Nord Stream: Energy Security and Legal Issues

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Abstract

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The Nord Stream natural gas pipeline underneath the Baltic Sea from Russia to Germany is an intriguing 21st century project. Not only does the geography dictate part of the geo-political and legal debate surrounding the project, but it also highlights current issues facing European Union in terms of energy security and how to balance this with environmental protection. From the beginning, the Nord Stream project has been subject to intensive political protests especially in Eastern European countries, complex business transactions and legal challenges, not to speak of the logistical challenges posed of its construction. The pipeline is a fascinating case study of multinational big business, European Economic and Energy interests, and sovereign political manoeuvring coupled with intense debate at the supranational EU level about the unique issues exposed by this project.

This dissertation views the project through the lens of primarily German interests and the first part of the dissertation examines whether the construction of the Nord Stream Pipeline leads to a net positive gain in energy security while discussing the myth of "asymmetric dependency" of Western Europe on Russian gas. On the contrary, Nord Stream is a step forward in the evolution of the global energy supply chain marked by interdependency and mutual dependency. The second half of the dissertation examines the existing legal framework and precedents regarding issues related to submarine pipelines and the unique geography of this project.

The author concludes after analyzing the Nord Stream project in light of these two major themes, that the modern economic and geopolitical importance of cross-border pipelines for reliable and secure energy supply is vital and thus there needs to be an adequate and comprehensive international legal framework. Only through this development to properly supervise and regulate this arena can future projects gain the financial security needed to be completed.

Abbreviations

AFDI	Annuaire Francais de Droit International
AJIL	American Journal of International Law
CBD	Convention on Biological Diversity
CIS	Commonwealth of Independent States
ECT	Energy Charter Treaty
EEFA	Energy Environment Forecast Analysis
EEZ	Exclusive economic zone
EIA	Environmental Impact Assessment
EPIL	Encyclopedia of Public International Law
ESMAP	Energy Sector Management Assistance Programme
EU	European Union
GATT	General Agreement on Trades and Tariffs
GDP	Gross domestic product
GECF	Gas Exporting Countries Forum
ICJ	International Court of Justice
ICLQ	International and Comparative Law Quarterly
IDI	Institut de Droit International
IJMCL	International Journal of Marine and Costal Law
ILA	International Law Association
ILC	International Law Commission
ILM	International Legal Materials
ITLOS	International Tribunal for the Law of the Sea
LNG	Liquefied Natural Gas
MEA	multilateral environmental agreement

MP	Marine Policy
MPA	Marine Protected Area
NJIL	Nordic Journal of International Law
nm	nautical miles
ODIL	Ocean Development and International Law
OGEL	Oil, Gas and Energy Law Intelligence
OPEC	Organization of Petroleum Exporting Countries
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic
PCA	Partnership and Co-operation Agreement
RECIEL	Review of European Community and International Environmental Law
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UN-GA	United Nations General Assembly
UNTS	United Nations Treaties Series
WNA	World Nuclear Association

Chapter 1:

Introduction

At a length of 1,224 kilometres , built with 2.4 million tonnes of steel (more than 200 times than used for the Eiffel Tower) and consisting of 202,000 individual pipe segments, the Nord Stream pipeline took over 10 million man-hours to complete. The project cost 7.4 billion euros but will have the capacity to supply 55 billion cubic metres of natural gas each year, enough to supply more than 26 million households in Europe or equal the output of 33 German nuclear power plants[1].

It is the geography of this venture that makes the Nord Stream Project "not just a Pipeline".[2] At its core, the pipeline is simply a mode of transport for gas from origin to destination, or supplier to consumer. But the pipeline traverses the Baltic Sea, both a unique ecosystem and one surrounded by nine individual sovereign states.

In implementing a cross-border project of this dimension, the cooperation of all nine countries is of great importance for providing a balance between sustainable commercial use and considering potential risks to environment and the political balance of a whole region – Given the political pressure for this project to take place from many angles, it seems doubtful that the ramifications of this venture have been adequately considered. Since its birth, the Nord Stream pipeline project has been subject to intensive political protests especially in Eastern European countries, highlighting this project as a risk for energy security and predicting an increase of Russia's leverage on these countries. The fact that the Nord Stream project bypasses Central European countries provokes old fears. Due to historical experiences this applies especially to Poland where the project was often described as "The Molotov-Ribbentrop Pipeline" referring to the 1939 Soviet-Nazi deal to split up Poland.[3] In

[1] Nord Stream: Nord Stream by the Numbers, Fact Sheet, May 2012.

[2] B.S. Whist, Nord Stream: Not Just a Pipeline, p. 1; the author points out, that in contrast, the recently constructed offshore 'Langeled' pipeline delivering natural gas from Norway to the United Kingdom, could be interpreted in such a way.

[3] See for example A. Petersen, The Molotov-Ribbentrop Pipeline; T. Hundley, Poles wary of Nord Stream pact, p. 1; A.E. Kramer, Continental Divide. Russia Gas Pipeline Heightens East Europe's Fears, p. 1; R. Götz, Die Ostseegaspipeline: Instrument der Versorgungssicherheit oder politisches Druckmittel?, p. 4.

addition, the potential environmental damage by the pipeline is a concern shared by all of the Baltic States.[4]

The struggle for cheap and secure energy has never been of greater importance than today and will be even more so in the years to come and Nord Stream has enormous importance for the whole region and in the end for whole Europe. Energy security is an issue that the European Union is constantly addressing. The growing energy requirements, combined with a lack of native fossil fuels (coal, oil and gas), which provide the bulk of the EU's energy, force it's members into importing energy from third nations, generating a growing dependence on them and multinational organizations. Now, more than ever, natural gas is becoming the fuel of choice worldwide. Not only is it technically less demanding to transport than coal, but in the current climate with concerns about Carbon Dioxide emission levels, it's relatively low carbon footprint compared to other fuels makes it extremely attractive. Moreover, in the context of a rapidly changing attitude towards nuclear power, primarily over safety concerns after accidents such as that in Fukushima, significant efforts are now being directed towards gas transportation.

In terms of energy security, for example, there exist German fears that Nord Stream might lead into a new and even worse dependence on Russia, as Gazprom - the main stockholder of Nord Stream - is mainly owned by the Russian state. The discussions can be summarized in one single question – a question of fundamental significance for whole Europe: Is Russia a reliable gas supplier or a threat to European gas security?

The pipeline also has produced legal challenges that have tested the European Union and its member states. For example, because the project´s nature as a truly

[4] This clearly illustrates a formal complaint to the European Commission by the Estonian Green Movement and Estonian Fund for Nature demanding legal actions against Germany, Sweden, Finland and Denmark.

international one and the resulting differing legal codifications make it difficult to establish harmonized standards. As a result of this lack of standardisation, the legal status of cross-border submarine pipelines is still unsettled, causing different consequential problems, questions and loopholes – including the most elementary: The extent of the right to lay submarine pipelines. Thus problems could arise, as the Nord Stream pipeline passes through the territorial waters, and or the exclusive economic zones of Russia, Finland, Sweden, Denmark and Germany. Permits to construct and operate the pipeline must be granted from each of these countries, and others around the Baltic Sea could also be affected.

To summarise, for geo-political, legal and energy security reasons, the Nord Stream is a fascinating case study and one whose evolution is a very current example of the challenges faced by the EU. This paper will focus the problems associated with and some of the solutions in tackling these issues through the lens of the Nord Stream project.

I. The structure of the thesis

This dissertation will first provide the essential facts and basic terminology associated with the Nord Stream project including the geography. This introduction is considered essential for the main analysis which rests on two main analytical pillars.

First, Chapter 2, will analyse the geo-political impact of Nord Stream and the issue of energy security, specifically concerning natural gas and the security of supply transit from source to endpoint. Considering the risks and uncertainties associated with delivering gas through certain Eastern European states, bypassing them with pipelines through the Baltic Sea seems to be the perfect way of gaining long-term security of supply and cutting down energy dependence with all its considerable risks. This dissertation aims to answer if this goal could be achieved this way, or if this project

might lead into a new and even worse dependence on Russia and if this country is willing to abuse its position of power by using it as a weapon against the West.

Second, Chapter 3, will analyse the legal ramifications of Nord Stream and the issues, including environmental, arising from the geography of submarine pipelines. Because the Baltic Sea is a "semi-enclosed sea" within the meaning of Art. 122 UNCLOS, surrounded by nine states and connected with the North Sea via a narrow passage, Nord Stream runs through several coastal states and their various maritime zones, including an Exclusive Economic Zone, various continental shelfs and territorial seas. As a result, the regulations to apply concerning the law of the sea differ in various aspects, also in the context of the extent of the freedom to lay submarine pipelines. Therefore, it is important to find general regulations applicable which would also give help for the interpretation of unregulated cases.

II. What is the Nord Stream?

Originally referred to as the North European Gas Pipeline, Nord Stream is a dual pipeline under the Baltic Sea for natural gas from Vyborg, Russia to Greifswald, Germany. In 1997, the Russian state owned Gazprom and the Finnish company Neste (later known as Fortum) founded a shared company, North Transgas Oy. The purpose was to examine possible gas supplies from Russia to Germany via the Baltic Sea. In 2001 and 2004 respectively, German companies E.ON Ruhrgas and BASF/Wintershall joined the consortium while Fortum pulled out in 2005. In the same year, Gazprom, E.ON Ruhrgas and BASF/Wintershall agreed to build a pipeline from Russia to Germany through the Baltic Sea and the North European Gas Pipeline Company, which is today known as Nord Stream AG was founded resulting in the liquidation of North Transgas Oy. Russian Gazprom holds a 51 percent stake in the joint venture, leaving a 24.5% stake each for the two German companies. In the years followed, the Dutch gas company N.V. Nederlandse Gasunie and the French energy company GDF SUEZ S.A.

bought a 9% stake each, from the two German companies leaving them with a 15.5% share each.

On its long way from Russia to Germany the Nord Stream Pipeline runs through several maritime zones of various coastal states. Starting at the Russian coast (landfall at Portovaya Bay), the route of the Nord Stream Pipeline takes a western direction out of the bay and passes north of Gogland Island relatively close to the Russian-Finnish border of the Exclusive Economic Zone and the territorial sea. Northeast of Gotland Island, the pipeline enters the Exclusive Economic Zone of Sweden, passing east of it and along – but outside – the territorial sea avoiding the main shipping route. Turning southwest, the pipeline enters Danish waters after crossing the main shipping route. After passing east and south of Bornholm the pipeline takes a south-western direction leaving the territorial sea continuing to Germany, entering the German Exclusive Economic Zone and its territorial sea. The pipeline continues in a south-western direction reaching the shallow waters of the Greifswalder Bodden, where the landfall is located.[5]

[5] Nord Stream Espoo Report, Nord Stream AG (2009), Chapter 4, p. 99 and S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 20. On the following pages (21 to 23) the author gives an overview of the decision-making process on the optimal route, the evaluation of potential alternative routes and the difficulties in this progress. In this context see also Nord Stream Espoo Report, Nord Stream AG (2009), Chapter 4, p. 105. Interesting in this context is also, that the route preferred by the Nord Stream Company was not chosen because of the uncertain legal status of the area between the Danish island of Bornholm and the Polish coast: "Route DK-00 through the area under discussion between Denmark and Poland was the preferred Nord Stream route until comments were received in the beginning of 2007 from international consultation of the notification documentation. It appeared that DK-00 is located in a legally uncertain area, as it is claimed to belong to Denmark as well as Poland" (Status of the Nord Stream Route in Denmark and Germany, Nord Stream AG (November 2008), 8).

The route of the Nord Stream Pipeline



Source: Nord Stream 2008; B.S. Whist, Nord Stream: Not Just a Pipeline, p. 5.

Chapter 2:

The Nord Stream Pipeline: Gain in energy security for Western Europe and Germany?

According to Ban Ki-moon, United Nations General Secretary, four crises are under way: A food crisis, a climate crisis, a financial crisis and an energy crisis.[6]

For one country in the heart of Europe secure energy supply is of absolute importance: Germany. Although being the biggest EU member state in terms of population and having the largest economy in Europe, Germany does not hold nuclear weapons, in contrast to many other huge economies. Therefore its power is largely based on economic strength. Secure and reliable energy supply is an essential foundation for the social stability and economic growth and therefore for the power and political influence of Germany.[7]

The planned long term nuclear phase-out would have already led to an energy shortfall resulting in the need to compensate this loss by increasing use of other energy sources. The hasty reactions of the German government after the 2011 Fukushima nuclear disaster, putting a sudden nuclear phase-out at the top of German political agenda, made the search for alternative sources of energy even more urgent. This phase-out automatically led to increased use of fossil fuels causing Germany trouble reaching its carbon dioxide emission goals. Therefore, the IEA 'strongly encourage[s] the government to reconsider the decision to phase out nuclear power'.[8] But Germany is in an emotional state of shock after the incidents in Japan. Therefore, the majority of the political and voting population would not reconsider this decision. Nonetheless, Germany sees itself as a pioneer in setting high standards concerning carbon dioxide emission goals making it necessary to find a form of energy with less impact on the

[6] Introductory remarks at the 2009 Davos based, World Economic Forum, available under http://www.un.org/News/Press/docs/2009/sgsm12071.doc.htm; see in this context P. Ghikas, European Union Energy Security, National Policy Preferences and Cross Border Pipelines in South Eastern Europe, (OGEL) 9, 2011, p. 2.

[7] See in this context B.S. Whist, Nord Stream: Not Just a Pipeline, pp. 50, 51; V. Costantinia/ F. Graccevaa/ A. Markandyaa/ G. Vicinia, Security of energy supply: Comparing scenarios from a European perspective, p. 210.
The security of energy supply is also a fundamental idea of European energy policy and receives specific mention both in the Constitution Treaty and in the Lisbon Treaty; see S. Seliverstovm, Energy Security of Russia and the EU: Current Legal Problems, (OGEL) 7, 2009, p. 1.

[8] IEA: Energy Policies of IEA Countries: Germany 2007 Review, p. 9, cited in B.S. Whist, Nord Stream: Not Just a Pipeline, p. 13.

environment. Even though the increasing use of renewable energy sources may help Germany cope with the emission dilemma in the short term, this source of energy ultimately cannot compensate for the loss of nuclear power.

Considering these findings, there is only one logical choice of energy source for Germany: Natural gas.

It is the most environmentally friendly fossil fuel energy source, with the lowest carbon dioxide emissions, much lower than mineral oil and up to 50 per cent lower than coal - the most carbon dioxide - intensive energy source.[9] A massive increase of use of any other fossil fuels than natural gas would inevitably destroy any chances to reach the emission goals.

From a German perspective, the partner to deliver the gas seems to be as obvious as the decision for the form of energy:

Russia, having the biggest proven resources of natural gas – more than one quarter of the world´s resources[10] - combined with geographical proximity and existing transport infrastructure seems to be the ideal choice.

But these choices also have risks. The loss of nuclear power automatically leads to reduced supply diversity. An increased focus and therefore dependency on one form of energy (natural gas), one main supplier (Russia in the form of Gazprom) and the reliance in the cooperation of transit countries (for example Ukraine and Belarus) could cause various problems and negatively impact German energy security.

In this context the Nord Stream pipeline is of huge and actual importance. The project is frequently promoted as an overall European one serving “equally the interests of reliable energy supplies and energy security for all the countries on the European

[9] A universal calculation of the emission value is not possible as it depends on various changing circumstances. See for several data and ways of calculation World Nuclear Association: Energy Analysis of Power Systems, August 2012, available at http://www.world-nuclear.org/info/inf11.html; Nord Stream AG, Facts 9/1 – 2009, 2; S. Wolf, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 23; R. Wolf: Rechtliche Rahmenbedingungen für die geplante Ostseepipeline, p. 24; B.S. Whist, Nord Stream: Not Just a Pipeline, pp. 50, 51; Deutscher Bundestag: Co2-Bilanzen verschiedener Energieträger im Vergleich, pp. 21 et seq.

[10] Iran is on number two with just half of Russia´s resources, followed by Quartar and the United Arab Emirates; Grigoryew, The Russian Gas Industry, p. 125; B.S. Whist, Nord Stream: Not Just a Pipeline, pp. 50, 51; Götz, Russlands Erdöl und der Welterdölmarkt, p. 26; Wolf, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 23.

continent."[11] It is claimed, that this pipeline, which is officially announced an EU priority energy project,[12] improves the EU´s energy security by diversifying its gas supply routes.[13]

But not only in Germany doubts emerge about this solely positive description of the project and it is questioned whether Nord Stream actually is - according to President Dmitry Medvedev - Russia´s "contribution into Europe's energy security."[14]

I. The extent of the examination

The term energy security is used in various wide-reaching fields. A general definition will not be able to cover all aspects and dimensions of this complex issue comprehensively. A distinction has to be made between the types of energy sources and the perspective from where is the analysis is based: the view of an energy exporter or importer. Moreover, attention has to be paid to aspects such as politics on a local and global level, the historical background of the countries involved and its influence on future decisions. Besides economic aims of the parties involved play an important part as well as developments like the increased focus on environmental protection going hand in hand in with the nuclear phase-out in many important industrial countries.[15]

To set the framework for this analysis, it is important to clarify which aspects of energy security will be dealt with.

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[11] Russian President Dmitry Medvedev, RIA Novosti, Nord Stream gas project serves Europe's energy interests – Medvedev, p. 1, cited in B.S. Whist, Nord Stream: Not Just a Pipeline, p. 12. See in this context the interviews the interviews in the Süddeutsche Zeitung with Gerhard Schröder (27.10.2006) and with Frank-Walter Steinmeier (20.12.2006) both arguing, that the Nord Stream pipeline is of importance and benefit for whole Europe.

[12] See for example Nord Stream AG, The Pipeline through the Baltic Sea is a Priority Energy Project for the European Union, 2006.

[13] Nord Stream AG, Nord Stream's Contribution to the EU and the Baltic Sea States; B.S. Whist, Nord Stream: Not Just a Pipeline, p. 9.

[14] Russian President Dmitry Medvedev, Nord Stream AG, Official Launch of Construction of Nord Stream Natural Gas Pipeline, 2010.

[15] See for example A. Konoplianik, Energy Security: The Role of Business, Governments, International Organisations and International Legal Framework, (OGEL) 6, 2008, pp. 1 et seq.; A. Markandya/ V. Costantini, Security of Energy Supply: Comparing Scenarios From a European Perspective, p. 1; P. Ghikas, European Union Energy Security, National Policy Preferences and Cross Border Pipelines in South Eastern Europe, (OGEL) 9, 2011, p. 3.

As this chapter will focus on the impacts of the Nord Stream pipeline on energy security for Germany, firstly its factual role as energy importer as well as Russia as energy exporter plays an important role.

Secondly, the energy resource to be focused on is natural gas - the nature of the trade with this fossil fuel leads to various security issues being different from the ones of other energy sources. There are two transportation modes for natural gas: by pipeline or in liquid form on special ships, LNG[16] carriers. The transportation in LNG form is extremely costly, as the gas must be cooled into a liquid state at minus 162-164 degrees Celsius by immense pressure and must be transported under this pressure.[17] As a result of the enormous cost, pipelines remain the preferred means of transportation – LNG is not of significant economic importance in Europe, making up just 24 % of all European imports in 2011.[18] Generally, transportation in liquefied form only becomes economic from a sea-distance above 2000 to 3000 km on.[19]

This leads to a characteristic feature of the gas trade. The transportation mainly relies on fixed pipeline infrastructure. Directly connecting suppliers to consumers, once constructed, this stationary mode of transport does not allow the gas to be sent elsewhere on a short notice.[20] As a consequence of the lack of significant application of LNG trade – this situation will not change before the 2020's – only regionally distinct markets such as North America, Latin America and Europe exist. In contrast, for example, oil is not only transported via pipelines but also tankers and trains resulting in a truly global market.[21]

Besides, the natural gas business is highly capital intense, billions have to be invested in developing gas fields and building the necessary pipeline network, often by exporter as well as importer. Long-term contracts are common practice to minimize the risks for

[16] Liquefied Natural Gas.

[17] For more information concerning the transportation of LNG see S. Nies, Oil and gas delivery to Europe, An Overview of Existing and Planned Infrastructures, pp. 47 et seq.; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 6 et seq.; for details on the latest technology of LNG transport see H. Sietz, Wenn das Fabrikschiff mit der Pipeline konkurriert, FAZ of 18.04.2009, pp. 1 et seq.

[18] BP, Statistical Review of World Energy, 2011.

[19] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 6, 7.

[20] B.S. Whist, Nord Stream: Not Just a Pipeline, p. 15; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 6 et seq.

[21] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 6, 7.

both parties and to make the investments economically viable. But this alliance also requires a sense of responsibility on both sides to deliver and pay on time as agreed.

This leads to one, if not *the* main characteristic of the gas business: The interdependency between supplier and consumer.[22] The former depends on long term demand (security of demand), the latter on long term supplies (security of supply). But in the Russian-European gas trade is a third security aspect of significant importance and therefore has to be dealt with: the security of transit.[23]

Hence, this paper will analyze the impact of the Nord Stream pipeline on the security aspects of direct importance for German energy security concerning gas – which are defined by the factual role of Germany as an energy importer and Russia as an energy exporter: The security of supply and the security of transit.

II. The Security of supply

As already illustrated, Russia does not only hold the world´s biggest natural gas reserves and is the world's largest natural gas producer and exporter, it is also by far the most important gas supplier for Europe. For example Russia´s share in European gas imports is about 50 to 60 per cent, making up about 25 % of the total gas consumption in Europe.[24]

[22] See in this context A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 12; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 6, 7; S. Seliverstovm, Energy Security of Russia and the EU: Current Legal Problems, (OGEL) 7, 2009, p. 3; P. Ghikas, European Union Energy Security, National Policy Preferences and Cross Border Pipelines in South Eastern Europe, (OGEL) 9, 2011, p. 3; S. Nies, Oil and gas delivery to Europe, An Overview of Existing and Planned Infrastructures, p. 47.

[23] See K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 6, 7; see also S. Seliverstovm, Energy Security of Russia and the EU: Current Legal Problems, (OGEL) 7, 2009, p. 3.

