITGAS AG., <http://www.transitgas.org/EN/pipeline.aspx> (last visited September 12, 2013) (illustrating an example of operators acting in compliance with domestic regulations of the host state); see, e.g., Host Governmental Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323 (showing an example of a host governmental agreement).

⁵²⁵ See *The Pipeline System*, *supra* note 524.

⁵²⁶ See *id.*

⁵²⁷ See *id.*

⁵²⁸ In 1974 the 164-kilometer Transitgas Pipeline, the Swiss section of the North Sea-Italy pipeline, was officially put into service. In 1997, due to the increasing demand for natural gas in Italy, the Italian natural gas company SNAM SpA decided to expand the complete transport system. This new section was commissioned in 2003 and includes 185 kilometer of thirty-six inch and forty-eight inch pipelines. At present, the Transitgas Pipeline system consists of 292 kilometers from two parallel lines, which cross Switzerland from north to south. See generally *The Pipeline System*, *supra* note 524.

⁵²⁹ *Id.*

⁵³⁰ *Id.*

⁵³¹ Christian Plüss, Gunthard Niederbäumer and Rolf Sägesser, *Risk Assessment of the Transitgas Pipeline*, 45 PIPES & PIPELINES INT'L 33 (2000).

adequately regulate the suggested pipelines and monitor enforcement of those regulations, which is likely not the case for all host states.⁵³²

Applying standards prescribed by the agreement and exempting or freezing the domestic law of the host state is more complex. Many cross-border pipeline agreements between host states and investors contain a uniform set of regulations in the annexes of the agreements, but compliance with domestic regulations is excluded.⁵³³ Freezing clauses are also common in such agreements.⁵³⁴ For instance, environmental and safety regulations were frozen for the entire forty-year period of the Baku-Tbilisi-Ceyhan (BTC) pipeline agreement.⁵³⁵ Additionally, according to the HGAs that were settled under the ECT, a wide range of the technical codes and environmental standards are described in the annex of relative agreements.⁵³⁶ As shown above,⁵³⁷ the operator in charge has a discretionary power to implement such regulations, as occurred with the South Caucasus Gas Pipeline and the BTC oil pipeline.⁵³⁸ Furthermore, in such cases, the operator is usually largely exempted from compliance with local environmental regulations by invoking the particular contractual clause.⁵³⁹ As a result, the role of the host state in protecting the public interest and, more particularly, environmental interests is largely undermined.⁵⁴⁰

Although host states still have the right to monitor safety and

⁵³² Christopher P.M. Waters, *Who Should Regulate the Baku-Tbilisi-Ceyhan Pipeline?*, 16 GEO. INT'L ENVTL. L. REV. 403, 407 (2004).

⁵³³ See e.g., Host Governmental Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, app. 4.

⁵³⁴ Redgwell, *supra* note 163, at 106.

⁵³⁵ See Waters, *supra* note 532.

⁵³⁶ See e.g., Host Governmental Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, app. 4 (explaining technical codes and environmental standards).

⁵³⁷ See *Infra* Sec. III.

⁵³⁸ See Host Governmental Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, apps. 4, 5.

⁵³⁹ See generally Waters, *supra* note 532, at 403, 404 (arguing that the formulation of agreements between host governments and oil companies allows the oil companies to bypass adherence to local regulations).

⁵⁴⁰ See generally *id.* (arguing that the formulation of agreements between host governments and oil companies allows the oil companies to bypass adherence to local regulations).

environmental regulations as regulated in the agreement and may have the right to monitor the enforcement of the regulation with which the operator should comply, the host state may be confronted with a variety of difficulties in exercising this monitoring task. In examining the effectiveness of this model, three elements can be considered: substances and quality of these standards, enforcement mechanisms, and public participation.

These standards are widely considered as stringent and internationally compatible.⁵⁴¹ For example, the BTC and SCP pipelines' standards should be as stringent as EU standards.⁵⁴² Hence, standards chosen by operators are of sufficiently high quality to satisfy critics.⁵⁴³ Some view internationally compatible and acceptable standards as well known regulations, but developing countries as host states generally have less stringent oil and gas pipeline regulations than developed countries.⁵⁴⁴ Furthermore, host state governments do not properly enforce regulations.⁵⁴⁵ Thus, implementing international standards will protect environmental interests better than local regulations. This observation might be correct to the extent that it deals with the quality of regulations, but there are some doubts concerning the effectiveness of monitoring and enforcing the mentioned regulations.⁵⁴⁶ Self-regulations, trade association codes, and national standards are usually complemented by requiring public monitoring, public enforcement, and other complementary environmental enforcement mechanisms.⁵⁴⁷

First, as previously described, a wide range of regulations

⁵⁴¹ Redgwell, *supra* note 163, at 109.