[24] R. Youngs, Energy Security Europe´s New Foreign Policy Challenge, p. 80; R. Götz, Russian Gas and European Energy Security, 2007, p. 15; see also J. Guillet, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, pp. 15 et seq.; L. TICHÝ, Energy Security in the EU-Russia Relations, pp. 5, 6; F. Proedrou, The EU-Russia Energy Approach under the Prism of Interdependence, pp. 335 et seq.; ; S. Nies, Oil and gas delivery to Europe, An Overview of Existing and Planned Infrastructures, p. 44; C. Baltag, Some Thoughts on the Future of the Energy Charter Treaty Transit Protocol, (OGEL) 10, 2012, p. 2

As a consequence therefore, its main partner in the gas business - Germany - is especially dependent on imports from Russia in the shape of Gazprom. According to German Chancellor Angela Merkel "Germany will need more gas in the coming years"[25] – not least because of the nuclear phase out combined with the aim to decrease carbon dioxide emissions. This gas will mainly come from Russia as the huge resources combined with geographical proximity and existing transport infrastructure seem to make it the ideal supplier. As a result, the share of Russian gas of the energy imports will increase in the future and therefore the dependency on Russian gas will grow.[26]
Such a development can be found nearly in whole Europe as by 2030 at least 70% of European Union energy consumption will be covered by imports.[27]
Before the construction of the Nord Stream pipeline, Russian gas had to pass transit countries by the overland route to reach Western Europe giving the main transit countries – Belarus and Ukraine - significant leverage on Russian gas exports. By bypassing these states and providing a direct route for natural gas from Russia to Germany, Nord Stream was to increase German energy security. This reflects the main reason for the Nord Stream pipeline as publicly stated: The improvement of the European energy by diversifying its gas supply routes.[28]

[25] This comment was made by Chancellor Angela Merkel to the Russian President Dmitry Medvedev in July 2011; cited in Nord Stream: Sea Change: A pipeline links Russia and Europe, 2012, p. 26; available at: https://www.nordstream.com/pressinfo/library/?q=energy+security&type=&category=&country=; see also A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 2; P. Ghikas, European Union Energy Security, National Policy Preferences and Cross Border Pipelines in South Eastern Europe, (OGEL) 9, 2011, p. 6

[26] See for example IEA: Energy Policies of IEA Countries: Germany 2007 Review, p. 33, 93; B.S. Whist, Nord Stream: Not Just a Pipeline, pp. 13; S. Wolf, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 25; Knudsen, Sicherheitsrisiko Ostseepipeline, p. 9; Pröfrock, Energieversorgungssicherheit im Recht der EU/EG, p. 22; Bimboes, Die Ostseepipeline, p. 2; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 2; P. Ghikas, European Union Energy Security, National Policy Preferences and Cross Border Pipelines in South Eastern Europe, (OGEL) 9, 2011, p. 6; J. Stern, The Russian-Ukrainian gas crisis of January 2006; C. Baltag, Some Thoughts on the Future of the Energy Charter Treaty Transit Protocol, (OGEL) 10, 2012, p. 2; S. Blank, Russia's Energy Weapon and European Security, p. 29.

[27] Green Paper, A European Strategy for Sustainable, Competitive and Secure Energy, 8.3.2006; P. Ghikas, European Union Energy Security, National Policy Preferences and Cross Border Pipelines in South Eastern Europe, (OGEL) 9, 2011, p. 6; S. Nies, Oil and gas delivery to Europe, An Overview of Existing and Planned Infrastructures, p. 44; Götz, Pipelinepolitik, Tab. 1, S.112; D. Bimboes, Die Ostseepipeline: Das Erdgas aus dem Osten und der neue Kalte Krieg, pp. 1 et seq; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 3; C. Baltag, Some Thoughts on the Future of the Energy Charter Treaty Transit Protocol, (OGEL) 10, 2012, p. 2; Knudsen, Sicherheitsrisiko Ostseepipeline, p. 9; Pröfrock, Energieversorgungssicherheit im Recht der EU/EG, p. 22.

[28] See for example Nord Stream AG, Nord Stream's Contribution to the EU and the Baltic Sea States; B.S. Whist, Nord Stream: Not Just a Pipeline, pp. 9, 51 et seq.; Riley, Alan: Can Nordstream and Southstream

At a first glance, the technical facts seem to confirm these statements. Nord Stream provides 55 billion cubic meters of gas to the EU annually, enough gas to supply 26 million households in Europe and meet more than a quarter of additional import needs of Europe to 2030.[29] But these facts alone do not guarantee more security.

Although a certain dependency on Russian gas emerges automatically with Russia´s function as energy exporter and Germany as importer, there is a widespread fear that Russia is strengthening its grip on Europe's energy supplies aiming for political leverage. While in the seventies gas from Russia had been regarded as a safe alternative to energy imports form the Middle East, the fear arises that dependence on Russian gas is a menace to European energy security. One of the main concerns is the alleged "asymmetric dependency" of Europe from Russian gas imports and the fear that Russia is not a reliable gas supplier willing to take advantage of its powerful position.[30]

This debate is often driven by old fears of the Soviet threat leading to an extremely emotional analysis of the situation rather than a sound one of Russia's actual energy strategy towards Europe. As a result the situation is often not depicted correctly.[31]

In this paragraph the author will examine objectively what impacts the Nord Stream pipeline actually has on the security of supply - "the availability of a regular supply of energy at an affordable price"[32] - and whether a serious danger exists or according to

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Survive in a Changing European Gas Market?, (OGEL), 7, 2009, p. 2. See in this context the interviews the interviews in the Süddeutsche Zeitung with Gerhard Schröder (27.10.2006) and with Frank-Walter Steinmeier (20.12.2006) both arguing, that the Nord Stream pipeline is of importance and benefit for whole Europe. See also Nord Stream AG, The Pipeline through the Baltic Sea is a Priority Energy Project for the European Union, 2006 and Russian President Dmitry Medvedev, Nord Stream AG, Official Launch of Construction of Nord Stream Natural Gas Pipeline, 2010.

[29] IEA: Energy World Outlook 2011, B.S. Whist, Nord Stream: Not Just a Pipeline, p. 9; Nord Stream AG, Nord Stream's Contribution to the EU and the Baltic Sea States.

[30] See for example R. Götz, Russian Gas and European Energy Security, 2007, p. 5; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 4.

[31] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 4, 50.

[32] IEA, Toward A Sustainable Energy Future, 2001, cited in P. Ghikas, European Union Energy Security, National Policy Preferences and Cross Border Pipelines in South Eastern Europe, (OGEL) 9, 2011, p. 3; see also [32] L. TICHÝ, Energy Security in the EU-Russia Relations, p. 2; K. Sadegh-Zadeh (Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 6, 7) gives a similar definition understanding the security of supply as "the availability of sufficient supplies at affordable prices". According to that the

former German Chancellor Schröder "the EU is hostage of a nationalistic anti-German, anti-Russian policy",[33] and "there are no safer energy suppliers than Russia".[34]

1. The Russian "Energy Weapon"

Sceptics believe that Germany is naïve to believe investments on both sides would bring about a genuine mutual interdependence rather than excessive German dependence upon Russian energy, since Moscow is able to turn on or off that margin of safety whenever it helps the Russian's most. Germany´s "asymmetric dependency" on Russian gas imports will increase as a result of Nord Stream, Germany has fallen into the Russian trap. Russia having repeatedly used the "energy weapon" to achieve its political goals would not hesitate to use it also against Western European countries like Germany if helping to achieve political goals.[35]

In this paragraph the author will examine whether there is really such a one-sided dependency. And if the answer is yes, whether this relationship of dependency is enlarged by Nord Stream and whether there is the risk of Russia taking advantage of this situation by using the "energy weapon".

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author also gives a definition for the security of demand – a subject of importance for example for Russian energy security - , being "the availability of sufficient demand at profitable prices".

[33] Welt: Ex-Kanzler Schröder kritisiert Polen, p.1; cited in B.S. Whist, Nord Stream: Not Just a Pipeline, p. 22.

[34] Welt: Balten befürchten "ökologische Katastrophe", p. 1; cited in B.S. Whist, Nord Stream: Not Just a Pipeline, p. 22.

[35] See for example S. Blank, Russia's Energy Weapon and European Security, pp. 2 et seq.; R. Larsson, Nord Stream, Sweden and Baltic Sea Security, pp. 77-81; B.S. Whist, Nord Stream: Not Just a Pipeline, p. 22; R. Götz, Russian Gas and European Energy Security, 2007, p. 5; J. Stern, The New Security Environment for European Gas, p. 4; M. Fredholm, Gazprom in Crisis, p. 5; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 4; [35] See also with a critical analysis J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, pp. 14 et seq.

a. Germany´s “asymmetric dependency” on Russian gas imports

It is common understanding that Germany is dependent on Russian gas – this comes naturally with its nature as a gas exporter and is not a particular danger per se.
In this discussion the question that is often not asked is whether Russia itself is dependent on Western Europe and especially Germany to export his natural resources, especially natural gas. But the answer to this question is of huge importance in the assessment about the risk of Russia would be able and willing to its “energy weapon” and finally of German security of gas supply.

aa. Russia´s dependency on gas revenues from exports to the EU and especially Germany

There are several generally accepted indicators to determine the supplier's dependence on exports of natural gas and/or crude oil, for example the proportion of export revenues (oil and gas) to the GDP and the share of revenue from the export of energy raw materials to the state budget revenues.[36]

Russia is the textbook example for an export dependent country concerning energy raw materials.
The revenues from exports of oil and natural gas accounts for about 10-11% of the Russian GDP, divided into a share of 5% of oil and 6% of natural gas of the GDP,[37] together making up over 64% of all exports revenues.[38] The state owned company

[36] See for example M. Palonkorpi, Energy Security and the Regional Security Complex Theory; L. TICHÝ, Energy Security in the EU-Russia Relations, pp. 5 et seq.
[37] L. TICHÝ, Energy Security in the EU-Russia Relations, pp. 5, 6.
[38] W.H. Cooper, Russia’s Economic Performance and Policies, p. 17; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 9, 10.

Gazprom – the biggest natural gas producer of the world – alone contributes more than 10% of the Russian GDP.[39]

Concerning Russia´s energy exports, the single most important partner is the European Union. Around 80% of Russian export revenues are directly linked to the Union´s energy market with around 40% of the Russian public money coming from the European oil and gas market.[40]

Although Russia´s oil exports are extremely focused on the European Union (over 60%), the concentration concerning gas is even bigger: more than 90% of Russian gas exports go to the EU.[41] Additionally, an increasing number of industries, such as manufacturers for the energy transportation sector, depend on incomes from the energy sector.[42]

These facts show that Russia is extremely dependent on energy exports to the EU. In this context, the fear of a European "asymmetric dependency" on Russian gas imports and the possible consequences of this situation are unfounded - the dependency revealed is a mutual one.[43]

This applies not only for the EU as whole, but in particular for Germany. With a population of 82 million, the biggest economy in Europe and one of the largest in the world – about 2.5 times the size of the Russian economy – "Germany is a giant in the European context."[44] With Germany being Russia´s main partner in the gas business,

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[39] Gazprom, Gazprom v zifrakh 2002-2006, (2007) p. 12; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 16; J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 16.

[40] F. Proedrou, The EU-Russia Energy Approach under the Prism of Interdependence, p. 334; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 9, 10.

[41] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 9 et seq.; R. Götz, Russian Gas and European Energy Security, 2007, p. 15; J. Guillet, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, pp. 17, 18.

[42] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 9, 10.

[43] R. Götz, Russian Gas and European Energy Security, 2007, p. 15; J. Guillet, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, pp. 15 et seq.; R. Youngs, Energy Security Europe´s New Foreign Policy Challenge, p. 80; L. TICHÝ, Energy Security in the EU-Russia Relations, pp. 5, 6; F. Proedrou, The EU-Russia Energy Approach under the Prism of Interdependence, pp. 340, 341; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 13; S. Seliverstovm, Energy Security of Russia and the EU: Current Legal Problems, (OGEL) 7, 2009, p. 1.

[44] B.S. Whist, Nord Stream: Not Just a Pipeline, p. 25; World Bank, Gross domestic product; Statistisches Bundesamt der Länder: Bevölkerung am Monatsende.

the world´s largest country has fundamental economic interest in Germany – the loss of the German market would seriously damage the Russian economy. In this context, the Russian dependency grows because of Nord Stream bringing 55 billion cubic meters of gas to Germany and from there partly other EU states annually.

In contrast, this does not apply to all countries importing Russian gas. One main reason for Russia to focus on the Western European market is – besides the geographical proximity and existing transport infrastructure – its profitability. Although price increases have made the CIS and Baltic market much more profitable for Gazprom, the profit per cubic meter is still much higher with exports to Western Europe.[45] Moreover, the countries of the CIS do not have the economic power compared to Germany - for example the German economy is almost 40 times the size of the three Baltic economies combined - and therefore far less chance at balancing Russia than the huge Western European economies.[46] But also in this group of countries the dependency on Russian gas differs a lot as the Russian gas share in consumption goes from 100 per cent for example in Estonia, Latvia and Lithuania to around 76 per cent in Ukraine and only 20 per cent in Kazakhstan.[47]

bb. The nature of the gas trade

Another factor creating huge Russian dependency on Europe, especially Germany, originates from the nature of the gas trade.

[45] For detailed statistics see K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 29; S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 10; J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 15.

[46] B.S. Whist, Nord Stream: Not Just a Pipeline, p. 25; World Bank, Gross domestic product; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 10; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 15; L. TICHÝ, Energy Security in the EU-Russia Relations, p. 6.

[47] For detailed statistics see K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 30; see also R. Larsson, Nord Stream, Sweden and Baltic Sea Security, p. 8.

The natural gas business is highly capital intense and most of the costs are incurred in the construction of the transporting infrastructure rather than in the gas production itself.[48] These huge investments needed upfront have to be amortized over a long time period during the longevity of the gas pipelines, between 35 and 60 years.[49] This dependency on reliable revenues from export is increased by the fact that once constructed, the pipelines are stationary. Changing the business partner would mean abandoning the existing pipeline network, and in the case of the European gas trade also the new pipeline infrastructure (especially the Nord Stream pipeline) on which Moscow is currently spending billions of dollars. Finally, neither supplier nor recipient can change its partners at short notice.[50] Long-term contracts are common to minimize the risks for both parties and are of particular importance for exporters like Gazprom as they provide a stable future demand.[51]

To amortize the billions invested in the infrastructure Russia is dependent on exports to Western Europe. Nord Stream increases this situation as Gazprom holds 51 per cent of this consortium and has invested billions in this single project.

cc. Alternative partners for Russia in the gas trade

A look on a map of Russia's pipeline system reveals another important fact: Nearly all Russian pipelines are directed to the west, none of them to potential gas markets in the east – the necessary infrastructure to divert Russia´s energy sources to other expanding markets like Asia is simply non-existent. Therefore, Russia is not only highly

[48] J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 16; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 12.
[49] S. Nies, Oil and gas delivery to Europe, An Overview of Existing and Planned Infrastructures, p. 47; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 12.
[50] See for example R. Götz, Russian Gas and European Energy Security, 2007, p. 5; B.S. Whist, Nord Stream: Not Just a Pipeline, p. 15; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 49.
[51] J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 16; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 12.

dependent on gas exports to Europe because of its economic situation but also because of its pipeline infrastructure.[52]

Any gas trade with countries like China would require the construction of very lengthy and costly pipelines. As this would take many years the Russian dependence will not change at short notice.[53]

dd. Intermediate result

This examination reveals that the dependency is not one-sided but mutual - the thesis of an "asymmetric dependency" turns out to be unfounded.

If the term "asymmetric dependency" would have any right to exist in this context, it would have to be used the other way around as Russia is - at least in some aspects - more dependent on the EU than the EU is on Russia. This shows the fact that Europe´s share of Russian Gas exports is more than 90 per cent, while Russia´s share in European gas imports is only about 50 per cent, making up about 25 % of the total gas consumption in Europe.[54]

Finally, Vladimir Putin was right saying that concerning Germany "the fact that when we have a common pipeline system, we are equally dependent on each other."[55]

[52] F. Proedrou: The EU-Russia Energy Approach under the Prism of Interdependence, p. 343; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 45; B.S. Whist, Nord Stream: Not Just a Pipeline, p. 15.

[53] J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, pp. 15, 16.

[54] R. Youngs, Energy Security Europe´s New Foreign Policy Challenge, p. 80; R. Götz, Russian Gas and European Energy Security, 2007, p. 15; see also J. Guillet, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, pp. 15 et seq.; L. TICHÝ, Energy Security in the EU-Russia Relations, pp. 5, 6; F. Proedrou, The EU-Russia Energy Approach under the Prism of Interdependence, pp. 335 et seq.;

[55] Süddeutsche Zeitung: 'SZ-Interview mit Wladimir Putin', p. 1.

b. Danger of Russia using the “energy weapon“?

The question whether a hazard of Russia using the “energy weapon“ against Western Europe exists is closely connected to the question of a “asymmetric dependency” on Russian gas imports as this is the foundation needed to use this weapon without jeopardizing a whole countries economy.
The fact that such a one-sided dependency does not exist combined with the characteristics of the Russian-European gas trade shows that it is doubtful that Russia would have any interest in cutting off energy supplies for political reasons. Moreover it is most likely that Moscow would not even be able to do it in the long term.
However, to prove this assumption, in the following abstracts the possible risks for Russia resulting from the use of that “weapon” are illustrated.

aa. A potential financial collapse

Russia is highly financial dependent on incomes from the energy sector with more than 90 per cent of the Energy exports going to Europe.
By cutting off energy supplies for political reason Russia would run the risk of a permanently loss of a very major source of foreign currency earnings and a huge share of its GDP.

These consequences would be drastic and to some extent unforeseeable and likely to be more serious than for Europe, since financial income would not be replaced and Russia would be threatened by financial collapse and as a result also by a political one.[56]

[56] See for example L. TICHÝ, Energy Security in the EU-Russia Relations, p. 6; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 17; F. Proedrou, The EU-Russia Energy Approach under the Prism of Interdependence, pp. 340, 341; A. Rinke, Es brennt nichts an, p. 8; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 49; R. Götz, Russian Gas and European Energy Security, 2007, p. 15; J. Guillet, Gazprom as a

bb. The danger of a permanently loss of Gazprom´s main market

One common argument against the assumption of a mutual dependency and the fact that a gas cut-off would be at least as harmful to Russia as to Western Europe and Germany is that Russia could stand without revenues from gas sales temporarily, whereas the European economy would suffer extremely.[57]

But this argument does not take the characteristics of the gas trade into consideration. The delivery of high volumes of natural gas is a technically and organizationally challenging and every supply shortage costs enormous amounts of money and could bring whole economies in trouble. Therefore, strict contract adherence and trust in the partners of both sides is a basic requirement in the gas trade. As a consequence, Gazprom´s reputation as reliable supplier is of outstanding importance. Any stop of delivery or even the threat of this could result in a change of Europe´s energy politics.[58] This applies for Russian actions against Europe as whole as well as for any actions against any Western European economy, especially in the case of the strongest of them: Germany.

A possible consequence would be that Europe starts spending more resources to find new suppliers, e.g. from Africa or Iran, or invests more money in the expansion of LNG technology.[59]

Partners like Iran or African states might seem to be absurd in a business where trust and continuity is the foundation. But history has proven that political ideologies do not matter anymore when energy is desperately needed. The first oil crisis in 1973 was a catalyst for the first series of long-distance gas pipelines connecting the Soviet Union with Western Europe. In a period determined by the extreme political tension of the

Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, pp. 17, 18.

[57] See in this context R. Götz, Russian Gas and European Energy Security, 2007, p. 15.

[58] A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 12; R. Götz, Russian Gas and European Energy Security, 2007, p. 15.

[59] R. Götz, Russian Gas and European Energy Security, 2007, p. 15.

Cold War, the war in Afghanistan and the aftermath of the Vietnam War, the volume of gas exports from the Soviet Union to Western Europe tripled as well as the price resulting in an increase of Soviet revenues by nine times in just five years (from 1975 to 1980).[60]

Another result could be that Europe starts to rethink about the energy carrier of choice and focusses more on others like coal or tries to increase the share of renewable energies even faster.

The result of both scenarios - a permanent loss of Gazprom´s main source of income - would be devastating for Gazprom and the whole Russian economy.[61] Furthermore it would be questionable whether Russia would be able to find new partners, for example in Asia, as these countries would have serious reservations to invest billions and to become dependent on gas from a country that has used the "energy weapon" against Europe.[62]

c. Interim result concerning the danger of Russia using of the "energy weapon"

There is no verifiable serious risk of Russia using the "energy weapon" as political reasons outweighing the illustrated massive disadvantages for Russia are hard to imagine. The massive fear of a Russian monster publicized in the media and by various politicians is exaggerated and not justified – at least not concerning Russia´s reliability in relation to Western Europe.[63]

However, there is a group of incidents which could change this outcome of this assessment: The gas disputes between Russia on one side and Belarus and Ukraine respectively on the other.

[60] S. Nies, Oil and gas delivery to Europe, An Overview of Existing and Planned Infrastructures, p. 18.
[61] A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 17; R. Götz, Russian Gas and European Energy Security, 2007, p. 15; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 49.
[62] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 49; R. Götz, Russian Gas and European Energy Security, 2007, p. 15.
[63] If this applies to all partners of Russia in the gas trade will be examined in paragraph XXX (p. XXX et seq.)

d. The Russian - Ukraine/Belarusian gas dispute

The gas dispute over debts, prices and transit tariffs, resulting in complete cut offs of Russian gas delivery to the west, might be of importance to answer the initial question: Does, and if so to what extent, the Nord Stream Pipeline project generate energy security for Western Europe, especially Germany as its biggest economy, and especially if the fear of Russia using the "energy weapon" is substantiated. An analysis of this crisis could be eye-opening as the behavior of the most important supplier of natural gas for Western Europe - Russia - and the procedures of main transit nations like Ukraine and Belarus could be investigated.

These crises had far-reaching consequences. Russia's reputation as a reliable supplier to Europe was seriously damaged, as was the reputation of Ukraine and Belarus as transit countries.

As a result trends to minimize the risk resulting from this development are to notice. As a result of this, several trends are noticeable aiming to minimise risk resulting from this development. On the one hand projects to bypass these transit countries are prioritized by Russia as well as several recipient states like Germany, especially the Nord Stream pipeline project. On the other hand European consumers' efforts to diversify away from Russian gas are expected to intensify.

In this chapter the author will try to analyse the background of these crises to find out if, and if so to what extent, conclusions could be drawn concerning whether or not the Nord Stream project actually brings more energy security for Germany, or will increase the dependency on Russian gas, thus making Western Europe a pawn in the hands of Gazprom and Russia.[64]

[64] It is important to point out that there are besides the gas disputes other actual issues concerning the energy sector involving Russia and its western neighbors. For example, a conflict between Russia and Belarus about oil transits escalated on 8 January 2007. See in this context for example BBC News ("Russia oil row hits Europe supply") from 08.01.2007; for background information and parallels to the gas dispute between Russia and Ukraine see S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 10.

aa. The gas disputes

On January 1st 2006, Russian television showed Gazprom technicians at work, shutting down gas supplies to Ukraine. Despite only lasting until January 4th, this crisis attracted huge public attention.[65]

But this was not the first incident of this kind and many more would follow:

Exactly two years earlier, after failing to conclude a new supply contract because of Belarus's refusal to agree to a price increase, Gazprom stopped gas exports to Belarus and finally also cut off flows via the Yamal-Europe pipeline, handling around 16% of Russia´s exports to Europe after Belarus took gas of this pipeline, which is intended solely for delivery to Europe.[66]

The most serious conflict of its kind was the gas dispute between Russia and Ukraine in January 2009 going back to failing to agree on a price for Russian gas supply to Ukraine, and a tariff for the transit of Russian gas to Europe. Russian exports to Ukraine were cut off and finally exports to 16 EU member states and Moldova were stopped completely from 7 January until the 20th January - 20 per cent of Europe's gas was cut off for two weeks in the middle of winter.[67] In this crisis both sides blamed each other for the stoppage, Gazprom arguing that they only stopped deliveries because Ukraine had closed the system down whereas Naftogaz stated that they only closed it down as a result of the stopped deliveries.[68] However, the results were massive and several Balkan states experienced – besides significant economic

[65] See for example M. Fredholm, Gazprom in Crisis, p. 5; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 13.

[66] See K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, p. 2; K. Yafimava, Katja, The June 2010 Russian-Belarusian Gas Transit Dispute, pp. 2, 6, 7. For a more detailed analysis of the antecedents of the crisis see C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, pp. 1 et seq. It is important to point out, that the incidents in 2004 were not the first ones going back to disputes over gas transit and debts. Already in 2000, Russia reduced gas supplies to Belarus by 40 per cent after Belarusian debt reached $260 million; see C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 14.

[67] 20 per cent is the rough share of Europe's gas demand, on an annual basis, delivered via the Ukrainian corridor; see S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, pp. 60, 61.

[68] 'Ukraine closed last transit pipeline to Europe', Ukrainefacts, 7 January 2009; 'NJSC Naftogaz of Ukraine is indignant at OJSC Gazprom's statements', Naftogaz Ukrainy website, 7 January 2009; cited in S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 22.

problems - humanitarian emergencies, with parts of the populations unable to heat their homes.[69] In the 2010 dispute about Belarusian claim of outstanding fees and Russia claiming millions for gas supplies, gas exports were cut off again.[70]

bb. International reactions

Although the Russian and Belarusian and Ukraine sides respectively accused each other of owing money for transit fees, imported gas, breaking contracts, blackmailing, lying and stealing gas and even provoking a "gas war"[71], the international reaction following the Russian cut off of gas deliveries has been drastic and mainly excoriated only Russia.

Russia was widely accused of using Belarus' and Ukraine's strong dependency on Russian gas supplies as a means for achieving political ends, bullying its neighbors and endangering European gas supplies. Additionally, a widely shared interpretation of the events in Belarus and Ukraine was that the Kremlin was 'sending a signal' to Europe on its preparedness to use the 'energy weapon'.[72] The US State Department for example clearly took sides with Kiev and Minsk declaring: [Russia is] "trying to use their energy resources as a political lever and most especially with those neighbor states. We saw it with Ukraine last year... We see it with Belarus now."[73] German media shared the same opinion. DER SPIEGEL (one of the most important German weekly magazines)

[69] See S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, pp. 4, 60; C. Baltag, Some Thoughts on the Future of the Energy Charter Treaty Transit Protocol, (OGEL) 10, 2012, p. 2.

[70] See for a more detailed analysis K. Yafimava, Katja, The June 2010 Russian-Belarusian Gas Transit Dispute, pp. 8 et seq.; see also the BBC News from June 2010, especially from the 22nd and 23rd ("Belarus 'to suspend Russian gas transit to Europe'" and "Lithuania gas supply falls after Russia-Belarus dispute").

[71] Belarusian President Alexander Lukashenko in the 2010 dispute about Belarusian claims of outstanding fees and Russia claims of millions for gas supplies. See in this context K. Yafimava, Katja, The June 2010 Russian-Belarusian Gas Transit Dispute, pp. 8 et seq. The expression gas war was also used by the international press, see for example Worldpress, Russia-Ukraine 'Gas War' Damages Both Economies, 20.2.2009.

[72] J. Stern, The New Security Environment for European Gas, p. 4; see also M. Fredholm, Gazprom in Crisis, p. 5.

[73] US State Department press release, http://belarus.usembassy.gov/mccormack_oil.html, 04/08/07; cited in K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 14.

published one of the most sensation-grabbing articles on President Putin and Gazprom entitled 'The Tsar's Corporation' calling Gazprom 'Vladimir Putin's best weapon.'[74] This accusation was generally accepted and repeated in the public debate.[75]

Finally, the recent conflicts with these both transit countries ended in a huge public relations disaster for Russia and Gazprom. Suddenly everybody was questioning Moscow's trustworthiness - "a monster was born".[76]

cc. Background of the disputes

But there is not an easy and clear role allocation, as the situation is very and complex.

The issue is that the transit pipelines carry the gas for the EU importers as well as the gas for the Belarusian and Ukrainian importers. As the main transit countries for Russian gas to the west, they have significant leverage on Russian gas exports while their economies rely on cheap gas imports. The latter could not be affected without harm to the EU importers and by this, risking the Russian reputation as a safe and reliable supplier of natural gas, giving Belarus and Ukraine as Russia´s main transit countries significant leverage on Russian gas exports. At the same time these transit countries are highly dependent on cheap gas imports from Russia creating and interdependency highly likely to cause conflicts. The emotions in this discussion illustrate that this subject is of vital interest for the economies of Russia and the transit states as well as for the recipients in the west. The international reactions - how irrational they might seem sometimes - have to be seen with regard to this background.

To draw a serious conclusion whether these disputes could be an indicator for future Russian attitude and strategy in the gas sector concerning the western gas recipients and especially Germany, a more detailed examination of the background of this

[74] E. Follath/ M. Schepp, Der Konzern des Zaren (Der Spiegel), p. 120.

[75] For a detailed analysis of the reactions in Germany see K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 40.

[76] Kommersant interview with Alexei Miller, available at http://www.kommersant.ru/doc.aspx?DocsID=778833, 14/08/07; see also K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 41.

dispute is essential. It is important to analyze the situation without being affected by emotions in order to be able to distinguish real security threats from imagination.

An analysis of the gas disputes could reveal that Russia abused its position as energy supplier respectively using energy as a “weapon” against Belarus and Ukraine in order to achieve political and economic interest. Such a result could be a strong indicator for Russia to be likely to show this behavior also in its relationship to other states like Germany and the Western EU. But it is not possible to draw a conclusion automatically just because of such a potential finding. It is important also to take the uniqueness of the Russian relationship towards CIS states like Belarus and Ukraine on the one hand, and towards Germany as its most important economic partner on the other hand into account. An automatism like that is only possible if a totally comparable situation is on hand.

However, an evaluation of the disputes could also reveal that an abuse of Russia´s positions as an energy supplier is not certifiable respectively, as there is a different situation of its relationship to the CIS states Belarus and Ukraine on the one hand, and Germany/ Western Europe on the other hand precludes any conclusions on future Russian behavior in the gas sector. In this case it must be assumed that the single cutoff of a source of danger for the safe transit of Gas towards Western Europe - regardless of it causes - would lead towards an increase of energy security for Germany. Under this point of view the Nord Stream Pipeline project would have a positive effect solely because of this consideration.

A fact that would also be - aside from the question concerning the security of supply dealt with in this paragraph - of huge importance in the following part of this thesis concentrating solely on the security of transport

(1) Reasons and explanations of the dispute

The question is why both sides allowed these disputes to escalate to the point where the delivery of gas to Western Europe was cut off. By stopping the gas flow, Gazprom lost billions in revenue due to lack of sales, not even taking account of additional

penalties resulting from the violation of contracts with its European recipients.[77] But much more important is another effect of these crises: Russia's reputation as a reliable and secure gas supplier which was established in the last 40 years has been damaged as well as the reputation of Belarus and Ukraine as safe transit countries. The governments in charge surely recognized these consequences and had the option to prevent this situation from escalating by stepping back. However, they decided to pursue the dispute despite the clear risks for their reputation in the western world and ultimately their economies.[78]

The transit disputes between Russia and Ukraine and Belarus go back to the 1990s. The relationship between these countries has been determined by energy for many years, especially by natural gas. After the dissolution of the Soviet Union, Ukraine used to be the largest single importer of Russian gas as well as the main transit country for Russian gas deliveries to Western Europe (about 80 per cent). The remaining part was transported through Belarus.[79]

After a recession between 1991 and 1997, gas sales became an essential source of reliable revenue for Russia, giving its main transit countries - Ukraine and Belarus – significant leverage over Russia.

At the same time Russia supplied the CIS with large amounts of subsidized gas. In the case of the Ukraine and especially Belarus the prices hardly even covered the costs of delivery. The already existing huge discrepancy between European prices and those charged to CIS countries increased from 2002 onwards as world oil prices rose steadily as well as European gas prices. For example, in 2003 Belarus paid just 30 Dollars per thousand cubic meters of natural gas, Ukraine 50 and the Western European countries up to 125; in 2004 the prices charged to Ukraine were just about one third of those charged to Western Europe.[80]

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[77] In the Russian-Ukrainian gas dispute of 2009, Gazprom lost $1.5bn of revenues due to lack of sales within two weeks. See S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 61.

[78] S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 61.

[79] For detailed figures and the development of both exports and imports see S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, pp. 5, 6.

[80] See for example C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 2; S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 10.

But after 2004, Gazprom´s policy changed, now aiming for equalization of the prices charged to Western Europe and the CIS – resulting in a strong increase of prices for the latter. For example Ukraine prices increased from 50 Dollars per thousand cubic meters in 2004 to 179.50 in 2008 which was still less than half that charged to Western Europe in that year.[81] As a result Belarus and Ukraine, as well as several other CIS states, struggled to pay. As a result of being highly dependent on Russian gas and not having alternative options concerning energy sources, they amassed debts to Russia soon reaching billions.[82]

The situation of Ukraine and Belarus having significant leverage on Russian gas exports while their economies were also highly dependent on cheap gas imports created huge mutual dependency and potential for conflicts. The Russian aim to raise import prices close to actual market prices while the transit countries were not even able to pay the half of the normal market price increased this already existent conflict potential.[83]

(2) Evidence of Russia using energy as a political weapon in these disputes

Taking this into account, one can examine whether Russia used energy as an economic or political "weapon" against Belarus and Ukraine.

(a) Russia´s differentiated price policy

One major argument for such an application is the differentiated Russian price policy: After the 2006 gas dispute between Russia and Ukraine Gazprom intensified its efforts to assimilate the gas prices charged to the CIS countries to normal Western European

[81] See K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 41; S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, pp. 5 et seq.

[82] S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 5; see also K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, p. 2; K. Yafimava, Katja, The June 2010 Russian-Belarusian Gas Transit Dispute, pp. 6, 7.

[83] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 41.

market prices.[84] However, this didn't apply to all CIS countries evenly. Gazprom - with support from the Russian government - distinguished between two groups of importers. Countries that agreed to sell shares of the pipeline network to Russia were granted relatively cheap gas prices, for example Belarus agreeing to sell a 50% share to Gazprom or Armenia. Countries which refused to sell shares and instead established closer relations with the West rather than with Russia, for example Georgia or Ukraine, experienced rapid price increases.[85] It is argued that this distinction unquestionably marks the abuse of energy dependence to achieve political goals, with other words: the use of the "energy weapon".

But to give a substantiated answer to this question it is necessary to distinguish between the price increases on the one hand and the disparity in their peaks, compared with the motivation behind these steps on the other hand.

The decision to increase gas prices charged to the CIS countries in order to assimilate them to normal Western European market prices taken by itself, cannot be seen as an abuse of any position of power. Gazprom - despite being state owned - is a profit oriented company. Seeing it from this perspective, it is the single rational decision to stop subsidizing other economies with several billion dollars annually by delivering gas well under market prices.[86] Therefore, from an economic point of view, every single cubic meter of gas sold to the CIS states marks a loss of money for Gazprom compared to having it sold some hundred kilometers further west. It would be unreasonable to blame a country like Russia being desperately dependent on revenues from its energy exports to relinquish billions of income. If the motivation to race prices would be solely economical, the accusation of Russia using the "energy weapon" would be unfounded in this context.

[84] See for example C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 2; S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, pp. 7, 10.

[85] S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, pp. 7, 10.

[86] Alone in 2005, Ukraine saved more than four billion Dollars due to the low prices charged by Gazprom, K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 41.

But it is brought forward that Russia´s motivation in doing so, resulting in a distinction between the prices charged depending on the relations to the specific country and its will to sell shares of its transportation network, calls for a different assessment.

But first of all it has to be clarified that the gas price already differed depending on the relation to the partner long before the Russian decision to raise prices was made in 2004. Belarus was typically charged less than any other country; for example in 2003 only 30 Dollars for per thousand cubic meters whereas Ukraine was charged significantly more (50 Dollars).[87] Although this describes an absolutely equal situation, the term "energy weapon" is not used in this context.

The fact that countries that agreed to sell shares of the pipeline network to Russia were granted relatively cheap gas prices also cannot generally be seen as an abuse of power but more like a common exchange. The sale of transit infrastructure has happened frequently without being a result of pressure or dependence. For example RWE, E.on and Vattenfall - the major German electric power companies - sold their electricity grid recently.[88]

Furthermore, the distinction in prices can also be interpreted in a different way. It is a fact that Russia generally decided to raise prices - for example also in the Russian domestic market[89] - and not only in the countries not bowing to pressure from Moscow. From this point of view, Russia just made an exception in some cases – a situation totally different than threatening dependent countries with unaffordable prices to reach political goals.

In this context it is important to bear in mind that Gazprom is a profit orientated company and Russia is highly dependent on billions of revenues from gas sales. Due to this profitability, Western Europe is economically highly attractive. The situation totally differs in the case of Ukraine and Belarus as gas is delivered well under market prices. The price concessions made by the supplier cannot be based directly on an economic

[87] C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 2; K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, p. 2.

[88] See for example Spiegel online, RWE verkauft sein Stromnetz, 14.07.2011, available at http://www.spiegel.de/wirtschaft/unternehmen/milliarden-deal-rwe-verkauft-sein-stromnetz-a-774481.html.

[89] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 41, pointing out, that this decision will only affect commercial and power generation customers and not residential customers.

point of view. They are made due to internal or external political reasons – especially in the case of the latter asking for a political return.[90] This puts Ukraine and Belarus in a special relationship to Russia, as they have to return political favors permanently to ensure cheap gas prices and Russia willing to apply pressure if those countries refuse to do so – a situation likely to culminate in gas cut-offs.

This could be seen as the use of "energy weapon" as Russia clearly uses its position of power to achieve political goals. But the differentiated Russian price policy could also be seen as a simple exchange. As Ukraine and Belarus cannot or do not want to pay normal market prices, something else has to be offered – for example political favors or shares of the transportation network. It is also understandable that Russia does not grant special conditions to countries which still constitute a threat to the Russian ability to transport its resources to Western Europe as well as it is natural to try to get this source of danger – the transporting network – under control. Furthermore, Russia has never tried to blackmail its partners by asking for any price higher than the normal market price.

However, the judgment could be a totally different one concerning the cut-off of gas supply.

(b) Cut-offs

To cut-off the gas supply to countries desperately depending on that source of energy in the middle of winter – the time of the year when consumption generally peaks – resulting not only in significant economic problems but also in humanitarian emergencies, leaving parts of the population unable to heat their homes[91], is very much a different issue to whether or not to grant special conditions concerning the gas price or selling it to market prices - here the term "weapon" would make sense.

[90] See A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 15.

[91] See for example S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, pp. 4, 60; C. Baltag, Some Thoughts on the Future of the Energy Charter Treaty Transit Protocol, (OGEL) 10, 2012, p. 2.

However, the single fact that gas pressure in the pipes dropped is not the evidence of Russia having used that tool.

Not to mention the much more complicated and sophisticated question which side was responsible for the origination of the dispute, already the technical question which side actually did cut-off the gas was not always settled unchallenged. For example in the 2009 dispute between Russia and Ukraine, both accused each other, Gazprom arguing that they only stopped deliveries because Ukraine had closed the system down whereas Naftogaz stated that they only closed it down as a result of the stopped deliveries.[92] Besides, there is a lot of provocation, breach of contract and threatening – mainly with it leverage founded in the status of main transit countries – noticeably from the Ukrainian and Belarusian side.[93]

In this context the gas dispute between Russia and Belarus in 2004 – the first one which gained huge publicity - is a perfect case study of how the described interdependency resulting in mutual dependency caused serious problems.

Belarus was traditionally allowed to buy Russian gas for the cheapest prices in the region.[94] At the same time Belarus is *the* textbook example for a country being desperately dependent on gas imports - 90 per cent of the Belarusian power generation is gas-fired with 100 per cent of this energy source being imported from Russia.[95] In 2002 both countries agreed that Beltransgaz - the Belarusian gas transit and transmission network – should be privatized and 50 per cent sold to Gazprom. In exchange, extremely cheap gas would continue to flow to Belarus. But Belarus refused to sell any shares – in other words committing a breach of contract – and only changed its attitude after Russia threatened its partner with an increase in price and stopping gas deliveries.[96] Later in 2004, after old contracts had expired and Belarus refused to agree to a price increase from 30 to 50 Dollars per thousand cubic meters, Gazprom

[92] 'Ukraine closed last transit pipeline to Europe', Ukrainefacts, 7 January 2009; 'NJSC Naftogaz of Ukraine is indignant at OJSC Gazprom's statements', Naftogaz Ukrainy website, 7 January 2009; cited in S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 22.

[93] See for example S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 38.

[94] See for example C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 2; K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, p. 2.

[95] K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, pp. 2 et seq.

[96] K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, p. 2.

stopped its supplies. Due to its total dependence and not having serious storage capacity, Belarus was in a serious trouble. The only loophole for Belarus seemed to be to take gas out of the Yamal-Europe pipeline - a transit pipeline running through Belarus solely intended for delivery to Europe. By doing so, Belarus clearly stole gas from Russia to which Gazprom responded by a total cut-off. In less than a day a provisional agreement and soon a contract for the next 2 years was signed.[97]

This development reveals that the undifferentiated accusation that Russia used its "energy weapon" to achieve political goals is not justified. It is right that Russia used its position of power as leverage - but so did Belarus abusing its geographic position as a transit country resulting in extremely cheap gas prices. And it is important to bear in mind that Belarus committed a breach of contract and even stole Russian gas which only caused this Russian reaction. Besides, the Russian aim to lift the gas price in 2004 is hard to be criticized. Existing contracts had expired, making it totally acceptable to negotiate new conditions. The amount claimed (50 Dollars per thousand cubic meters) was still extremely low. Ukraine paid the same, Western European countries were charged about three times as much (143 Dollars per thousand cubic meters).[98] Bearing in mind that Gazprom is a profit orientated company it can hardly be blamed for trying to raise the price charged from 20 per cent of the market price to about one third of it. The same applies for the efforts to get in control of the Belarusian pipeline network. To aim for the elimination of a major risk to the ability to deliver gas to Western Europe, as well as Belarusian leverage, is natural. The cut-off might have been a drastic reaction. However, Russia did not commit any breach of contract as the relevant contracts had expired and none were existent at this point. Not to deliver while no claim to performance is existent is a normal reaction in the business world.

Finally, in this crisis the reactions of both parties are understandable considering their individual situations. However, in this context the accusation that Russia used the "energy weapon" is unfounded.

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[97] C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 2; K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, p. 2. Concerning the accusation of Belarus stealing oil see J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 17.

[98] Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 7.

But in some situations it is also possible that the Russian motivation to cut-off the gas supply was a different one. For example Russia is accused of having abused the energy dependency of Belarus to push it to join a Common Economic Space and currency union lead by Russia,[99] and of using energy as a political weapon against Ukraine's Orange Revolution as well as personally against President Yushchenko.[100] Although these accusations are plausible, they have never been proven

However, Russia has not been the only country applying political pressure in these conflicts. For example there are serious accusations that Germany, joined by other Western European countries, applied massive pressure on Timoschenko to sign the gas contract with Russia in 2009.[101]

Finally it is extremely important when referring to the initial question to examine whether Russia would be able and willing to use the "energy weapon" against Western Europe in the future.

(3) Transferability of the situation to Germany

As there have been accusations that Russia also "punished" other states besides Belarus and Ukraine with its "energy weapon" – for example the Czech Republic because of its support for the US missile defense plan with a gas cut-off in 2008[102] – the question arose whether Russia would be able and willing to use this "weapon" against Western Europe and especially Germany, and if the findings above are applicable to the relationship of Russia and Germany.

[99] C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 2.

[100] S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, pp. 31, 60.