⁵⁴² Due to the criticisms which arose in relation to unclear external references to safety standards envisaged in the BTC pipeline agreement in 2003, the host states and the BTC Company issued a Joint Statement to explain this ambiguity. They explicitly mentioned that safety standards should not be less stringent than relevant standards applicable to comparable projects in the Netherlands. They also added Austrian standards as a basis for mountainous or earthquake-prone areas. *Id.*

⁵⁴³ *See id.*

⁵⁴⁴ *See Waters, supra* note 532, at 405.

⁵⁴⁵ *See Eaton, supra* note 123, at 282.

⁵⁴⁶ *See Waters, supra* note 532, at 405; *Eaton, supra* note 123, at 282.

⁵⁴⁷ For example, in the United States an abundant number of environmental and safety regulations complement trade-association codes of conduct. *See, e.g.,* The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, Pub. L. No. 112-90 (2012).

might be provided in the agreement.⁵⁴⁸ Additionally, the reference to the regulations described in the agreements might be ambiguous and unclear.⁵⁴⁹ For example, the agreements may refer to “international standards and practices within the petroleum pipeline industry” or “international gas pipeline industry for comparable projects.”⁵⁵⁰ As a consequence, there can be uncertainty concerning meaning and interpretation of such phrases.⁵⁵¹ The operator is allowed to select its own standards.⁵⁵² Accordingly, monitoring compliance with standards becomes very difficult for the host states public authorities or other independent watchdog organizations.⁵⁵³ The enforcement of regulations is mainly the responsibility of the operator.⁵⁵⁴ Hence, if the public authorities sought to inspect the pipeline, they must give prior notification⁵⁵⁵ and monitor compliance with the agreed standards rather than their own domestic regulations. Since these environmental and safety regulations have not been established by the public authorities of the host state, the host state may not be familiar with the applicable standards.⁵⁵⁶ Lacking information regarding the contents and precise meaning of those standards can make effective monitoring very difficult.⁵⁵⁷

⁵⁴⁸ For instance, in the SCP HGA with Georgia, twenty-six technical standards were prescribed and the possibility of using other western standards was reserved. See Host Governmental Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, app 4.

⁵⁴⁹ See *id.*

⁵⁵⁰ *Id.* This wording contains a wide range of standards. See Alexandra S. Wawryk, *International Environmental Standards in the Oil Industry: Improving the Operations of Transnational Oil Companies in Emerging Economies*, 1.1 OIL, GAS & ENERGY L. INTELLIGENCE (2003) (discussing the meaning and dimension of international standards and practices within petroleum industries).

⁵⁵¹ See Wawryk, *supra* note 550.

⁵⁵² See *Infra* Sec. 1, Subsec. b [the Unified Model].

⁵⁵³ See *id.*

⁵⁵⁴ See *id.*

⁵⁵⁵ See generally Host Governmental Agreement Between and Among the Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323 (noting several requirements for notifications before pipe inspections).

⁵⁵⁶ Natalie L. Bridgeman & David B. Hunter, *Narrowing the Accountability Gap: Toward a New Foreign Investor Accountability Mechanism*, 20 GEO. INT'L ENVTL. L. REV. 187, 195 (2008).

⁵⁵⁷ The lack of human, financial, and institutional resources in host states often leads to ineffective monitoring and enforcement. *Id.* Additionally, the lack of technical information of host states in relation to MNCs activities is highlighted in another study.

In this case, an environmental and safety regulatory regime is effectively established by the regulation created or selected by the MNC. Authorities of the host state may have great difficulty in obtaining adequate information on the applicable standards and compliance.⁵⁵⁸ This problem might appear in the case of cross-border pipelines when the uniform regulatory regime has been applied to a pipeline with limited accessible information for the public authorities.⁵⁵⁹

Thus, if a MNC was exempted from compliance with the environmental and safety regulations of a host state on the basis of a contractual clause, some questions concerning the effectiveness of such a regulatory regime can be asked. These internationally compatible standards should be enforced properly and monitored by the public authorities in charge. If public monitoring is not possible, compliance with regulations by the MNC becomes questionable. Moreover, the issue is not only one of inappropriate enforcement. Often the MNC may de facto choose its own private standards.⁵⁶⁰ It is well known that those private standards are not always set in the public interest since the MNC is primarily interested in profit maximizing.⁵⁶¹ Even if the MNC set high quality safety standards without a guarantee of an appropriate enforcement and monitoring, the effective control of transboundary environmental pollution cannot be guaranteed.⁵⁶²