[101] See for example Zeit, Deutschland soll Timoschenko zu Gasvertrag gedrängt haben, 15.06.2012; Focus, Deutschland soll Timoschenko zu Gas-Deal gedrängt haben, 15.06.2012.

[102] M. Elder, "Russia Exerts Its Power," Financial Times, October 31, 2008, p. 6; see in this context as well S. Blank, Russia's Energy Weapon and European Security, pp. 3, 47; E. Lucas, The New Cold War: Putin's Russia and the Threat to the West, 2008.

Even if Russia has used the "energy weapon" against Belarus and Ukraine, it is not possible to automatically draw the conclusion out of this that it is likely that this could also happen to Germany in the near future.

The reason for this impossibility is quite simple: The Russian relationship with Germany totally differs from their relationship with Ukraine and Belarus - a similarity is the basic requirement for such a conclusion.

The Germany economy is almost 40 times the size of the three Baltic economies combined and about 2.5 times the size of Russia.[103] Germany is Russia´s main partner in the gas business and exports are highly profitable for Gazprom. In contrast, the price charged to Ukraine and Belarus per cubic meter is still, despite a significant increase, much lower.[104]

This factor plays an important part in this assessment as it results in noticeably different Russian interests.

Western Europe and especially Germany is economically highly attractive due to the profitability and their foreign currencies for purchases. The fundamental Russian interest is to deliver high amounts of energy resources at profitable prices and to act as a reliable supplier in order not to risk this steady demand.[105] The situation differs if - like it is in the case of Ukraine and Belarus - gas is delivered well under market prices. As already illustrated, the price concessions made by the supplier cannot be based directly on an economic point of view but are made due to internal or external political reason asking for a political return.[106] Compared to Germany, this puts Ukraine and Belarus in a completely different relationship to Russia, having to return political favors

[103] B.S. Whist, Nord Stream: Not Just a Pipeline, p. 25; World Bank, Gross domestic product; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 10; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 15; L. TICHÝ, Energy Security in the EU-Russia Relations, p. 6.

[104] For detailed statistics see K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 29; S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 10; J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 15.

[105] See A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, p. 15.

[106] See A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 15.

permanently to ensure cheap gas prices. Any pressure applied from the Russian side – even if it is as brutal as a gas cut-off - to make sure that these favors are returned, has to be seen in this context. Therefore, with the non-existence of this commitment on the German side, must go hand in hand with the exclusion of the possibility to draw the conclusion that; the use of the "energy weapon" in Ukraine and Belarus makes it likely that this will also happen in Germany.

An evidence for this distinction is that Russia never aimed for a stoppage of the transits to Western Europe and rather tried to avoid this. In all its activities Russia tried to distinguish between the exports to its transit countries and the deliveries to the West just running through these states, which was obviously not always possible. In the 2006 dispute with Ukraine, Russia gave in quite early willing not to achieve the best possible negotiation outcome in order to restore gas deliveries aiming not to damage its reputation as a reliable supplier.[107] In the 2004 crisis Russia did not stop to pump gas into the pipelines until Belarus started to steal it massively out of this means of transport on the way to Western Europe.[108]

dd. Interim result concerning the Russian - Ukraine/Belarusian gas dispute

This evaluation illustrates that Russia clearly used the dependency of Belarus and Ukraine on Russian gas to achieve political goals. However, it does not need to be determined whether this marks an actual abuse of power, the use of the "energy weapon", or not as it - due to the totally different initial situation - would not be possible to draw any conclusions from this on the future Russian behavior towards Western Europe.

[107] See for example M. Fredholm, Gazprom in Crisis, p. 5; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 14.
[108] See for example C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 2; K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, p. 2. Concerning the accusation of Belarus stealing oil see J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 17.

Therefore, the gas disputes between Russia on the one hand and Belarus and Ukraine on the other hand cannot be seen as any indicator for a threat of Russia using its "energy weapon" against Western Europe.

e. Conclusion concerning the danger of Russia using of the "energy weapon

Nord Stream is not increasing or resulting in any one-sided dependency of Germany to Russia. In contrast, the huge investments on both sides result in genuine mutual interdependence generating some sort of security for Germany. Even if Russia has used the "energy weapon" to achieve its political goals against countries of the CIS, it is absolute unlikely that Russia would use it against Western European nations like Germany as this would have devastating consequences for Russia.

2. The fear of a „Gas-OPEC"

Another noticeable fear in the public discussion is the excitement about Russia trying to establish a cartel of the gas exporting countries, similar to the OPEC.
Resulting from this and the increasing control of the transporting infrastructure – with Nord Stream marking an important step in this concern – Europe would become even more dependent on Russia being vulnerable to price rigging, resulting in increases in the market price. Such a monopoly of world supply, led by Russia acting side by side with Iran - the country with the second biggest proven natural gas resources – is seen as a serious threat for the energy security of the western world.
These fears came up with more tension after various statements of officials during the Gas Exporting Countries Forum (GECF) meeting in Moscow in December 2008 , where an organization's charter was adapted as well as an agreement on a permanent base was reached. The fear is that this organization turns into one like the OPEC.[109] While

[109] See for example The Guardian: Russia, Iran and Qatar announce cartel that will control 60% of world's gas supplies, 22.10.2008; BBC News: Putin says 'cheap gas era' ending, 23.12.2008; P. Ghikas,

the Russians avoided terms like “cartel” or “gas OPEC”, other officials were more direct, for example Iran's petroleum minister Gholamhossein Nozari:
"There is a demand to form this gas Opec and there is a consensus to set up gas Opec."[110]

To judge whether there is such a risk of price rigging and for energy security, it necessary is to take the nature of the gas business into account and to look if such a gas-OPEC would be as effective in the gas sector as its prototype in the oil business.
There are various problems, both institutional and technical, in the process of the creation of an effective gas cartel.

The political interests of the big gas producing countries differ in several aspects. Not all of them are equally involved in the GECF: Whereas the Netherlands and Norway are only observers, Canada and Australia are not even members and all four believe the establishment of a gas cartel to be the wrong approach.[111] Besides, cooperation is even harder as some members only export LNG and others just via pipelines. Furthermore, most members are restricted to a single exporting destination like Europe or Asia, others do not export at all, for example Venezuela.[112]
Besides, the gas price heavily depends on the one of oil. Today, three-quarters of the gas contracts are signed on the basis of oil prices which are controlled by the OPEC and not by the gas producing countries. Therefore a cartel already controls the gas prices, if only indirectly: The OPEC and not the GECF.[113]

European Union Energy Security, National Policy Preferences and Cross Border Pipelines in South Eastern Europe, (OGEL) 9, 2011, p. 19 et seq.; R. Götz, Russian Gas and European Energy Security, p. 15; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 18.

[110] The Guardian: Russia, Iran and Qatar announce cartel that will control 60% of world's gas supplies, 22.10.2008.

[111] See for example D. Finon, Russia and the “Gas-OPEC“. Real or Perceived Threat, pp. 1 et seq.; R. Götz, Russian Gas and European Energy Security, p. 16; H. Mattes, Die „Gas-OPEC“, p. 8.

[112] See J. Stern, GAS-OPEC, p. 2; H. Mattes, Die „Gas-OPEC“, p. 8.

[113] H. Mattes, Die „Gas-OPEC“, p. 4; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, p. 19.

Besides this, one characteristic trait of the gas trade is of particular importance: the long-term contracts.

A gas cartel can only be effective if its members are able to vary production and export collectively - only by this means the price can be influenced effectively.[114] However, in most parts of the world and especially in Western Europe the gas price is set by long-term contracts - plenty of them with contract periods of 20 to 25 years and not expiring before 2025 - and is not determined by supply and demand.[115] These conditions combined with the fact that generally countries do not start to produce natural gas before – aside from the pipeline infrastructure being in place – the sale is agreed by contract,[116] means that the price of the gas is not at direct disposal to the producers.

Therefore the mechanisms of a cartel such as the OPEC would not work. Sine qua non would be the cancellation of the existing long-term gas contracts, and there is no indication that any of the major gas producers will be considering this as an option in the near future.[117]

Another important factor is that there is no global gas trade but different isolated regional gas markets: Atlantic, Europe, Asia, Pacific.[118] Combined with the mainly stationary trade via pipelines in the gas sector, this makes a considerable global spot market for short term contracts impossible.[119]

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[114] See for example R. Götz, Russian Gas and European Energy Security, p. 15; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, pp. 15 et seq.

[115] See for example R. Götz, Russian Gas and European Energy Security, p. 15; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, pp. 15 et seq.; H. Mattes, Die „Gas-OPEC“, pp. 1, 8; H. Hallouche, The Gas Exporting Countries Forum: Is it really a Gas OPEC in the Making?, p. 54; J. Stern, GAS-OPEC, p. 3; BBC News: Putin says 'cheap gas era' ending, 23.12.2008.
In contrast, the relationship with CIS countries, such as Ukraine and Belarus, is determined by much shorter contract periods, J. Stern, GAS-OPEC, p. 3.

[116] H. Mattes, Die „Gas-OPEC“, p. 4.

[117] D. Finon, Russia and the “Gas-OPEC“. Real or Perceived Threat, pp. 1 et seq.; R. Götz, Russian Gas and European Energy Security, p. 16; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, p. 15.

[118] See J. Stern, GAS-OPEC, p. 2; H. Mattes, Die „Gas-OPEC“, p. 8.

[119] H. Mattes, Die „Gas-OPEC“, pp. 1 et seq.; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, p. 18.

This cover could be suspended by the global use of LNG technology resulting in an actually globalized gas market.[120] A result which seems to be strange as LNG is often mentioned as Europe´s hope against Russian dependency and the way for more energy security.[121]

However, due to the immense costs of the LNG technology this will not be a scenario of the immediate future.[122] For example the German energy company RWE has recently scrapped its plans to construct its first LNG terminal in Germany due to a negative efficiency analysis.[123]

On balance, the general excitement about a Russia trying to create gas-OPEC resulting in price rigging and threatening the Western European energy security is not warranted.

3. Conclusion concerning the security of supply

The aim of this assessment was to analyze the impacts of Nord Stream on the security of gas supply for Germany and Western Europe.

It becomes clear that the fear of an increase of an "asymmetric dependency" of Germany from Russian as a result of Nord Stream is unfounded – on the contrary Russia becomes more dependent on continuous gas exports. The same applies for the fear of Russia using its "energy Weapon" against Germany as more economic integration between Gazprom on the one side and German and Western European

[120] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 6, 7; H. Mattes, Die „Gas-OPEC", p. 4; J. Stern, GAS-OPEC, p. 2; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, p. 18.

[121] See for an assessment of the possible impacts of a global application of LNG p. XXXXX.

[122] See for example P. Stevens, Transit Troubles - Pipelines as a Source of Conflict, 2009; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 6, 7.

[123] Deutscher Bundestag: Keine Planung für LNG-Terminals in Deutschland, 07.06.2012; available at: http://www.bundestag.de/presse/hib/2012_06/2012_282/01.html.

companies on the other side generates significantly reduces this risk as both parties – and especially the Russian one – would have too much to lose.
As a result, Nord Stream actually increases the German and Western European security of gas supply.
It is about time that we get rid of the old fears of the Soviet threat leading to an extremely emotional analysis of the situation and start to see Russia as what it actually is in this regard: A reliable partner.[124]

III. Security of transport

In contrast to the assessment of the security of supply, this evaluation will solely focus on the transportation of the gas and whether Nord Stream improves the safety of it.

Before the construction of the Nord Stream pipeline, Russian gas had to pass transit countries by the overland route to reach Western Europe giving the main transit countries – Belarus and Ukraine - significant leverage on Russian gas exports. By bypassing these states and providing a direct route for natural gas from Russia to Germany, Nord Stream was to increase German energy security - and especially the security of energy transport - by diversifying its gas supply routes.[125]
In this paragraph the author will examine if this new route is a safe one and whether it makes transport as a whole safer.

[124] However, this does not apply for all Russian partners in the gas trade; see in this context pp. XXXX (at the end, final conclusion).
[125] See for example Nord Stream AG, Nord Stream's Contribution to the EU and the Baltic Sea States; B.S. Whist, Nord Stream: Not Just a Pipeline, pp. 9, 51 et seq.; Riley, Alan: Can Nordstream and Southstream Survive in a Changing European Gas Market?, (OGEL), 7, 2009, p. 2. See in this context the interviews the interviews in the Süddeutsche Zeitung with Gerhard Schröder (27.10.2006) and with Frank-Walter Steinmeier (20.12.2006) both arguing, that the Nord Stream pipeline is of importance and benefit for whole Europe. See also Nord Stream AG, The Pipeline through the Baltic Sea is a Priority Energy Project for the European Union, 2006 and Russian President Dmitry Medvedev, Nord Stream AG, Official Launch of Construction of Nord Stream Natural Gas Pipeline, 2010.

1. Technical safety of Nord Stream

Pipelines in general have proved to be a relatively secure, safe and reliable form of transportation.[126] Although this generally applies for all kinds of pipelines it has to be examined whether Nord Stream – a submarine pipeline – is a safe way of transport.
Submarine pipelines generally are safe and reliable. The risk of leakage is, in contrast to oil pipelines, minor. In the case of an accident the percolation of the gas is stopped automatically due to blocking valves. Because of the diluting effect, escaping gas is not explosive anymore and cannot cause damage to the pipeline itself and is not hazardous for the marine environment.[127] An important contribution to the safety of submarine pipelines is trenching, protecting it against damage caused by anchors, to improve the stability of the pipeline and to secure it in the event of an uneven seabed.[128]
Nord Stream has all possible improvements of safety in place. In any area of possible danger, the pipeline is buried[129] and new pipelines like Nord Stream can rely on improved nature of the material and therefore more safety.[130] Besides, Nord Stream is a project of outstanding importance for Gazprom´s reputation. Therefore the company takes extremely well care of its signature project applying highest safety standards – for example holding ready hundreds of spare pipes.[131]

This shows that Nord Stream is a safe pipeline. From the technical point of safety, modern and well maintained pipelines like Nord Stream mark an improvement of the security of transport.

[126] S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 1; Pipelines in the United States and Europe and their Legal and Regulatory Aspects, OECD Study (1969), 3; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 346; M. Roelandt, La condition juridique des pipelines, p. 179; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 49.
[127] See in this context a survey of the Max Planck Institute for Chemistry: J. Lelieveld/ S. Leuchtenböhmer/ S. Assonov/ C. Brenninkmeijer/ C. Dienst/ M. Fischedick/ T. Hanke, Low leakage from natural-gas pipelines, 2005, p. 841, 842.
[128] S.J. de Groot, The Impact of Laying and Maintenance of Offshore Pipelines on the Marine Environment, p. 8, 9, 16; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 49.
[129] Nord Stream AG, Facts, Issue 3, (09.2007), p. 2, (available at http://www.nord-stream.com/press-info/library/?category=5&country=&q=&per_page=100&type=&page=2).
[130] S. Klumbyte, Environment Protection: Pipelines, p. 69, 70; S.J. de Groot, The Impact of Laying and Maintenance of Offshore Pipelines on the Marine Environment, p. 6, 7.
[131] See for example Gas-Magazine: Pipeline erhält Ersatzrohre für den Fall einer Havarie, 20.06.2012.

2. The theft of gas

Closely linked to the issues arising from the leverage of the transit countries Belarus and Ukraine on Russian gas exports to Western Europe is another problem area being a serious threat to the security of gas transport: The theft of gas.[132]

Stealing gas obviously affects the security of transport in the most direct way. Besides, it is of huge importance as its indirect impacts are likely to cause political crisis. The accusation of such a criminal act was, for example, one of the reasons for the cut-off of Russian gas in the 2009 dispute with Ukraine.[133]

To ascertain the impacts of Nord Stream on the security of gas transport it is necessary to compare possible risks of the new submarine project with the land-locked transit pipelines through Ukraine and Belarus.

The land-locked transit pipelines entail a significant conflict potential in this regard. On several occasions, Russia accused Ukraine of stealing gas, particularly in the mid to late 1990s. As a result, in 2001 Gazprom filed a law suit claiming reimbursements for more than a billion cubic meters of gas siphoned illegally.[134] In the following years these suspicions came up consistently, for example in 2005 as well as during the Russian Ukrainian gas crisis in January 2009.[135] Although the difference between the supplies from Russia and the transit volumes to Western Europe is not generally questioned by either side[136] - only in the exact amount of gas missing is not always beyond dispute - in all these cases Ukraine denied any criminal involvements.

[132] Concerning the accusation for example of Belarus stealing oil from Russia, see J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 17.

[133] See for example C. Bruce, Fraternal friction or fraternal fiction? The gas factor in Russian-Belarusian relations, OIES 2005, p. 2; K. Yafimava/ J. Stern, The 2007 Russia-Belarus Gas Agreement, p. 2. Concerning the accusation of Belarus stealing oil see J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 17.

[134] See for example D. Engber, How do you steal gas from a pipeline?, pp. 1 et seq.; Riley, Alan: Can Nordstream and Southstream Survive in a Changing European Gas Market?, (OGEL), 7, 2009, p. 2.

[135] See S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 20; Ukrainefacts, Gazprom calls on Naftogaz Ukrainy to resume negotiations, 4th January 2009; Ukrainefacts, Gazprom reduces the volume of gas supply to the Ukrainian gas transportation system, 5th January 2009.

[136] See for example the exposition of missing amounts of natural gas on the website of Naftogaz, the national oil and -gas company of Ukrainian: Naftogaz Ukrainy, NJSC Naftogaz of Ukraine is indignant at

The only fact varied was the explanation for the missing oil. In 2001, Deputy Prime Minister of Ukraine Oleg Dubina acknowledged that Russian gas had been siphoned off - 8.7 billion cubic meters alone in 2000 – but claimed that this gas had not been stolen but been "overdrafted".[137] In 2009 Ukraine denied any criminal actions arguing that up to 23 million cubic meters per day of "technical gas"[138] was needed to operate the network: "We are removing gas for technical purposes, in order to ensure the transit of Russian exports."[139] The Ukrainian side also claimed that "in the absence of a supply and transit contract" they were justified to take the gas out of the European transit volumes.[140] However, it is general practice that this gas is provided by the transit company (in this dispute by Ukraine's state gas company Naftogaz) and included in the transit fees. As a result, the lack of special contract for that issue would normally not been needed.[141]

Regardless of whether there had been any criminal involvement on the Ukrainian side, this case illustrates that there is a clear and present hazard potential for the security of gas transfer from Russia to Western Europe passing transit states like Ukraine. Furthermore, Gazprom can do very little to minimize these risks. As Ukraine does not only function as transit state but also buys gas from Russia, it already has the infrastructure to siphon off gas.[142]

The hazard potential of Nord Stream for the security of gas transfer from Russia to Western Europe differs significantly. This pipeline project bypasses transit countries transporting the gas on a direct line from Russia to Germany not enabling third countries access. Besides infrastructure to siphon off gas does not exist in the way as it

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OJSC Gazprom's statements, 7th January, 2009, available at: www.naftogaz.com; S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 21.

[137] D. Engber, How do you steal gas from a pipeline?, pp. 1 et seq; S. Pirani, Ukraine´s Gas Sector, p. 22.

[138] The gas that is needed to run the compressor stations is generally known as "fuel gas". But as in the disputes about the theft of Russian gas it has customarily been referred to as "technical gas" the author also uses this term. See in this context S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 20.

[139] Valentin Zemlyansky, a spokesman for Ukraine's state gas company Naftogaz, cited in BBC News, Ukraine accused of stealing gas, 2nd January 2009.

[140] S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 20; see also BBC News, Ukraine accused of stealing gas (2nd January 2009) and the Gazprom website, Za proshlye sutki evropeiskie potrebiteli (4th January 2009).

[141] S. Pirani/ J. Stern/ K. Yafimava, The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment, p. 20.

[142] D. Engber, How do you steal gas from a pipeline?, pp. 1 et seq.

does in the transit states and the nature of Nord Stream as a submarine pipeline project makes it technically nearly impossible to steal gas.
This comparison of the possible risks resulting from the threat of theft of gas of Nord Stream with the older land-locked transit pipelines illustrates that Nord Stream generates an improvement of security. However, this point is not going to be the most important one in the final assessment.

3. The chance of cut-offs

One of the most important points in this assessment is the question how likely is a stoppage of delivery via Nord Stream compared to the pipelines crossing Ukraine and Belarus.

The delivery of Russian gas to Germany can be stopped at two parties: Russia as the sending state and Belarus and Ukraine as the transit countries.
As already illustrated it is highly unlikely that Russia would stop exports to Western Europe. The only imaginable scenario - which has already taken place - is that the transit countries steal gas out of a transit pipeline. Concerning Nord Stream, due to the nature as a direct pipeline bypassing transit countries, this scenario is impossible.
Therefore Nord Stream generates an improvement of security of transport in regard to a possible stoppage of deliveries by Russia. The same applies for the possible cut-off by transit states. With respect to Nord Stream such a cut-off is theoretically impossible. In contrast, on its way passing Belarus and Ukraine, such a scenario is not only a theoretically possible but quite likely in the future as the seed of these disputes is still present.[143]

[143] See for example concerning the rumor that Russia tries to force Ukraine to sell its gas pipeline network C. Baltag, Some Thoughts on the Future of the Energy Charter Treaty Transit Protocol, (OGEL) 10, 2012, p. 2; Reuters: Ukraine says won´t sell gas pipelines to Russia, 01.13.2012; available at article/2012/01/13/ukraine-russia-gas-pipelines.

As a result, by not be at the end of the supply chain but the first receiver of the gas, Nord Stream clearly increases the security of gas transport for Germany – with possibly negative impacts on the former transit states.

4. Conclusion concerning the security of transport

This assessment proves that concerning the security of transport Nord Stream marks a progress. If this aim could have been also reached by other means being less expensive is a different question not to be answered in this paragraph.

IV. Final Conclusion

The examination shows that the huge media hype about the fear of becoming too dependent on Russian gas supplies is simply missing the point. There is no Russian monster abusing the - actually non-existent - “asymmetric dependency” willing to attack Western Europe with the “energy weapon”.
As far as it is foreseeable the danger is not that Western Europe gets too dependent on gas imports from Russia – this fear is exaggerated and not justified. However, there are potential risks coming up which have to be addressed in this assessment and which are surprisingly less dealt with in the general public.

1. Russian gas deficit

The world energy market is undergoing significant transformations: The worldwide energy demand as a whole has doubled since 1970 and is rising in every part of the world – this also applies for the gas consumption which is projected to expand in all

regions in the next years.[144] Besides, developing countries will play a more important part in this regard. The International Energy Agency estimates that over 70% of the worldwide increase in energy demand between 2004 and 2030 will come from these countries.[145]

In this regard any change concerning Germany´s main partner in the gas business – Russia – is of specific importance. Especially one factor could threaten the Western European energy security: The fast growing Russian domestic consumption.[146] This increase joined with Moscow´s decision to raise gas prices for domestic commercial and power generating consumers causes a higher profit margin for Gazprom in the domestic market approaching the one for Western Europe states.

As a result Gazprom would become less dependent on sales to Western Europe. Furthermore, the increasing demand around the world and especially in Asian countries like China and India might even boost this effect in the future.[147]

A study from Gazprom reveals that it is unlikely that Europe will receive substantially more than 200 billion cubic meters of natural gas in 2030.[148] At the same time – according to the European Commission – due to rising gas demand and simultaneous decline of domestic production 535 billion cubic meters will have to be imported.[149]

Therefore, the real long term worry is that Russia - regardless of foreign policy intentions – is not able to produce enough gas to cover growing domestic as well as European and potentially Asian needs.[150]

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[144] See for example V. Costantinia/ F. Graccevaa/ A. Markandyaa/ G. Vicinia, Security of energy supply: Comparing scenarios from a European perspective, p. 217; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 3.

[145] IEA, World Energy Outlook 2006, p. 65; see also K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 3.

[146] See for example B.S. Whist, Nord Stream: Not Just a Pipeline, p. 25; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 44.

[147] J. Stern, GAS-OPEC, p. 3; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 44; H. Mattes, Die „Gas-OPEC", p. 1; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 15.

[148] Gas Matters: Russia's gas supply - is there enough for everyone?, p. 21.

[149] EU Annex to the Green Paper 2006, A European Strategy for Sustainable Competitive and Secure Energy, p. 24.

[150] J. Guillet, Jérome, Gazprom as a Predictable Partner. Another Reading of the Russian-Ukrainian and Russian-Belarusian Energy Crisis, p. 21; B.S. Whist, Nord Stream: Not Just a Pipeline, p. 25; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 32.

Although deliveries to Western Europe - due to long term contracts and the currently still highly attractive Western European market to Gazprom - are not in danger for the next years, it is time to act now.

New long term contracts and investments in infrastructure on both sides generate safety for the future - the Nord Stream project could be seen as one important step is this regard. But it is also important to treat Russia as an equal partner which includes stopping to be eager about signing new contracts with Gazprom on the one hand and mendaciously complain about Russia and the European dependency being a threat to Europe´s energy security on the other hand. This could potentially - given that new options emerge for Russian exports - result in Russia changing partners, even if Vladimir Putin´s statement from 2006 does not have to be taken too seriously:

"Even during the Cold War, during the standoff between the two systems, the Soviet Union guaranteed energy to all its partners in Europe. Day by day, hour by hour! And now we hear about some sort of dependence on Russia. Understand us! Put yourself in our place. What are we supposed to do in these circumstances? We begin to look for other markets."[151]

2. Division of Europe

There is another threat emerging from the danger of Russia not being able to supply all demands: The division of Europe.

In the case Russia has to choose where to send its scarce gas, it will most likely send it to Germany rather than to the much smaller Central and Eastern European states. The new Nord Stream pipeline now enables Moscow to supply its single most important market without involving the Eastern European transit states. Therefore, these excluded countries are worried that the Nord Stream pipeline will shift the regional

[151] A. Kolesnikov, Putin and Merkel's Market Relationship, Kommersant 02.05.2006, available at http://www.kommersant.com/page.asp?idr=527&id=670446, cited in R. Larsson, Nord Stream, Sweden and Baltic Sea Security, p. 44.

balance of power. To them the pipeline constitutes a massive threat to their energy security, as the loss of leverage on Russia´s gas exports to Western Europe creates a fatal asymmetric dependency.[152] Due to historical experiences Nord Stream especially provokes old fears in Poland where the project was often described as "The Molotov-Ribbentrop Pipeline" referring to the 1939 Soviet-Nazi deal to split up Poland.[153]
It is important that the old and powerful Western members of the EU acknowledge this fear. If not, European integration and cooperation will become more problematic with new members not feeling to belong properly to the European idea. In this case Nord Stream could divide Europe.[154]

3. Prospects: Diversification of energy supply as universal remedy?

For European politicians diversity of supply is the ideal way to gain energy security concerning the gas sector. According to the European Commission "[t]he challenge is to ensure a continued high level of diversification of supply […] supply diversification would be the most important security of supply measure."[155] "Diversification of fuels, sources of supply and transit routes is essential for EU security."[156]
However, it seems doubtful whether the currently available options would improve the Western European security of supply and transport without causing new threats. By analyzing the most common options in this scenario, the author will try to give an answer.

[152] A.Kotlowski, Russian Energy Strategy and Transit Routes in Eastern Europe - a view from Warsaw, (OGEL) 7, 2009, p. 10; B.S. Whist, Nord Stream: Not Just a Pipeline, pp. 50, 51.
[153] See for example A. Petersen, The Molotov-Ribbentrop Pipeline; T. Hundley, Poles wary of Nord Stream pact, p. 1; A.E. Kramer, Continental Divide. Russia Gas Pipeline Heightens East Europe's Fears, p. 1; R. Götz, Die Ostseegaspipeline: Instrument der Versorgungssicherheit oder politisches Druckmittel?, p. 4.
[154] See also B.S. Whist, Nord Stream: Not Just a Pipeline, p. 52; R. Larsson, Nord Stream, Sweden and Baltic Sea Security, pp. 8, 42.
[155] EU Annex to the Green Paper 2006, A European Strategy for Sustainable Competitive and Secure Energy, p. 25; cited in K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 45.
[156] European Commission: Energy 2020, A strategy for competitive, sustainable and secure energy, p. 18.

a. LNG

One important characteristic of the gas business is that there is no global gas trade but different isolated regional gas markets: Atlantic, Europe, Asia, Pacific.[157] Combined with the mainly stationary trade via pipelines in the gas sector, this makes a considerable global spot market for short term contracts impossible.[158]

The global use of LNG technology would elementarily change this, resulting in an actually globalized gas market.[159] However, due to the immense costs of the LNG technology this will not be a scenario of the immediate future.[160]

In the discussion about LNG the high costs are the main argument against this new technology - for example the German energy company RWE has recently scrapped its plans to construct its first LNG terminal in Germany due to the lack of profitability.[161]

In contrast, an even more important problem is not addressed: What are the consequences of a globalized gas market for the security of supply?

The different isolated regional gas markets combined with the mainly stationary trade via pipelines in the gas sector make a considerable global spot market for short term contracts impossible[162] - the best possible protection against an effective gas cartel.[163]

[157] See J. Stern, GAS-OPEC, p. 2; H. Mattes, Die „Gas-OPEC", p. 8.

[158] H. Mattes, Die „Gas-OPEC", pp. 1 et seq.; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, p. 18.

[159] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 6, 7; H. Mattes, Die „Gas-OPEC", p. 4; J. Stern, GAS-OPEC, p. 2; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, p. 18; V. Costantinia/ F. Graccevaa/ A. Markandyaa/ G. Vicinia, Security of energy supply: Comparing scenarios from a European perspective, p. 223.

[160] See for example P. Stevens, Transit Troubles - Pipelines as a Source of Conflict, 2009; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 6, 7; C. von Hirschhausen/ A. Neumann, Security of 'Gas' Supply, pp. 1 et seq.; V. Costantinia/ F. Graccevaa/ A. Markandyaa/ G. Vicinia, Security of energy supply: Comparing scenarios from a European perspective, p. 224.
In 2011 LNG made up 24 % of the European imports whereas 76 % was still delivered via pipelines (BP, Statistical Review of World Energy, 2011).

[161] Deutscher Bundestag: Keine Planung für LNG-Terminals in Deutschland, 07.06.2012; available at: http://www.bundestag.de/presse/hib/2012_06/2012_282/01.html.

[162] H. Mattes, Die „Gas-OPEC", pp. 1 et seq.; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, p. 18; see also See J. Stern, GAS-OPEC, p. 2; H. Mattes, Die „Gas-OPEC", p. 8.

[163] See for example R. Götz, Russian Gas and European Energy Security, p. 15; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, pp. 15 et seq.

The global use of LNG technology resulting in a globalized gas market would suspend this cover making a gas cartel possible.[164]
By trying to generate more energy security, a new threat is created.

Another important factor to be addressed in a global gas market is how the increasing gas demand in Asia affects Western European energy security.[165] If the gas demand in Asia continues to grow very fast, Europe will have to compete with these markets and will have to offer competitive price terms – this could lead towards a significant increase in price. If the gas consumption grows more moderately combined with a significant increase in domestic production, the need for import could be very limited. As a result, Asia would not play an important role in the international gas market. Europe would benefit from this situation as a monopsony would emerge and due to the diversification of modes of transport, Europe would have access to all potential sources[166] - the perfect scenario in terms of energy security.
Finally, the chances of LNG to improve security of supply go hand in hand with huge and unforeseeable risks.[167]

Also concerning the security of transport, LNG is not without risks, as many important intercontinental straits (Bosporus, Strait of Hormuz, Suez Canal, Panama Canal, Northwest passage) are critical and might be closed for various reasons.[168]

To sum up, LNG cannot be seen as a universal remedy – besides huge costs new threats emerge while old ones are reduced.

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[164] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 6, 7; H. Mattes, Die „Gas-OPEC", p. 4; J. Stern, GAS-OPEC, p. 2; S. Speiser, Die Debatte um ein Gaskartell und dessen Auswirkung für Europa, p. 18.
[165] V. Costantinia/ F. Graccevaa/ A. Markandyaa/ G. Vicinia, Security of energy supply: Comparing scenarios from a European perspective, p. 223.
[166] V. Costantinia/ F. Graccevaa/ A. Markandyaa/ G. Vicinia, Security of energy supply: Comparing scenarios from a European perspective, p. 223.
[167] See in this context J. Wybrew, The Security of Future Gas Supplies for the British Market, pp. 199 et seq.; C. von Hirschhausen/ A. Neumann, Security of 'Gas' Supply, p. 31; D. Helm, Towards an Energy Policy, 2002.
[168] A. Beukenkamp, Pipeline-to-Pipeline Competition: An EU Assessment, pp. 5 et seq.

b. New partners in the gas trade

Going back to the fear of Russia using the "energy weapon" a thesis often to appear is that European energy security can be found in diversifying away from Russian gas supplies. This debate is often driven by old fears of the Soviet threat leading to an extremely emotional analysis – and an often wrong conclusion.

However, history has proved the Soviet Union and later on Russia to be a reliable gas supplier to Western Europe for 40 years now, even during extremely difficult times, like the Vietnam War, Afghanistan or the collapse of the USSR.[169]

One proposal is to increase gas imports from the Middle East and the Caspian region. But it is hard to believe that any dependency on such a conflict ridden region is a good choice – compared Russia is far more stable.[170] Furthermore, pipeline from these regions would have to cross the territory of various transit countries before reaching the European market marking another source of danger.[171] Another idea is to increase supplies from Africa. In respect to North African countries rising domestic demand is most likely to limit their export capacity.[172] Although this restriction would not apply West African countries like Nigeria, their long term political stability bears huge risks.[173]

It becomes clear, that it is hard to find a politically stable supplier being able to deliver the needed amounts of gas besides having a safe transporting network (LNG or pipelines) in place. And for sure there is no one besides Russia matching these conditions for 40 years now.

[169] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, pp. 8, 15; S. Nies, Oil and gas delivery to Europe, An Overview of Existing and Planned Infrastructures, p. 99; A.-R. Börner, A German Perspective on Russia and the European Security of Natural Gas Supply, (OGEL) 7, 2009, p. 17; J. Guillet, Jérome, Gazprom as a Predictable Partner, pp. 14 et seq.

[170] B.S. Whist, Nord Stream: Not Just a Pipeline, pp. 50, 51; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 44.

[171] K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 44.

[172] J. Stern, The New Security Environment for European Gas, p. 25.

[173] J. Stern, The New Security Environment for European Gas, p. 25; K. Sadegh-Zadeh, Russia: A Threat to the European Gas Security?, (OGEL) 5, 2007, p. 44.

But finally, among all attempts to gain energy security - how expensive and complicated they might be - the best way to reach this aim is not a new on: energy efficiency.

Chapter 3:
Legal aspects of submarine pipelines

I. Introduction and general remarks

1. The need for a comprehensive and coherent international legal framework and the actual state of affairs

The first chapter of this thesis illustrates the increasing economic and geopolitical importance of cross-border pipelines. The growing use of this means of transport illustrates the internationalization of energy transportation networks. These projects "are international by definition because they are carried out outside of one State's territory or jurisdiction."[174] Therefore, the cross-border transport and transit of energy sources by pipelines implies a significant degree of cooperation between the parties affected, involving a complex balance of international political risks, regulatory issues and legal regulations.[175]

In addition it should be kept in mind that the transportation of oil and gas via a pipeline needs more than just the pipe itself. To operate correctly, various "associated facilities" are required.[176] This circumstance is of particular implication for this thesis as these constructions often need to be raced in maritime zones of third parties.[177]

Given the international nature of such projects the success often dependents upon the existence of coherent, effective and comprehensive international treaties.

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[174] S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 30.
[175] G. Picton-Turbervill, Financing and Structuring of Cross-Border Pipelines, Paper presented at the Conference of the IBA Section on Energy and Natural Resources Law (2–6 April 2000), p. 5.
[176] For example, Art. 1 of the Agreement between Britain and the Netherlands defines the term 'Associated Facilities' as "the pressure regulating facilities, filtration equipment, pressure safety system, metering facilities, compressing facilities, cooling and heating facilities, which may be installed and operated in connection with the Pipeline", see Agreement relating to the Transmission of Natural Gas through a Pipeline between the Kingdom of the Netherlands and the United Kingdom of Great Britain and Northern Ireland, The Hague, 21 March 2005, United Kingdom-Netherlands, 2398 UNTS, 251; quoted from S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 10.
[177] S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 10, 11.

To enable the often needed cooperation between the parties a reliable foundation is essential, which can only be provided by an adequate international legal framework.[178] As a result, the role of international law is gaining of importance; in the case of cross-border pipelines, the demand for clear regulations is vital. This applies especially for pipeline projects involving regions and countries with less advanced legal and regulatory systems.[179] But without bilateral and multilateral treaties providing the legal foundation on which specific agreements relating to international pipeline projects are based, risks and problems will remain.[180]

Nevertheless, the drafting of international frameworks for the sector of cross-border pipelines remains surprisingly poor.[181] An insufficient or contradictory legal framework can aggravate the existing political and economic challenges. As opposed to the actual situation in the sector of the transport of oil and gas by pipelines, other modes of international transport such as navigation, railroad transport and aviation can rely on a broad legal foundation.

The lack of such a comprehensive legal base for cross-border pipelines results in diverse international agreements between counties, as well as between states and private companies, aiming to provide legal and financial security to enable these international projects.[182] The majority of recent international field-to-coast and coast-to-coast pipeline projects - at least if they are located in the North Sea - have bilateral agreements arranged between the concerned States before the projects have been

[178] The Legal Status of International Gas Pipelines, UN Economic Commission for Europe, UN Doc. ST/ECE/GASI 21 (1967).

[179] S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 5, 30.

[180] Russian Oil Transport and Export Study: Strategic Export Expansion Options and Legal, Contractual and Regulatory Framework, World Bank (1997), 247; S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 5.

[181] S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 5.

[182] S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 6, pointing out that there are different forms of treaties relating to cross-border pipeline projects. Firstly, there are framework agreements with a more general approach, providing general principles and obligations applying to all international pipeline constructions shared by the signing parties (for example Framework Agreement Concerning Cross-Boundary Petroleum Co-operation, Oslo, 4 April 2005, UK-Norway, Treaty Series, Norway No.1 (2006), Cm. 6792). Secondly, there are several treaties only dealing with specific pipelines (e.*g.* Agreement on Principles Applicable to a Northern Natural Gas Pipeline (with Annexes), Ottawa, 20 September 1977, USA-Canada, Exchange of notes constituting an agreement amending the above-mentioned Agreement, Washington, 6 June 1978, 1230 1086 UNTS 343; Crude Oil Pipeline Agreement, Baghdad, 1973, Turkey-Iraq, T.C. Resmi Gazete, Official Journal of the Republic of Turkey (17 June 1975)).

implemented. Consequently, all these projects have their own legal and regulatory regime – with the exception of the Nord Stream Pipeline project, where no international agreement concerning this pipeline subsists.[183]

While improving the legal framework at national level can also help to reduce legal problems in the sector of gas and oil pipelines,[184] international law is still of huge importance for these constructions – and needed to set up a reliable legal framework for all parties involved. Unfortunately, this legal framework turns out to be in the need of improvement and elucidation.[185]

2. The legal frameworks

a. An overview

Although there are various instruments of global application relevant for cross-border pipelines, generally the UNCLOS from 1982 is mentioned first. This "umbrella" treaty,[186] widely regarded as "the most comprehensive, complex and multifaceted international treaty ever adopted",[187] provides a legal and institutional framework for the utilization of the ocean and its resources. The several other legal frameworks are of varying significance for the cross-border pipelines.[188]

Especially in the area of nature and biodiversity protection, several multilateral environmental agreements (MEAs) provide obligations with the possible result of limiting activities concerning the laying and operation of international submarine pipelines.[189] One of these agreements is the 1992 Convention on Biological Diversity

[183] S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 16, 30.
[184] Russian Oil Transport and Export Study: Strategic Export Expansion Options and Legal, Contractual and Regulatory Framework, World Bank (1997), 247; S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 5.
[185] S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 16.
[186] UN Doc. A/44/461, Law of the Sea, Protection and Preservation of the Marine Environment, Report of Secretary General, 18. September 1989, p. 5, para. 7; see also See also E. Franckx, Regional Marine Environment Protection Regimes, p. 311, 315; A. E. Boyle, Further Developments in the Law of the Sea Convention: Mechanisms for Change, p. 564.
[187] S. Vinogradov, Challenges of Nord Stream, p. 34; see also S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 61; T.T.B. Koh, A Constitution of the Oceans, p. 1 ff; Scovazzi, The UNCLOS and the New Trends in International Law of the Sea, p. 321.
[188] S. Vinogradov, Challenges of Nord Stream, p. 6, 8, 30.
[189] S. Vinogradov, Challenges of Nord Stream, p. 30.

(CBD).[190] Although this convention does not contain any regulations directly concerning offshore operations such as the laying of submarine pipelines, it could well influence these activities by providing additional conditions or restrictions. [191] One of the main goals of this treaty is the conservation of biological diversity and the sustainable use of its components. For example, the parties are obliged to oversee activities which are likely to have a negative impact on the conservation and sustainable use of biological diversity which leads to the obligation to run Environmental Impact Assessments to minimize potential risks.[192] This group of multilateral environmental agreements of global application also includes, among others, the 1972 UNESCO Convention on the Protection of the World Cultural and Natural Heritage, supporting preservation of sites, habitats and other natural areas, including marine, of "outstanding universal value",[193] and the Ramsar Convention on Wetlands of International Importance from 1971 promoting the conservation of listed wetlands and their "wise use".[194] Typically, these agreements are complemented by further agreements at the regional level. Often this regional approach is preferable as a consensus is more likely to be reached quickly.[195]

Although the United Nations Convention on the Law of the Sea is primarily concerned with establishing a global legal framework governing all aspects of the utilization of the seas, the importance of a regional approach clearly finds its expression in the UNCLOS by explicitly referring to regional rules, programs and cooperation. Finally, the UNCLOS not only allows, but even promotes regional deviations.[196]

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[190] Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, reprinted in: ILM 31 (1992), 822.
[191] S. Vinogradov, Challenges of Nord Stream, p. 30, 31.
[192] S. Vinogradov, Challenges of Nord Stream, p. 30, 31.
[193] Convention on the Protection of the World Cultural and Natural Heritage, Paris, 16 November 1972, reprinted in: ILM 11 (1972), 1358.
[194] Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar, 2 February 1971, 996 UNTS 245; see for more information concerning these both conventions S. Vinogradov, Challenges of Nord Stream, p. 30, 31.
[195] G. Handl, Environmental Security and Global Change: The Challenge to International Law, Yearbook of International Environmental Law 1 (1990), p. 13; S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 32.
[196] See, e.g., P. Birnie/A. Boyle/C. Redgewell, International Law and the Environment (2009), 390; S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 32.

However, all these agreements cannot provide general legal frameworks for cross-border pipelines and are rarely of direct application to these means of transportation. Therefore, in order to understand the law concerning international (submarine) pipelines, it is necessary to examine the convention, which is generally regarded as the most important one in the sector of the international law of the sea,[197] the UNCLOS. Relevant regional agreements will be examined in the following parts of this dissertation.

b. The UNCLOS – general remarks, facts and history

The idea of the freedom of the seas goes back to the seventeenth century, reducing national rights and jurisdiction to a narrow coastal strip – the rest of the sea was meant to be free to all and belonging to none.[198]

Until the twentieth century, this situation remained unchanged. By then, the international law of the sea was mainly based on customary international law. Only some aspects had been regulated by international conventions, e.g. the protection of submarine telegraph cables.[199] But the various and increased utilization of the international waters by activities undiscovered two decades earlier became commonplace. Furthermore, extended national claims over offshore resources from the middle of the century illustrated clearly that an international agreement was needed to coordinate the diverse beneficiary interest of the different states and to ensure that the environment is protected.[200] There were particular concerns over

[197] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 61; S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 34, T.T.B. Koh, A Constitution of the Oceans, p. 1 ff; Scovazzi, The UNCLOS and the New Trends in International Law of the Sea, p. 321.
[198] United Nations Division for Ocean Affairs and the Law of the Sea, The United Nations Convention on the Law of the Sea: A historical perspective.
[199] International Convention for the Protection of Submarine Telegraph Cables, 14.03.1884.
[200] G. Dahm/ J. Delbrück/ R. Wolfrum: Völkerrecht, Band I/2, 340, § 116; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 62; see also United Nations Division for Ocean Affairs and the Law of the Sea, The United Nations Convention on the Law of the Sea (A historical perspective), available at:
http://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm#Historical Perspective.

fishing and the threat of pollution, e.g. by navigation, the navies of the maritime powers were competing to achieve supremacy over the oceans and the expectations of a rich harvest of the resources of the ocean and especially on the sea floor lead into a growing and dangerous tension between coastal states – the ocean was about to turn into "another arena for conflict and instability."[201] In 1945, President Harry S Truman, partly because of oil interests, extended the exclusive jurisdiction and control of the United States over all natural resources of the continental shelf (*Truman Proclamation*[202]*)*. This is widely regarded as the first major challenge to the institution of the freedom of the seas[203] and other nations followed soon claiming maritime areas as their territory.[204] It became clear that only a more stable order setting clear rules could avoid fatal conflicts and allowing a better management of ocean resources.