For the uniform set of regulations like in the SCP project, the EIA, the risk assessment, and the emergency response plan shall be prepared by independent consulting firms under contract by the

See M.A. BADERIN & M. SSENIONJO, *INTERNATIONAL HUMAN RIGHTS LAW: SIX DECADES AFTER THE UDHR AND BEYOND* 527 (2010).

⁵⁵⁸ See generally X. Wu, *Pollution Havens and the Regulation of Multinationals with Asymmetric Information*, 3 CONTRIBUTIONS IN ECON. ANALYSIS & POL'Y 1 (2004). (PINCITE?)

⁵⁵⁹ See, e.g., Waters, *supra* note 532, at 415 (asserting that in the BTC pipeline, the Environment Ministry of Georgia criticized BP's EIA, accusing BP of giving little weight to risks endangering the Bajori protected area presented as a route of the pipeline to the Environment Ministry).

⁵⁶⁰ See generally Baker *supra* note 521 (providing arguments in favor of applying private codes of conduct by MNCs).

⁵⁶¹ KEMA IROGBE, *EFFECTS OF GOBALIZATION IN LATIN AMERICAN AFRICA AND ASIA: A GLABL SOUTH PERSPECTIVE* 15 (2014); see also E. Morgera, *Corporate Accountability in International Environmental Law* 5-9 (Oxford University Press, 2009).

⁵⁶² See Hanakova, *supra* note 31.

operator.⁵⁶³ The host state authorities can only approve the EIA and other assessments that have been prepared in accordance with the terms of the relevant agreement and not according to the domestic regulations of the host state.⁵⁶⁴ A uniform EIA to the entire length of a pipeline will help avoid tensions in integrating distinct EIA reports for the same project in different countries.⁵⁶⁵ Nevertheless, local communities' concerns should not be underestimated.⁵⁶⁶ Since the local communities in affected states can participate in the EIA procedure as well, their participation can guarantee that at least the environmental concerns of the affected states are taken into account.⁵⁶⁷ Additionally, public participation in EIA procedures should be accompanied by access to justice through the courts or other relevant administrative bodies, as some regulatory instruments such as the EU directive on EIA⁵⁶⁸ mandated. Otherwise, the comments presented by the public can be ignored.

The importance of this issue is highlighted by drawing attention to the terms of the Espoo Convention, which requires the participation of all states concerned in the EIA procedure.⁵⁶⁹ This procedure, which is also compulsory for cross-border pipelines, provides realistic insight into the necessity of concerned states' participation.⁵⁷⁰ Accordingly, the respective states can scrutinize the EIA report based on their own environmental regulations and can ask for more information about adverse impacts of the project.⁵⁷¹ Meanwhile, if a respective state has no right to

⁵⁶³ See Host Government Agreement Between and Among The Government of Georgia and State Oil Company of the Azerbaijan Republic, *supra* note 323, app. 4.

⁵⁶⁴ *Id.*

⁵⁶⁵ Hernández, *supra* note 420, at 46.

⁵⁶⁶ See generally Bridgeman & Hunter, *supra* note 556 (suggesting a new mechanism with the participation of local communities to narrow the gap of accountability of MNCs).

⁵⁶⁷ See generally *id.* (suggesting a new mechanism with the participation of local communities to narrow the gap of accountability of MNCs).

⁵⁶⁸ Directive 2011/92, of the European Parliament and of the Council of 13 December 2011 on the Assessment of the Effects of Certain Public and Private Projects on the Environment, 2011 O.J. (L 26) art. 11.

⁵⁶⁹ *Nord Stream Environmental Impact Assessment Documentation for Consultation under the Espoo Convention*, NORD STREAM 61-92 (Feb. 2009), <https://www.nord-stream.com/press-info/library/> (search document title and download).