As a result, the UN tried to find a general agreement for the international law of the sea since the middle of the last century. To achieve this goal, the United Nations held three Conferences on the Law of the Sea. The first two took place in Geneva in 1958 and 1960, the third one in New York lasting from 1973 till 1982.

The achievements of the first conference (Convention on the High Seas[205], Convention on the Continental Shelf[206], Convention on the Territorial Sea and the Contiguous

[201] United Nations Division for Ocean Affairs and the Law of the Sea, The United Nations Convention on the Law of the Sea (A historical perspective), available at: http://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm#Historical Perspective.

[202] Presidential Proclamation No. 2667 concerning the Policy of the United States with Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf, 28. September 1945; Department of State Bulletin 13 (1945), 485; ST/ LEG/ SER.B/ 1, 38.

[203] United Nations Division for Ocean Affairs and the Law of the Sea, The United Nations Convention on the Law of the Sea (A historical perspective), available at: http://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm#Historical Perspective; see also R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 174-178; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 99.

[204] For this development straight after the *Truman Proclamation* with e.g. the claims of Argentina in 1946, Chile and Peru in 1947, and Ecuador in 1950 see United Nations Division for Ocean Affairs and the Law of the Sea, The United Nations Convention on the Law of the Sea (A historical perspective), available at: http://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm#Historical Perspective.

[205] Convention from the 29. April 1958, entry into force at the 30. September 1962; UNTS 450, 11.

[206] Convention from the 29. April 1958, entry into force at the 30. September 1964; UNTS 499, 311.

Zone[207], Convention on Fishing and Conservation of the Living Resources of the High Seas[208]) marked a huge first step on the way to establish an international legal framework. However, the increased and diverse international usage of the sea displayed soon that more detailed regulations were needed.[209] Unfortunately, the second conference did not resolve the pressing issues or result in any new agreements. After nearly ten years of discussion at the third Conference on the Law of the Sea, in 1982 an international and all-encompassing agreement (the United Nations Convention on the Law of the Sea) was reached, regulating all maritime areas (the deep sea, the ocean floor and the various coastal zones) as well as content, extent and limits of usage of the sea.[210] This agreement, signed in December 1982 in Montego Bay, Jamaica, entered into force on the 16th November 1994. Today, the convention is ratified by 162 states, including all countries of the European Union.[211] Although the United States helped to shape the Convention and signed the 1994 Agreement on Implementation, has not signed the convention.[212] All littoral states of the Baltic Sea have signed and ratified the convention and today the UNCLOS is generally regarded as the most important convention in the sector of the international law of the sea.[213] Because of its character as legal framework and its huge importance, the United Nations Convention on the Law of the Sea is also called "Constitution of the Oceans".[214]

The challenge for this convention was to find a balance between the different and opposed interests of the international community. On the one hand, the UNCLOS had to take the interests of all states - regardless of their geographical status - in

[207] Convention from the 29. April 1958, entry into force at the 10. September 1964; UNTS 516, 205-282.
[208] Convention from the 29. April 1958, entry into force at the 20. March 1966; UNTS 559, 285.
[209] G. Dahm/ J. Delbrück/ R. Wolfrum: Völkerrecht, Band I/2, 341, § 116; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 63.
[210] See S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 63.
[211] Retrieved 15.5.2012.
[212] Duvic-Paoli, La Convention des Nations Unies sur le Droit de la Mer, p. 2; see for a detailed analysis of the reasons leading to this decision: Morell, The Law of the Sea, An Historical Analysis of the 1982 Treaty and Its Rejection by the United States, p. 1 ff.
[213] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 61; S. Vinogradov, Challenges of Nord Stream, (OGEL) 7, 2011, p. 34, describing the UNCLOS as "the most comprehensive, complex and multifaceted international treaty ever adopted." See also T.T.B. Koh, A Constitution of the Oceans, p. 1 ff; Scovazzi, The UNCLOS and the New Trends in International Law of the Sea, p. 321.
[214] T.T.B. Koh, A Constitution of the Oceans, p. 1 ff; Scovazzi, The UNCLOS and the New Trends in International Law of the Sea, p. 321.

maintaining various freedoms of the sea into account. On the other hand the convention had to consider the interests of coastal States in ensuring their rights in the adjacent maritime areas.[215]

Compared to other uses of the sea governed by UNCLOS, relatively few provisions in this convention explicitly refer to submarine pipelines - not least because there were not many of them in place at the time the law was written. Of specific importance in this context are the following ones: Article 56 (Rights, jurisdiction and duties of the coastal State in the EEZ), Article 58 (Rights and duties of other States in the EEZ), Article79 (Submarine cables and pipelines on the continental shelf), Article 87 (Freedom of the high seas), Article 112 (Right to lay submarine cables and pipelines), Article 113 (Breaking or injury of a submarine cable or pipeline), Article 114 (Breaking or injury by owners of a submarine cable or pipeline of another submarine cable or pipeline), Article 115 (Indemnity for loss incurred in avoiding injury to a submarine cable or pipeline).[216] This listing illustrates that the legal status of submarine pipelines depends upon the different maritime zones: territorial sea, archipelagic waters, exclusive economic zone, continental shelf and the high seas.[217]

The author will use the Nord Stream Pipeline project as a case study to provide a general overview of the existing legal regimes and to examine, whether they appropriately and comprehensively address the legal challenges associated with construction and operation of international submarine pipelines. In this process, the author will also investigate ambiguities and potential gaps in the current regulations.

[215] S. Vinogradov, Challenges of Nord Stream, p. 35.
[216] S. Vinogradov, Challenges of Nord Stream, p. 35.
[217] S. Vinogradov, Challenges of Nord Stream, p. 35.

II. The freedom and the right to lay submarine pipelines according to the UNCLOS

1. The history of the freedom to lay submarine pipelines and cables

The ocean is an important medium for communication and cooperation between states. As a result, the freedom of the high seas is also regarded as freedom or right of communication (*ius communicationis*).[218] The freedom to lay submarine pipelines to transport goods and to lay cables to communicate is an essential part of this right.[219] Establishment of this freedom, however, was long debated.

Maritime trade has existed for thousands of years and therefore it has been necessary to regulate it through standards and customs.[220] As a result of the lively exchange of goods, especially in the eastern part of the Mediterranean Sea, in the fifth century BC the first concrete freedom of the sea was established and began to gain strength. During the rule of the Roman Empire, the concepts of freedom of the deep sea became legal principal, being regarded as part of the *ius gentium* - the ocean belonged to all, and its utilization should be allowed to all.[221]

But this legal opinion was not without dispute. *Hugo Grotius* reasons in his famous discourse from 1609 "*Mare liberum*"[222] the need for the freedom of the deep sea. In contrast, just a few years later (1635), John Selden justifies the British claim to huge parts of the North East Atlantic in the book "*Mare clausum*".[223] In the Baltic Sea, the area I seek to explore, the development towards establishing the freedom to lay submarine pipelines as a general principle had to face exceptionally intense resistance.

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[218] This illustrates the *Corfu Channel Case* (verdict from the 9th April 1949, ICJ Reports 1949, (4) 22) as the International Court of Justice sustained his verdict on "the principle of the freedom of maritime communication"; I. Brownlie, Principles of Public International Law, p. 226; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 67.

[219] For more details see S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 68.

[220] For more details concerning the freedom of the oceans see Stier-Somlo, Die Freiheit der Meere und das Völkerrecht, p. 34 ff.; G. Gidel, Le droit international puplic de la mer, p. 127 ff; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 68.

[221] W. Graf Vitzthum, Begriff, Geschichte und Rechtsquellen des Seerechts, (1), p. 10-22.; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 68-69.

[222] Grotius, Mare liberum, quod Batavis competit ad Indicana commercia.

[223] Selden/ Boxhorn/ Heuterus, Mare clausum, seu De Dominio Maris.

For example in the sixteenth and seventeenth century, the littoral states – especially Sweden and Russia – claimed sovereignty for the Baltic Sea (*Dominium Maris Baltici*).[224] The USSR regarded the Baltic Sea as "*mare clausum*",[225] leading to restriction of the freedom of navigation.[226]

This disagreement continued for centuries until the principle of the freedom of the oceans became general opinion during the nineteenth century.[227] However, this principle was not unchallenged in the following decades. The increased and varied utilization of international waters and the extended national claims over offshore resources since the middle of the last century threatened this status. For example, the extension of the exclusive jurisdiction and control of the United States over all natural resources of the continental shelf in 1945 (*Truman Proclamation)*.[228]

It became clear that only a more stable order which set clear rules could avoid fatal conflicts and allow a better management of ocean resources.

One important step of this development is the *International Convention for the Protection of Submarine Telegraph Cables* from 1884. This agreement takes the freedom of laying cables on the seabed for granted, although it does not mention it explicitly.[229] The fact that submarine pipelines are not mentioned at all does not negate the importance of this convention for the described process, as this lack of mention harks back to the simple fact that submarine pipelines were not used

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[224] Gelberg, Maritime Cooperation of the Baltic States, p. 17 ff; Jenisch, The Baltic Sea: The Legal Regime and Instruments for Cooperation, p. 53; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 69.

[225] The term "mare clausum" (closed sea) is used to describe a sea, ocean or other navigable body of water under jurisdiction of states which is closed or not accessible to other states (see e.g. R. McKenna, The Dictionary of Nautical Literacy (2003), p.225).

[226] Kiderlen, The Baltic: Mare Clausum Lutheranum, p. 48; M.A. Fitzmaurice, International Legal Problems of the Environmental Protection of the Baltic Sea, p. 11; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 70.

[227] R. Wolfrum, Hohe See und Tiefseeboden, p. 296; W. Graf Vitzthum, Begriff, Geschichte und Rechtsquellen des Seerechts, (1), p. 32; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 69.

[228] See for more information concerning this development p. XXX (Introduction Law). See also R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 174-178; United Nations Division for Ocean Affairs and the Law of the Sea, The United Nations Convention on the Law of the Sea: A historical perspective). For the wording of the *Truman Proclamation* see Presidential Proclamation No. 2667 concerning the Policy of the United States with Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf, 28. September 1945; Department of State Bulletin 13 (1945), 485; ST/ LEG/ SER.B/ 1, 38.

[229] D.P. O´Connell/ I. A. Shearer, The International Law of the Sea, Vol. I, p. 508; R. J. Dupuy/ D. Vignes, A Handbook of the Law of the Sea, Vol. II, p. 978, 979; R. Lagoni, Submarine Cables, p. 48.

generally at this time. The significance of this convention for the development of the freedom and the right to lay submarine pipelines is particularly based in its immense influence on several aspects of the *UNCLOS*.[230]

The first time the freedom to lay submarine cables in the deep sea was mentioned explicitly was in a resolution of the IDI (Institut de Droit International) at a conference in Lausanne in 1927, trying to summarize the liberties of the sea: "L´Institut de Droit international déclare que le principe de la liberté de la mer comporte notamment les consequences qui suivent (…) Liberté d´immersion en haute mer des cables sous-marins."[231] About 20 years later, in 1948, the International Law Association presented the first draft of a regulation concerning the right to lay pipes on the continental shelf.[232]

This step was followed by the three famous United Nations Conferences on the Law of the Sea which leads towards the legal framework which applies at the present day. Before this framework was established, however, years of divergences had to be overcome by the parties involved.

The first of the three Conferences resulted in the already mentioned four agreements. One of them, the Convention on the High Seas from 1958, points out in Art. 2, that the high sea is "open to all nations, no State may validly purport to subject any part of them to its sovereignty." Furthermore, the freedom to lay submarine cables and pipelines is explicitly mentioned.[233] According to Art. 26.1. of this agreement, all states are free to "lay submarine cables and pipelines on the bed of the high seas." Another novelty of international law included in this convention is set by Art. 24, being the first regulation for international environmental law referring to submarine pipelines: "Every State shall draw up regulations to prevent pollution of the seas by the discharge of oil

[230] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 72.

[231] Para. I.3. of the resolution „La Navigation en Haute Mer" (1. September 1927); C.J. Colombos, The International Law of the Sea, p. 64; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 73.

[232] „The recognition of the control and jurisdiction of the coastal state over the sea-bed and subsoil of the continental shelf outside territorial waters does not affect (…) the existing international law with regard to the laying and operation of cables or pipelines on the sea-bed, subject however to the right of the costal state to take reasonable measures in connection with the exploration and exploitation of the resources of the continental shelf." Quoted from S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 73. The author also points out, that this passage is already quite similar to art. 79 UNCLOS.

[233] Article 2.3 Convention on the High Seas: "(3) Freedom to lay submarine cables and pipelines"

from ships or pipelines or resulting from the exploitation and exploration of the seabed and its subsoil, taking account of existing treaty provisions on the subject." Good

Also the liberties documented years later in the third Conference on the Law of the Sea mainly hark back to the Convention on the High Seas from 1958, which displays the huge importance of this conference from 1958 for the development of the principle of the freedom and right to lay submarine pipelines. The enumeration of liberties mentioned in Art. 87.1. UNCLOS harks back to Art. 2 *Convention on the High Seas,* added by the freedom to "construct artificial islands and other installations" such as the "freedom of scientific research". Art. 112.1 UNCLOS[234] documents – like its predecessor Art. 26.1. *Convention on the High* Seas - the right "to lay submarine cables and pipelines on the bed of the high seas beyond the continental shelf".

The particular relevance of the UNCLOS for this thesis is also revealed by the fact that this convention is the first international agreement in which submarine pipelines are of any specific importance. Art. 79.2 and 3. UNCLOS are the first regulations in the sector of international law, in which submarine pipelines are of more importance than submarine cables.[235] This highlights the fact that the states realized the danger resulting from the laying, the operation and the non-removing of these pipelines for marine flora and fauna.[236]

Finally, the evolution of the freedom to lay submarine pipelines and cables is different from the "classic" liberties of the high sea, like navigation. Whereas there have been numerous discussions regarding the freedom of navigation since seventieth century, the freedom to lay submarine pipelines came into focus less than 100 years ago. But

[234] Article112 UNCLOS: "1. All States are entitled to lay submarine cables and pipelines on the bed of the high seas beyond the continental shelf. 2. Article 79, paragraph 5, applies to such cables and pipelines."
[235] *Article 79 UNCLOS*: "2. Subject to its 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 from pipelines, the coastal State may not impede the laying or maintenance of such cables or pipelines. 3. The delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State."
[236] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 77; see also with a detailed description of the different sessions leading to the final version of the UNCLOS: Morell, The Law of the Sea, An Historical Analysis of the 1982 Treaty and Its Rejection by the United States, p. 51 ff.; R. J. Dupuy/ D. Vignes, A Handbook of the Law of the Sea, Vol. I, p. 176 ff.

this discussion gained importance in recent years, which also show the controversies about the *Nord Stream Pipeline*. One example for the shift of opinion displayed by the growing intention paid to possible dangers and impacts on the environment, is the Espoo-Convention,[237] which resulted in the obligation to carry out an environmental impact assessment before laying submarine pipelines.[238]

2. The freedom to lay submarine pipelines according to the current laws

The liberties of the sea are closely connected to the rights and duties of the coastal states. The kind and extent of those freedoms depends upon the specific kind of maritime zone and the exercised rights of the state in question. Restrictions or even total elimination of these freedoms is possible. In the following chapter, the different zones will be examined and the issues concerning the freedom to lay submarine pipelines discussed.

No special regulations apply for the laying and the operation of submarine pipelines in the *contiguous zone* - a zone up to the latitude of "24 nautical miles from the baselines from which the breadth of the territorial sea is measured."[239] The same applies for the freedom to lay submarine pipelines in straits used for international navigation. The specific regulations of the UNCLOS (Art. 34 - 36) do not dictate any particular treatment.

Another legal situation seems to apply for archipelagic states as respective special regulations are laid down in the UNCLOS. According to this legal framework, an archipelagic State has sovereignty over such waters, the subsoil and seabed. Only concerning the latter, there is one limitation of the archipelagic States' right to exercise full control determined in the UNCLOS. These states must "respect existing submarine cables laid by other States and passing through its waters without making a

[237] Convention from the 25. February 1991, entry into force 10. September 1997.
[238] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 78.
[239] Article 33.2 UNCLOS. See also the distinction to the *United Nations Convention on the Territorial Sea and the Contiguous Zone* from 1958, referring to a maximum of twelve miles in its Art. 24.2: "The contiguous zone may not extend beyond twelve miles from the baseline from which the breadth of the territorial sea is measured."

landfall."[240] They are also required to "permit the maintenance and replacement of such cables upon receiving due notice of their location and the intention to repair or replace them."[241] But the special regulations for archipelagic States are not of any greater importance for this analysis. Firstly, unlike several other relevant provisions of the UNCLOS, they do not apply to (submarine) pipelines, but only to cables that are already in place.[242] And secondly there are no archipelagic states in the meaning within Art. 46 lit. (a), (b) UNCLOS[243] in the Baltic Sea.

a. The freedom and the right to lay submarine pipelines in the high sea and the area

Traditionally, the legal regime of the high seas has been based on the principles of free use. Art. 87.1 UNCLOS determines that "The high seas are open to all states, whether coastal or land-locked." According to the clear letter of this regulation ("*inter alia")*, the enumerated liberties of the high seas are not conclusively regulated. As a result, no way of utilization of the high seas is *a priori* excluded. Essentially the freedom of the high seas includes every possible use as long as this usage is compatible with the status of the high sea as well as other utilizations and the regulations of the UNCLOS.[244]
One component of the principle of the freedom of the high sea contains a negative element, aiming for removal or resistance against any regulations restricting the

[240] Art. 51.2. UNCLOS.
[241] Art. 51.2. UNCLOS.
[242] S. Vinogradov, Challenges of Nord Stream, p. 38; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 89.
[243] Article 46 UNCLOS: "For the purposes of this Convention: (a) "archipelagic State" means a State constituted wholly by one or more archipelagos and may include other islands; (b) "archipelago" means a group of islands, including parts of islands, interconnecting waters and other natural features which are so closely interrelated that such islands, waters and other natural features form an intrinsic geographical, economic and political entity, or which historically have been regarded as such."
[244] G. Dahm/ J. Delbrück/ R. Wolfrum: Völkerrecht, Band I/2, 345, § 117; R. R. Churchill/ A. V. Lowe, The Law of the Sea, p. 205, 206; D. König, Durchsetzung internationaler Bestands- und Umweltschutzvorschriften auf Hoher See, p. 59; A. Bleckmann, Völkerrecht, p. 218; S. J. Burton, Freedom of the Seas, p. 1172-1135; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 78; S. Vinogradov, Challenges of Nord Stream, p. 38.

utilization of the high seas by states or international organizations.[245] Besides this, the principle also contains an element of mutual consideration: "These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area."[246]

aa. The legal status of the high sea

The UNCLOS does not contain a positive definition of the legal status of the high sea and only declares in its Art. 89, that the high sea cannot be occupied by a single state.[247] A nearly identical phrasing had been already used years ago by the 1958 United Nations Convention on the High Seas.[248] Attempts from the literature to qualify the legal status as *res nullius*[249] or *res communis omnium*[250] proved to be difficult.[251] But as the UNCLOS provides detailed regulations for all types of utilization of the high seas, an abstract definition of the legal status of the high seas is dispensable and not illuminating for the topics discussed in this thesis.[252]

[245] G. Dahm/ J. Delbrück/ R. Wolfrum: Völkerrecht, Band I/2, 346, § 117; ; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 79.
[246] Art. 87.2. UNCLOS.
[247] Art. 89 UNLOS*:* "No State may validly purport to subject any part of the high seas to its sovereignty." See also T. Treves, High Seas, EPIL, p. 1; G. Dahm/ J. Delbrück/ R. Wolfrum: Völkerrecht, Band I/2, 342, § 116.
[248] Art. 2.1 Convention on the High Seas: "The high seas being open to all nations, no State may validly purport to subject any part of them to its sovereignty." See in this context S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 81. The author points out that the formulation of both regulations is nearly identical and provides an inside view into other similarities and differences of the UNCLOS and the United Nations Convention on the High Seas.
[249] L. Cavaré/ J.P. Quéneudec, Le Droit International Public Positif, Tonne II, p. 718; C. Rousseau, Droit International Public, p. 228.
[250] C.J. Colombos, The International Law of the Sea, p. 66, § 79; A. Cassese, International Law, p. 90; F. Berber, Lehrbuch des Völkerrechts I, p. 337.
[251] G. Dahm/ J. Delbrück/ R. Wolfrum: Völkerrecht, Band I/2, 342, § 116; I. Brownlie, Principles of Public International Law, p. 224; G. Gidel, Le droit international puplic de la mer, Tome I, p. 213; S. J. Burton, Freedom of the Seas, p. 1151; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 81.
[252] K. Doehring, Völkerrecht, § 9 See- und Wasserrecht, p. 228; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 81.

bb. The legal status of the area

In contrast to the high sea, the UNCLOS provides a legal definition for the term "area" in its Art. 1.1(1): *"*"'Area" means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction.

A set of regulations for the area is provided by Part XI of the UNCLOS. The ratio between those and the ones concerning the liberties of the high seas (Part VII UNCLOS) is regulated in Art. 135 UNCLOS. Neither part XI (regulations for the area) "nor any rights granted or exercised pursuant thereto shall affect the legal status of the waters superjacent to the Area or that of the air space above those waters."[253] Both regimes exist alongside each other and in harmony with each other. This illustrates the order of consideration laid down in Art. 87.2. UNCLOS[254] and Art. 147.1 and 3. UNCLOS.[255]

In contrast to navigation or fishing, the area – as well as the sea - is used permanently for the laying of submarine cables or pipelines. This increased interference resulted into a disagreement lasting until the middle of the 20th century regarding whether or not the utilization of the area should be part of the general concept of the freedom of the high seas.[256] But finally, the opinion that the freedom of the high sea such as the restraint of occupation includes the area became prevalent.[257] Besides this, Art. 145 UNCLOS assumes the freedom to lay submarine pipelines in the area as it points out, that "Necessary measures shall be taken in accordance with this Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority shall adopt appropriate rules, regulations and procedures for *inter alia*: (…) the (…) construction and operation or maintenance of installations, pipelines and other

[253] *Art. 135 UNCLOS.* See also A. G. Oude Elferink, The Regime of the Area, p. 144-146; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 82.

[254] "These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area."

[255] "1. Activities in the Area shall be carried out with reasonable regard for other activities in the marine environment. (…) 3. Other activities in the marine environment shall be conducted with reasonable regard for activities in the Area."

[256] R. Wolfrum, Die Internationalisierung staatsfreier Räum, p. 236; W. Heller, Das International Seekabelrecht in Friedenszeiten, p. 50 ff.; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 82.

[257] K. Hakapaa, Marine Pollution in International Law, p. 285; R. Wolfrum, Die Internationalisierung staatsfreier Räum, p. 236; W. Graf Vitzthum, Der Rechtsstatus des Meeresboden, p. 236; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 83.

devices related to such activities."[258] Therefore concerning the topic of this thesis, the legal status of the area is congruent with the one of the high sea – all regulations in this context applying to the high sea also do apply to the area.

cc. The freedom to lay submarine pipelines and the restraint of occupation

In contrast to other freedoms of the oceans like navigation or fishing, the laying of submarine cables or pipelines is stationary and involves a durable use of the ocean floor of the high seas and is also called "the right of immersion."[259] This bares the risk of affecting other emoluments of the ocean or affecting them with a higher intensity than other utilizations would, for example the exploitation of the mineral deposits in an area in which submarine pipelines or cables have been laid. As a result, the restraint of occupation is of specific importance in the context of laying submarine cables and pipelines.[260] Art. 137.1 UNCLOS meets these requirements without any ambiguity: "No State shall claim or exercise sovereignty or sovereign rights over any part of the Area or its resources, nor shall any State or natural or juridical person appropriate any part thereof. No such claim or exercise of sovereignty or sovereign rights nor such appropriation shall be recognized." This article especially applies for the laying of submarine cables as well as to pipelines and constitutes a concretization of the restraint of occupation documented in Art. 89 UNCLOS.[261] Therefore, the submarine pipelines laid on the ground of the high seas are not part of the national territory of the laying state, since the laying does not lead into occupation of the ocean floor in the vicinity of this means of transportation. The laying of submarine pipelines is just one of

[258] See also M. Roelandt, La condition juridique des pipelines, p. 160; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 203; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 83.
[259] R. R. Churchill/A. V. Lowe, The Law of the Sea (1999), p. 205; S. Vinogradov, Challenges of Nord Stream, p. 38.
[260] G. Dahm/ J. Delbrück/ R. Wolfrum: Völkerrecht, Band I/2, 386, § 122; R. Wolfrum, Hohe See und Tiefseeboden, p. 323, 324; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 204; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 357; R. Lagoni, Submarine Cables, p. 48; R. Lagoni, Legal Aspects of Submarine High Voltage Direct Current Cables, p. 41; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 83.
[261] "No State may validly purport to subject any part of the high seas to its sovereignty." See also R. Wolfrum, Die Internationalisierung staatsfreier Räum, p. 395; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 84.

the various forms of utilization of the ocean floor, but not its occupation. Other emoluments close to the laid submarine pipeline might be affected or aggravated – especially because of the demand for consideration – but not excluded. Exempli gratia, states can lay cables or pipelines over already laid ones.[262]

(1) The content and extent of the freedom to lay submarine pipelines

To define the content and extent of the freedom to lay submarine pipelines it is inevitable to examine which activities are included in this freedom: Is only the laying and operation contained, or also various measures to maintain and repair the means of transport? What about measures beforehand the laying, such as exploration of the ocean floor along the planned pipeline? Is the autonomous decision about the removal or the continuance of decommissioned pipelines part of the freedom to lay submarine pipelines?
The UNCLOS does not contain an article mentioning all these activities clearly. Different operations are described in different articles, making it hard to give a general answer whether or not all these activities are included in the freedom to lay submarine pipelines.

(a) The laying of submarine pipelines in the strict sense of the word

According to the UNCLOS, the "freedom to lay" submarine pipelines means the process of laying in the correct meaning of the word, normally the bringing down of the means of transport from a ship to the ocean floor. This right is clearly granted in Art. 87.1. lit (c), Art. 79.1. and Art. 112.1. UNCLOS. If it is necessary to dig in the pipeline, activities in this context are included in this freedom as well.[263]
However, there are several limitations on the general freedom of the high seas which also affects the freedom to lay submarine pipelines. Aiming not to affect the legitimate utilization of the ocean and the interests of other States, each of these rights can be

[262] See with a detailed analysis: S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 84.
[263] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 198; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 85.

exercised subject to the obligation of "due regard". In respect of submarine pipelines, due regard must be paid to the activities on the area and the deep seabed related to the exploration and exploitation of its mineral resources.[264] Furthermore, Art. 79.5. UNCLOS requires States to "have due regard to cables or pipelines already in position. In particular, possibilities of repairing existing cables or pipelines shall not be prejudiced." Although this article is a component of Part VI of the UNCLOS, and therefore a regulation only directly concerning the continental shelf, it also applies to high-seas pipelines.[265]

To summarize, the customary right of the international community of states to lay submarine pipelines on the high seas was reiterated by the United Nations Convention on the Law of the Sea. In order to provide a legal framework suitable for the future, the regulations take new uses of the sea into account.

(b) The operation and maintenance of the submarine pipeline

The fact that the freedom to lay the pipeline is clearly and undoubtedly granted by the UNCLOS does not automatically mean that all other activities in that regard are included. It has to be examined whether the operation and maintenance of submarine pipelines is included in the freedom to lay them.

The operation of the pipeline means to use it in its designated way.[266] In contrast to this, the maintenance of the pipeline includes activities to ensure the operation of the pipeline or cable, such as reparations and inspections.[267] Both terms are mentioned in various articles of the UNCLOS. Although these mentions refer to maritime zones other than the high sea, these regulations of the UNCLOS provide valuable information about

[264] S. Vinogradov, Challenges of Nord Stream, p. 39; see in this context for example Art. 87.2. UNCLOS.
[265] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 198; S. Vinogradov, Challenges of Nord Stream, p. 39; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 85; J. Crowley, International Law and Coastal State Control over the Laying of Submarine Pipelines on the Continental Shelf, p. 44.
[266] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 85.
[267] The distinction between these two terms is also illustrated by Art. 145 lit. (a) UNCLOS: "operation or maintenance"; M. Roelandt, La condition juridique des pipelines, p. 128; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, pp. 198, 199; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 85.

the balance between operation and maintenance of the pipeline on the one hand and the principle of the freedom to lay submarine pipelines in the high seas on the other hand.

Art. 58.1. UNCLOS determines for the exclusive economic zone that the operation of submarine pipelines or cables is included in the freedom to lay these. The same - but this time referring to the zone of the continental shelf - is regulated for the "maintenance" of the pipeline in Art. 79.2. UNCLOS: "Subject to its 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 from pipelines, the coastal state may not impede the laying or maintenance of such cables or pipelines." Besides this, the right to repair submarine pipelines or cables is established in Art. 79.5 UNCLOS[268] and assumed in Art. 114 UNCLOS.[269] The right or freedom of "construction and operation or maintenance" of pipelines is assumed in Art. 145 lit (a) UNCLOS.

This equation of operation and maintenance with the laying of the submarine pipelines illustrates that containing the operation and maintenance of submarine pipelines or cables in the freedom to lay these is a general principle of the UNCLOS applying to all maritime zones.

But even without these mentions in the United Nations Convention on the Law of the Sea, the result would be of no difference. The freedom to lay submarine pipelines or cables would not make any sense without the right to use and to maintain them. Therefore, these activities have to be treated like the laying itself.[270] Otherwise, the right to lay submarine pipelines and cables clearly granted in the UNCLOS (e.g. its Art. 87.1. lit (c), Art. 79.1. and Art. 112.1.) - a freedom of the sea of huge economically and social importance - would come to nothing.

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[268] "When laying submarine cables or pipelines, States shall have due regard to cables or pipelines already in position. In particular, possibilities of repairing existing cables or pipelines shall not be prejudiced."

[269] "Every State shall adopt the laws and regulations necessary to provide that, if persons subject to its jurisdiction who are the owners of a submarine cable or pipeline beneath the high seas, in laying or repairing that cable or pipeline, cause a break in or injury to another cable or pipeline, they shall bear the cost of the repairs."

[270] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 198; J. Chappez, Les cables sous-marins de télécommunications, p. 760; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 85.

Therefore, the operation and maintenance of submarine pipelines is included in the freedom to lay these.

(c) Obligation to remove decommissioned submarine pipelines?

When submarine pipelines are taken out of service, the question whether states have to remove these means of transport or are free to leave them on the ocean floor becomes a controversial issue.

This question is not just of academic interest, but of exceptional importance. One important factor in this discussion is of economics. The removal and disposal of the abandoned or disused submarine pipeline incurs huge costs, often reaching the same level as the laying itself.[271] The economic viability of a major project could be crucially affected by this question. Another important factor is the preservation of the freedom of the high seas, and especially the interest of other states to exercise this freedom – in this context the ability and freedom to lay other submarine pipelines in the place of the removed one.

In the present case different aspects of the freedom of the high seas oppose each other: The freedom of the laying state with respect to the right to leave the decommissioned submarine pipelines behind, and the freedom of the international community of states to not be affected by the decommissioned pipeline, and by having the ability and the freedom to lay other submarine pipelines in the place of the one out of service.

Finally security reasons and environmental protection aspects seem to indicate the removal of the decommissioned pipeline from the ocean floor. But sometimes it is doubtful, whether an obligation to remove the pipeline after been taken out of service would be reasonable from the perspective of environmental protection as the process of removal itself causes great risks for the marine fauna and flora.[272] Sometimes, the

[271] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 309; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 142.

[272] R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 216; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 239; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 142.

protection and preservation of the marine environment requires the non-removal of the submarine pipeline after the necessary safety measures have been implemented. This applies especially for pipelines which have been dug in and have been overgrown by the ocean.[273] Besides this, abandoned or disused submarine pipelines could also be used in other beneficial ways, for example as an artificial shelf or for scientific research.[274]

Regarding the huge importance of this issue, it is quite unfortunate that the United Nations Convention on the Law of the Sea does not explicitly regulate whether or not abandoned or disused submarine pipelines have to be removed from the ocean floor. In contrast to that, Art. 60. 3. UNCLOS provides a regulation for the procedure concerning "artificial islands, installations and structures in the Exclusive Economic Zone." Being explicitly confined to that maritime zone, the meaning of this article cannot be extended to the ocean floor beyond territorial waters. Therefore, Art. 60.3. UNCLOS or its meaning cannot be consulted directly to answer the controversial question, whether or not states have to remove decommissioned submarine pipelines from the high seas.

But other legal principles established by law in the UNCLOS could lead to such an obligation, especially from the general order of consideration and the obligation to protection and preserve the marine environment, which have their legal basis e.g. in Art. 210 UNCLOS, such an expensive duty could emerge.

(aa) Non-removal of a submarine pipeline as "dumping" within the meaning of Art. 210 UNCLOS

Subsuming the non-removal of a submarine pipeline under the term "dumping" within the meaning of Art. 210 UNCLOS could potentially constitute an obligation to remove a

[273] R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 216; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 147.
[274] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 142.

decommissioned pipeline.[275] But it is highly doubtful whether such a qualification is legitimate.

One strong argument against this is provided by the *Convention for the Protection of the Marine Environment of the North- East Atlantic* from 1992 (OSPAR- Convention).[276] Its Art. 1 lit (g) (iii) regulates that "dumping" does not include "the leaving wholly or partly in place of a disused offshore installation or disused offshore pipeline, provided that any such operation takes place in accordance with any relevant provision of the Convention and with other relevant international law." Applying the policy of the law of the OSPAR-Convention, the non-removal (or leaving parts) of a submarine pipeline cannot be qualified as dumping, as long as this happens in conformity with this convention or other relevant ones, such as the United Nations Convention on the Law of the Sea.[277]

Besides this, another and even stronger argument against the subsumption of the non-removal of a submarine pipeline under the term "dumping" is provided by an analysis of the UNCLOS itself. Article 1 of this convention defines the meaning of several terms used in this convention.

According to Art. 1.1. (5) lit (a) UNCLOS, the term "dumping" means "any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea" and "any deliberate disposal of vessels, aircraft, platforms or other man-made structures at sea". This definition illustrates that only activeness is included in the meaning of this term - the simple forbearance of the removal of a submarine pipeline is clearly not. Therefore, an obligation to remove a decommissioned submarine pipeline from the ocean floor of the high seas does not emerge from the aim to protect the maritime environment by reducing and controlling the pollution by dumping defined in Art. 210 UNCLOS.

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[275] Article 210 UNCLOS*:* "1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment by dumping. 2. States shall take other measures as may be necessary to prevent, reduce and control such pollution. 3. Such laws, regulations and measures shall ensure that dumping is not carried out without the permission of the competent authorities of States."

[276] Convention from the 22. September 1992, entry into force at the 25. March 1998.

[277] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 313-315; R. Higgins, Abandonment of Energy Sites and Structures, p. 13; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 217; E.D. Brown, The Significance of a Possible EC EEZ, p. 132; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 143.

Another result is incidental if a salvaged decommissioned submarine pipeline is deposed somewhere else in the high seas as such an activity is not covered from the protective purpose of the freedom to lay submarine pipelines in the high seas. Activities like this are included in the meaning of the term "dumping" within the meaning of Art. 210 UNCLOS, subsuming pipelines under "other man-made structures at sea" within the meaning of Art. 1.5. lit (a) (ii) UNCLOS.[278]

(bb) Protection of the marine environment and the order for consideration

The agenda of protection and preservation of the marine environment and the general order for consideration could eventuate in an obligation to remove decommissioned submarine pipelines.

In the first place it is important to make it clear that the laying of a submarine pipeline itself is not automatically "pollution of the marine environment" within the meaning of the UNCLOS, a term which is legally defined in Art. 1.1 (4) UNCLOS.[279] On the contrary, it is the exercise of a liberty granted by the UNCLOS in several articles. An action cannot be valued as part of a freedom highly important for the coexistence of the international community of states (e.g. in Art. 87.1. lit (c), Art. 79.1. and Art. 112.1. UNCLOS) and in the same regulation as an activity which has to be banned to achieve another major aim, the protection and preservation of the environment.

However, this does not automatically preclude another legal interpretation of the non-removal of a decommissioned pipeline from the ocean floor as pollution. For instance, the general regulations for the *protection and preservation of the marine environment* in the UNCLOS (Part XII), especially Art. 192 UNCLOS[280] and Art. 194 UNCLOS,[281] could

[278] R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 207; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 144.

[279] Art. 1.1 (4) UNCLOS: ""Pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities".

[280] Art. 192 UNCLOS: "States have the obligation to protect and preserve the marine environment."

[281] Art. 194 UNCLOS: "1. States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in

potentially create such an obligation. The same could apply for the order of consideration, constituted in Art. 87.2. UNCLOS.[282] In the case of a serious interference of navigation, fishery or activities on the ocean floor because of a remaining submarine pipeline, the order of consideration could lead to an obligation to remove the decommissioned mean of transport. This would especially count if the disturbance could not be avoided by other measures. In this case, inactivity could be interpreted as an abuse of right within the meaning of Art. 300 UNCLOS.[283]

The important aspect in this issue will be whether the non-removal of the submarine pipeline (after it has been taken out of service) is still included in the freedom to lay these means of transport in the high seas, or if the legal valuation of this forbearance is different to the laying, being able to justify a distinction. In contrast to the term "dumping" within the meaning of Art. 210 UNCLOS, the general ambition of the protection and preservation of the marine environment as well as the general order for consideration is not automatically limited to activeness, the simple non-removal of a pipeline is potentially included. Although it sounds quite convincing that an obligation to remove decommissioned pipeline emerges under these conditions, the UNCLOS does not provide a definite order to do so. Therefore, a comprehensive analysis has to be conducted to clarify whether basic principles of the UNCLOS demand this interpretation.

But there are several reasons that could speak in contrary to such an interpretation, especially the letter of Art. 60.3 UNCLOS.

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accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.

2. States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this convention."

[282] Art. 87.2. UNCLOS: "These freedoms shall be exercised by all States with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under this Convention with respect to activities in the Area."

[283] Art. 300 UNCLOS: "States Parties shall fulfil in good faith the obligations assumed under this Convention and shall exercise the rights, jurisdiction and freedoms recognized in this Convention in a manner which would not constitute an abuse of right." See also R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 217; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 308.

Art. 60.3 UNCLOS – origin in the general order of consideration – declares an obligation for the removal of abandoned or disused artificial islands, installations and structures in the Exclusive Economic Zone: "Due notice must be given of the construction of such artificial islands, installations or structures, and permanent means for giving warning of their presence must be maintained. Any installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed."

As already mentioned, this article is explicitly confined to the *Exclusive Economic Zone*. As a result, the meaning of this regulation cannot be extended to other maritime zones and therefore also not the ocean floor beyond territorial waters. Consequently, Art. 60.3. UNCLOS or its meaning cannot be consulted directly to answer the controversial question whether states have to remove decommissioned submarine pipelines laying on the ocean floor in the high seas or not. However, a deeper examination of the meaning of this regulation by analyzing its letter could give valuable information.

An obligation to remove all abandoned or disused installations or structures is only constituted "to ensure safety of navigation." The other activities or principles of the UNCLOS - fishing, the protection of the marine environment and the rights and duties of other States - do not constitute such an obligation. The only order is to take them into account.[284]

This distinction has its ground in the different intensities of interference by these installations or structures - the one for navigation is of particular intensity and therefore justifies the demand constituted in Art. 60.3. UNCLOS.

This reveals, that the framers of the *United Nations Convention on the Law of the Sea* decided purposely that the goal to protect the marine environment as well as a

[284] E.D. Brown, The Significance of a Possible EC EEZ, pp. 127-131.

general order of consideration should not automatically constitute an obligation to remove submarine pipelines taken out of service.[285]

Another argument underlining this result reveals an analysis of the regulations to be considered in this context. The ones established in this regard by the competent international organization within the meaning of Art. 60.3.2 UNCLOS are in particular the "Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone."[286] In this comprehensive body of rules, (submarine) pipelines are not mentioned at all.[287]

Besides this, a comparison of the UNCLOS and the *United Nations Convention on the Continental Shelf* from 1958 illustrates that this lack of an absolute obligation has not been an accident of the framers. Art. 5.5.2 of the United Nations Convention on the Continental Shelf clearly regulated an obligation to remove all abandoned or disused installations totally:

"Any installations which are abandoned or disused must be entirely removed."[288] The fact that a comparable regulation is absent in the UNCLOS – a regulation of recent date - reveals, that a change of judgment occurred.

To sum up, the letter of Art. 60.3 UNCLOS is an argument against the theory that the goal of the protection of the maritime environment and the general order of consideration can constitute a general obligation to remove decommissioned pipelines from the ocean floor of the high seas.

Furthermore, a general and absolute obligation to remove abandoned or disused submarine pipelines from the ocean floors of the high seas resulting automatically

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[285] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 145, 220, 223; for alternatives to the removal of abandoned or disused installations or structures see H. Esmaeili, The Legal Regieme of Offshore Oil Rigs in International Law, p. 192 ff.; R. Higgins, Abandonment of Energy Sites and Structures, p. 11, 13 ff.

[286] IMO Resolution A 672 (16), 19th October 1989.

[287] E.D. Brown, The Significance of a Possible EC EEZ, p. 129, 130; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 303; R. Higgins, Abandonment of Energy Sites and Structures, p. 10, 11, 16; S. Kaye, International measures, p. 395, 396.

[288] H. Esmaeili, The Legal Regieme of Offshore Oil Rigs in International Law, p. 195 ff.; R. Higgins, Abandonment of Energy Sites and Structures, p. 7 ff.; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 221.

from the mentioned major principles of the UNCLOS would create enormous financial and logistical challenges for the laying state or the operator. Admittedly, a fiscal argument might not be that convincing, but regarding the huge amount of pipelines already laid, a total removal seems quite unrealistic and almost impossible.[289]

As a summary, the non-removal of a decommissioned pipeline from the ocean floor of the high seas cannot be automatically regarded as pollution of the marine environment or interference of other states respectively the international community of states.[290] As a result, there is no general obligation to remove submarine pipelines out of service from the ocean floor of the high seas resulting from general obligations for the protection and preservation of the marine environment and an order for consideration.

By way of contrast a removal is required, if serious dangers for the marine fauna and flora emanate from the remaining means of transport or other utilizations of the ocean are likely to be disproportionally affected by this pipeline.[291] This applies especially for pipelines laid in danger for example of undersea earthquakes.[292]

This shows the growing influence of the protection of the marine environment on the utilization of the high seas. As a results, more and more the utilization of the oceans is restricted by the aim of environmental protection.