⁵⁷⁰ *Id.*

⁵⁷¹ *Id.* at 62.

scrutinize and confirm the EIA and similar reports, the state may not meet its environmental obligations properly.⁵⁷²

In addition, doubts exist about the reliability of EIAs that are carried out by international firms due to repeat-player situations with particular large MNCs.⁵⁷³

In conclusion, when a uniform set of regulations is prioritized over national regulations, applying a unified regulatory model makes it difficult for host states to control the conduct of MNCs.⁵⁷⁴ Furthermore, when public authorities lack adequate information about the adverse impacts of such projects and are not able to monitor the application of such regulations appropriately, an operator may maximize its own interests rather than public interests.⁵⁷⁵

In addition, many commentators doubt the accountability of MNCs with regard to effective protection of the environment.⁵⁷⁶ In that case, a uniform regulatory regime without participation of public authorities will increase possible contamination problems and public health risks.⁵⁷⁷ This article has noted potential flaws in the regulatory model applicable to cross-border pipelines. The current model strongly relies on industrial operators selecting a set of different standards, which may equally include private standards. This reliance raises important questions concerning the ability of public authorities to adequately monitor compliance with those standards. Whether this gives rise to ineffective safety standards in practice is an issue, although beyond the scope of this article.

However, it is striking that in an area such as cross-border transport of oil and gas, which potentially can and does cause both serious personal and environmental damage, there is a strong reliance on operators' ability to choose their own optimal

⁵⁷² See *id.*

⁵⁷³ See, e.g., PATRICK McCULLY, *SILENCED RIVERS: THE ECOLOGY AND POLITICS OF LARGE DAMS* 55 (Zed Books Limited, 2001).

⁵⁷⁴ See discussion *supra* [earlier within this section].

⁵⁷⁵ See *id.*

⁵⁷⁶ E. MORGERA, *CORPORATE ACCOUNTABILITY IN INTERNATIONAL ENVIRONMENTAL LAW* 25 (Oxford University Press, 2009); see e.g., Michael Anderson, *Transnational Corporations and Environmental Damage: Is Tort Law the Answer*, 41 WASHBURN L. J. 399 (2002).

⁵⁷⁷ See *Infra* Sec. 1, Subsec. b [the Unified Model].

standards. Since operators will primarily strive for profit maximization, there are doubts that adequate internalization of risks caused by transboundary pollution will take place in a model where adequate public enforcement is lacking.

V. Concluding Remarks

Cross-border oil and gas pipelines play an important role in the global energy trade.⁵⁷⁸ Parties involved in such projects typically seek to avoid political and economic turbulence in transporting oil and gas via pipelines.⁵⁷⁹ Parties involved try to prevent pipeline accidents and, in the case of an accident, try to minimize incurred harm by the most appropriate means.⁵⁸⁰ In addition, parties involved are not eager to publish the details of accidents when they are not obliged to do so.⁵⁸¹ Meanwhile, according to published data, cross-border pipelines have led to a lower number of accidents compared to cross-country pipelines.⁵⁸² Nevertheless, accidents are still widespread, imposing personal injuries on victims, environmental damage, and economic losses.⁵⁸³

It is striking that there is no international convention specifically dealing with safety standards for cross-border pipelines or compensation of harm that results from cross-border pipeline accidents. The international community has instead incorporated regulations into multilateral and bilateral agreements by formulating a few model agreements.⁵⁸⁴ As the current international framework stands, regulations on the safety of cross-border pipelines consists of private agreements between various operators and governments, which provides the parties involved the discretionary power to apply particular safety and environmental standards.⁵⁸⁵

The law and economics theory adopted in this contribution holds that operators will maximize their own utility and, as industrial operators, their own profits. In the absence of legal

⁵⁷⁸ See *Infra* Sec. I.

⁵⁷⁹ See *id.*

⁵⁸⁰ See *id.*

⁵⁸¹ See *id.*

⁵⁸² See Papadakis, *supra* note 3.

⁵⁸³ See *id.*; see also Muhlbauer, *supra* note 7.

⁵⁸⁴ See *Infra* Subsec. b. [Model Agreements for Cross-Border Pipelines].

⁵⁸⁵ See *id.*

rules, environmental costs may be externalized.⁵⁸⁶ Currently, existing conventions, such as UNCLOS⁵⁸⁷ and the Espoo Convention,⁵⁸⁸ do not sufficiently guarantee externalization of transboundary pollution via cross-border pipelines. The creation of a more appropriate international legal framework with clear and harmonized safety and environmental standards is needed. This legal framework should allow public authorities to effectively enforce compliance, thus preventing the externalization of pollution costs to local communities across borders.

⁵⁸⁶ *See id.*

⁵⁸⁷ UNCLOS, *supra* note 198.

⁵⁸⁸ *See* Espoo, *supra* note 200.