(cc) Conclusion

A general obligation to remove decommissioned submarine pipelines from the ocean floor of the high seas does not exist - only in exceptional cases such an obligation could emerge.

[289] For a more detailed analysis in this context see W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, pp. 301 et seq.
[290] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 313; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 217.
[291] R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 217; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 142, 144.
[292] R. Higgins, Abandonment of Energy Sites and Structures, pp. 15, 16.

Nevertheless, the laying state has to maintain the abandoned or disused pipelines in a shape that does not affect the legitimate utilization of the high seas or causes any danger to the marine environment. This obligation could make - potentially expensive – maintenance work necessary.[293] As guidelines are missing concerning the question, when a submarine pipeline has to be qualified as decommissioned or not used anymore and if and to which extent this means of transportation has to be removed, an assessment on a case-by-case basis is required.[294]

The best way to ensure the removal of a submarine pipeline taken out of service is to regulate this subject in bilateral contracts beforehand. As this generates legal security for the laying and operating party and minimizes financial risk by making a more precise calculation of profitability possible, it is not of much surprise that this approach became more and more popular in the last years.[295]

Regarding these advantages, if nothing else the protection and preservation of the maritime environment, it could be worth thinking about making this – the regulation of the removal of the abandoned or disused submarine pipeline before the start of its construction and operation – compulsory.

One possible way to realize this could be to already regulate the obligation for the removal of a decommissioned submarine pipeline in the EIA (Environmental Impact Assessment), for example by ensuring that these pipelines have to be constructed in a way which enables their removal after they are out of service.

(d) Exploration of the ocean floor along the planned pipeline

These preliminary measures compromise an examination of the surface structure of the ocean floor as hummocks might have to be removed or embayment have to be filled to enable a conformable run of the submarine pipeline. Besides this, an exploration of the kind of the ocean floor is needed, often including exploratory

[293] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 145.
[294] J. M. Anderson, Decommissioning Pipelines and Subsea Equipment, p. 6; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 145.
[295] For more details concerning these bilateral contracts in general as well as an analysis of the most important ones respective submarine pipelines in the last decade see W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, pp. 294 et seq.

drilling. Furthermore it has to be searched for obstacles, like shipwrecks, and the marine flora and fauna has to be explored.[296]

The exploration of the ocean floor in advance of the laying of submarine pipelines or cables as well as the need for removal of items or the diversification of the ocean floor is not clearly mentioned in the United Nations Convention on the Law of the Sea. Only the determination of the routing is mentioned in Art 79.3 UNCLOS. But the freedom to lay submarine pipelines or cables granted in Art. 87.1 lit (c) and 112 UNCLOS has to include the exploration of the ocean floor along the planned pipeline, as this is an absolute inevitable basic requirement to construct these measures of transport - otherwise, this right guaranteed by the UNCLOS would come to nothing.[297]

Apart from this, these preliminary measures are unlikely to cause any conflicts with regulations for the protection and preservation of the marine environment as they are an important instrument to ensure best possible environmental protection – and therefore normally are compulsory in preparation for pipeline projects.[298]

(2) Summary

The freedom to lay submarine pipelines and cables on the ocean floor of the high seas includes the right to undertake all measures to the extent necessary to ensure the laying and the permanent utilization and operative readiness. Otherwise, the right clearly granted in several articles in the UNCLOS would come to nothing. A general obligation to remove decommissioned submarine pipelines from the ocean floor of the high seas does not exist - such an obligation could emerge only in exceptional cases.

[296] A detailed enumeration of the preliminary measures for the lay of a submarine cable provides R. Lagoni, Legal Aspects of Submarine High Voltage Direct Current Cables, pp. 65, 66.
[297] M. Roelandt, La condition juridique des pipelines, p. 128.
[298] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 261; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 86.

b. The freedom to lay submarine pipelines in the territorial sea

The next maritime zone to be examined stands in clear contrast to the high seas with its characteristic and traditional principle of free use. This zone exists as the sovereignty of a coastal State does not stop at its land territory. Rather, an adjacent sea belt, defined as the territorial sea, is part of that legal classification.[299] This sovereignty reaches "to the air space over the territorial sea as well as to its bed and subsoil."[300]

aa. The legal status and the extent of the territorial sea

The extent of the territorial sea, today determined in Part II of the UNCLOS, has been subject of controversial discussions for a long time and neither at the first Conference on the Law of the Sea dating back to 1958 nor at the second one two years later - which was especially convened to find an agreement concerning this question - a solution was reached. From the third conference on, a growing number of countries agreed to an extent of twelve sea miles for territorial waters which has become common in international law.[301] About 130 states have adopted this regulation as most countries accepted not to expend their territorial waters over the twelve sea miles mark in exchange for wide-ranging sovereignty in the continental shelf and the exclusive economic zone.[302]

[299] Art. 2.1 UNCLOS; Art. 1.1 *United Nations Convention on the Territorial Sea and the Contiguous Zone.* The latter is using just a slightly different wording.
[300] Art. 2.2 UNCLOS; Art. 2 *United Nations Convention on the Territorial Sea and the Contiguous Zone.*
[301] Art. 3 UNCLOS is corollary of this development: "Every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention."
[302] Nevertheless, several coastal states claimed a wider territorial sea, for example Somalia, El Salvador or Liberia. For a more detailed analysis of this issue see K. Trümpler, Grenzen und Abgrenzungen des Müstenmeeres, p. 185, 186; P. Daillier/ A. Pellet/ N. Q. Dinh, Droit international public, p. 1176, § 683. For a detailed analysis of the negotiations of the *Conferences on the Law of the Sea* see A. H. Dean, The Geneva Conferences on the Law of the Sea, p. 610 et seq. and P. C. Jessup, The United Nations Conferences on the Law of the Sea, pp. 238, 239.

But the determination of the spatial extent of the territorial sea has not been the only controversial question in this context. The legal status of the territorial sea and the rights and duties of the coastal states and of third parties has been debatable for hundreds of years. The range of opinions has been wide – from qualifying this maritime zone as part of the high seas which would result in no sovereignty for the coastal state over this stretch of water to affirm full sovereignty of the coastal state over the territorial sea and allowing to totally preclude the right for utilization by a third party.[303] An intermediate position of these rather extreme ideas gained common consent at the Haager Conference, which was convened by the League of Nations in 1930. The agreement concluded that the costal state firstly has sovereignty over the territorial sea, and secondly navigation and utilization by third parties is generally the responsibility of the coastal state – but with the restriction, that the right of innocent passage through the territorial sea should exist for all states.[304]

This limitation of the territorial sovereignty of the coastal state over the territorial sea does not apply for the internal waters. Here the right of innocent passage does not exist with the exception of Art. 8.2. UNCLOS.

bb. The freedom to lay submarine pipelines

The freedom to lay submarine pipelines in this maritime zone was not been of much great importance during the three Conferences on the Law of the Sea, where negotiations were dominated by discussion about the extent of the territorial sea, such as the content and extent of the right of innocent passage.[305]

But today it is generally accepted and result of the international regulation, that despite the right of the latter, all activities of other states in foreign territorial seas and

[303] W. Graf von Vitzthum, Maritimes Aquitorium und Anschlusszone, p. 114, 115; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 90.

[304] Art. 17 UNCLOS: "(…) ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea." For the definition of "*passage*" see Art. 18 UNCLOS, for the one of "*innocent passage*" see Art. 19 UNCLOS.

[305] D.P. O´Connell/ I. A. Shearer, The International Law of the Sea, Vol. I., p. 508.

internal waters require the approval of the coastal state. Because of its territorial sovereignty, submarine pipelines can only be laid with permission of the coastal state in this area - the laying of submarine pipeline is under reservation of authorization of the coastal state. The control of this state over the laying of pipelines within this maritime zone is a clear-cut concomitant of sovereignty.[306] These powers are similar to the ones granted by the UNCLOS concerning archipelagic states with respect to their archipelagic waters.[307]

The coastal state is allowed - and sometimes obliged because of environmental protection or security aspects - to regulate the terms of laying, operation and possible removal of submarine pipelines and cables, for example by determining requirements.[308]

A "right of the innocent laying of pipelines" analogous to the right of innocent passage exists neither for the territorial seas nor for the internal waters.[309] The *United Nations Convention on the Territorial Sea and the Contiguous Zone*[310] does not grant such a transit right for foreign cables and pipelines either.[311] Finally, it is not possible to deduce the right to lay submarine pipelines from the right of innocent passage because submarine pipelines are normally laid for an unforeseeable time and they are immobile. In contrast, navigation is just a temporary and locally limited utilization of the sea. Therefore, the intensity of the intervention in the territorial sovereignty of the coastal state by laying submarine pipelines is of a different level than navigation. The

[306] J. Crowley, International Law and Coastal State Control over the Laying of Submarine Pipelines on the Continental Shelf: The Ekofisk-Emden Gas Pipeline, NJIL 56 (1987), p. 40; S. Vinogradov, Challenges of Nord Stream, p. 37.

[307] See also p. XXX (Freedom to lay in high seas); S. Vinogradov, Challenges of Nord Stream, p. 38.

[308] R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 205; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 186; M. C. Pröfrock, Energieversorgungssicherheit im Recht der EU/ EG, p. 182; M. Roelandt, La condition juridique des pipelines, p. 99, 166; M.M. Roggenkamp, Petroleum Pipelines in the North Sea, p. 94; D.P. O´Connell/ I. A. Shearer, The International Law of the Sea, Vol. II, p. 820; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 92.

[309] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 190, 191; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 205.

[310] Convention from the 29. April 1958, entry into force at the 10. September 1964.

[311] M. R. Simonnet, La Convention sur la Haute Mer, p. 136; J. Soubeyrol, La condition juridique des pipelines en droit international, p. 180.

coastal state is not obliged to allow the lay of the submarine pipelines in its territorial waters - permission can be given or refused at the sovereigns own discretion.[312]
But the costal state is only allowed to exercise the sovereignty over the territorial sea subject to the *United Nations Convention on the Law of the Sea* and to other rules of international law.[313] An exercise of the sovereignty by the costal state not considering this or basing decisions on arbitrariness would mean an abuse of rights and therefore a clear offence against the *United Nations Convention on the Law of the Sea* and the *United Nations Convention on the Territorial Sea and the Contiguous Zone.*[314]

c. The exclusive economic zone and the continental shelf

The United Nations Convention on the Law of the Sea deals separately with the exclusive economic zone (Part V) and the continental shelf (Part VI) as two different but overlapping zones, which have much in common. These similarities quintessentially concern the subject of interest for this thesis, submarine pipelines.

aa. General remarks and legal status

(1) The exclusive economic zone

The legal status of the exclusive economic zone, its territorial extent as well as the ratio between the respective coastal state and the international community of states and the extent of the rights and freedoms in this maritime zone has long been controversial

[312] M. R. Simonnet, La Convention sur la Haute Mer, p. 136; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 190, 191.
[313] Art. 2.3. UNCLOS; Art. 1.2. *United Nations Convention on the Territorial Sea and the Contiguous Zone.*
[314] See besides the above mentioned articles Art. 300 UNCLOS: "States Parties shall fulfil in good faith the obligations assumed under this Convention and shall exercise the rights, jurisdiction and freedoms recognized in this Convention in a manner which would not constitute an abuse of right."

The origin of the EEZ goes back to the establishment of coastal zones for fishing with protective rights respectively the rights of the coastal state to exploit.
In contrast to the concept of the continental shelf, which was impelled by the United States,[315] the first zones of fishing (later called economic zones) were established in the Latin American area in the late 1940th and about 20 years later in Africa and Arabia.[316]

The development of a universally valid legal classification of the EEZ is - like most parts of the international law of the sea concerning pipelines are - shaped by divergences of opinion. Finally and after years discussion an agreement was reached, qualifying the exclusive economic zone as a zone *sui generis* being subject to a special legal regime (Art. 55[317], 56 UNCLOS) with a maximum extend of "200 nautical miles from the baselines from which the breadth of the territorial sea is measured."[318]
The concept of this maritime zone gained approval quickly - already during the consultations of the third of the United Nations Conferences on the Law of the Sea several states adopted it. At the present day, about 120 countries have established an exclusive economic zone leading to a redistribution of the ocean and to a significant reduction of the international waters. Meanwhile, the institute of the EEZ is generally accepted under international law, especially the qualification of the EEZ as a zone sui generis and its extent to 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.[319]

[315] For more information concerning this development see p. XXX (in this part, some pages below)
[316] R. Wolfrum, The Emerging Customary Law of Marine Zones, p. 132, 133; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 222, 223; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 94.
[317] Art. 55 UNCLOS: "The exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention."
[318] Art. 57 UNCLOS; see also F. Orrego Vicuna, The Exclusive Economic Zone, p. 16, 49, 50; B. Kwiatkowska, The 200 Mile Exclusive Economic Zone, p. 230, 231; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 229; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 95.
[319] D. J. Attard, The Exclusive Economic Zone, p. 277, 278; B. Kwiatkowska, The 200 Mile Exclusive Economic Zone, p. 27, 28; G. Dahm/ J. Delbrück/ R. Wolfrum: Völkerrecht, Band I/1, p. 531, 532, § 81.

By establishing the concept of the economic zones, the developing countries intended to compensate for their technological disadvantages concerning the deep sea fishing. They hoped for an economic equalization for their narrow continental shelf and tried to ensure their economic self-sufficiency especially by claiming sovereignty over the natural recourses in the economic zones.

As the EEZ is primary economically orientated, the coastal state does not have total territorial sovereignty over the exclusive economic zone – a situation similar to the high seas but opposed to the status of the territorial sea. However, the coastal state exercises important sovereign rights. As a result of the principle that all economically relevant utilizations are reserved to the coastal state, this applies especially to the section of exploring and exploiting sources of raw materials. Other important areas of this sovereignty are the establishment and use of artificial islands, installations and structures as well as the protection and preservation of the marine environment (Art. 56 UNCLOS).

The legal status of the coastal state in the exclusive economic zone is not a territorial one, it is more functionally constituted. As a result its jurisdiction is limited. This status could be described as a partial monopoly of utilization respective to a partial functionally sovereignty of the coastal state.[320]

In this maritime zone, the legal aspects of the protection and preservation of the marine environment came into focus in 1970 while Canada established an ecological protection zone in the Arctic Waters to avoid marine pollution by navigation (*Arctic Waters Pollution Prevention Act*).[321]

[320] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 94; W. Graf Vitzthum, Raum und Umwelt im Völkerrecht, p. 400.

[321] Canadian Legislation on Arctic Pollution and Territorial Sea and Fishing Zones, Act to Prevent Pollution of Areas on the Arctic Waters Adjacent to the Mainland and Islands of the Canadian Arctic, 26th June 1970; ILM 9 (1970), p. 543-552; S. Wolf, Ecological Protection Zones, EPIL, p. 1; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 95.

(2) The Continental Shelf

The origin of the institute of the continental shelf goes back to the 1945 *Truman Proclamation*[322] as US-President Truman extended the exclusive jurisdiction and control of the United States over the marine resources of the continental shelf.[323] Just about five years later, the concept of the continental shelf and its key points had been generally accepted and was recognized as common international law.[324]

The continental shelf of a coastal State normally extends up to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, in exceptional cases up to 350 nautical miles from the baselines or up to 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres (Art. 76 UNCLOS).[325]

According to Art. 77.1 UNCLOS,[326] the coastal state exercises sovereign rights over the continental shelf for the purpose of exploring and exploiting its natural resources. This means having an absolute monopoly for all respective activities. These rights are exclusive in the sense that no one may undertake activities concerning exploring and exploiting natural resources without the express consent of the coastal State (Art. 77.2 UNCLOS, Art. 2.2 United Nations Convention on the Continental Shelf).[327]

[322] Presidential Proclamation No. 2667 concerning the Policy of the United States with Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf, 28. September 1945; Department of State Bulletin 13 (1945), 485; ST/ LEG/ SER.B/ 1, 38.
[323] For a more detailed analysis of the historical development of the concept of the continental shelf see R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 174-178; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 99.
[324] W. Graf Vitzthum, Raum und Umwelt im Völkerrecht, p. 429; M. L. Jewett, The Evolution of the Legal Regime of the Continental Shelf, p. 157 ff.
[325] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 98. An analysis of the complicated method of the determination the maximum extend of the EEZ provides the author on p. 186 – 190. See also W. Graf Vitzthum, Raum und Umwelt im Völkerrecht, p. 429; M. L. Jewett, The Evolution of the Legal Regime of the Continental Shelf, p. 157 ff.
[326] The previous regulation from 1958 (Art. 2.1. United Nations Convention on the Continental Shelf) has the same wording.
[327] In terms of a dispute concerning the terms “sovereign rights” and “exclusive rights” at the first United Nations Conference on the Law of the Sea in the year 1958 see M.M. Whiteman, Conference on the Law of the Sea: Convention on the Continental Shelf, p. 629, 635; H. Meyer-Lindenberg, Das Genfer Übereinkommen über den Festlandsockel, p. 17; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 98.

Analogous to the legal situation of the exclusive economic zone, the coastal state has no territorial sovereignty concerning the continental shelf.

During the consultations of the International Law Commission from 1950 on, the question whether the *res nullius* or the *ipso iure* concept should apply for the occupation of the continental shelf was controversially discussed. Finally, the states agreed on the *ipso iure* concept to ensure that no other state ("first occupier") except the coastal state could claim the rights of the continental shelf – the result of this agreement was the wording of Art. 2.3. United Nations Convention on the Continental Shelf, inherited with same wording in Art. 77.3 UNCLOS: "The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation."[328] The International Court of Justice acknowledged this legal opinion in the *North Sea Continental Shelf Cases* qualifying the continental shelf as "natural prolongation of the land territory", the sovereign rights being due to the coastal state *ipso facto* and *ab initio*.[329]

(3) The duality of the regime of the continental shelf and the EEZ

In the instance the coastal state has established an EEZ over the continental shelf the question arises, whether the regulations for the EEZ and the continental shelf should apply parallel and in which relationship both regimes stand to each other.
The norm of importance for the continental shelf in this context is Art. 78.1 UNCLOS making clear, that "the rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters or of the air space above those

[328] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 100; for a detailed analysis of the debate of the ILM leading towards this agreement see M. L. Jewett, The Evolution of the Legal Regime of the Continental Shelf, p. 165 ff., 170 ff.; S. Kaye, International measures, p. 381;
[329] *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Denmark; Federal Republic of Germany v. Netherlands), verdict from 20. February 1969, ICJ Reports 1969, (3) 22, para. 19; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 100. See also J. Crowley, The Ekofisk-Emden Gas Pipeline, p. 39, 41; W. Graf Vitzthum, Raum und Umwelt im Völkerrecht, p. 429; S. Kaye, International measures, p. 380; M. L. Jewett, The Evolution of the Legal Regime of the Continental Shelf, p. 179.

waters."[330] The result is that in the case a coastal state has established an exclusive economic zone over the continental shelf, the superjacent waters are still governed by the regulations of the EEZ. Art. 56.3 UNCLOS determines for the EEZ, that the rights set out in Art. 56 UNCLOS with respect to the seabed and subsoil shall be exercised in accordance with Part VI (the part of the UNCLOS concerning the continental shelf).[331]

Partially the point of view is vindicated that the regime to apply (the regulations of the EEZ or the ones of the continental shelf) depends upon the way the pipeline is laid. Following this opinion, for pipelines dug in the ocean floor or laid on it, the regulations for the continental shelf should apply. For pipelines swimming, floating or attached to buoys the regulations for the EEZ should provide the right regulations.[332] But there are several strong objections against such a distinction.

Firstly, it would be far from reality and would not cause any factual difference as no cross-border submarine pipelines of the second group (only swimming, floating or attached to buoys) exist in these maritime zones.[333]

Secondly, a systematical analysis of the UNCLOS provides potent arguments against this point of view. As a result of the reference from Art. 56.3 UNCLOS[334] to the regulations of the continental shelf - and especially to Art. 79 UNCLOS which has great importance for the legal classification of pipelines -, the regime of the continental shelf is incorporated in the one of the EEZ. This ensures a unified regime of both maritime

[330] Art. 3 United Nations Convention on the Continental Shelf had nearly the same wording but in contrast to Art. 78.1 UNCLOS the norm from 1958 classifies the legal status of the superjacent waters as "high seas". The reason for that is that at this time the concept of the exclusive economic zone has not been part of the Geneva Convention yet; S. Oda, International Law of the Resources of the Sea, p. 100; D.P. O´Connell/ I. A. Shearer, The International Law of the Sea, Vol. I, p. 579, 580; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 100.

[331] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 100; see also R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 232.

[332] L. Gündling, Die 200 Seemeilen-Wirtschaftszone, p. 205, 206; M. Roelandt, La condition juridique des pipelines dans le droit de la mer, p. 145.

[333] W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 157; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 98, 101; S. Vinogradov, Challenges of Nord Stream, p. 41; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 205; R. Lagoni, Legal Aspects of Submarine High Voltage Direct Current Cables, p. 25.

[334] Art. 56.3 UNCLOS: "The rights set out in this article with respect to the seabed and subsoil shall be exercised in accordance with Part VI."

zones: The continental shelf on the one hand and the seabed and its subsoil in the EEZ on the other one.

Such an incorporation of the regulations of the continental shelf into the regime of the EEZ can also be found in the reference from Art. 58.1 UNCLOS to Art. 87.1 lit (c) UNCLOS, as the clause in Art. 87.1 lit (c) UNCLOS "subject to Part VI" constitutes an implicit reference to Art. 79 UNCLOS.[335] Furthermore, the passage "subject to the relevant provisions of this Convention" in Art. 58.1 UNCLOS can be interpreted as a reference to Art. 79 UNCLOS.[336]

This illustrates that the establishment of an EEZ over the continental shelf by the coastal state leads into the parallel application of the regimes of the two respective maritime zones. In accord with this principle of duality, both regimes interfere and complement each other as long as nothing contrary is regulated in the UNCLOS.[337] This result has also been affirmed by the International Court of Justice in the *Libya/ Malta Continental Shelf Case* in 1985 by stating that both regimes – despite their differences – are connected.[338]

Problems might emerge because of the different provision of the authorities of the coastal state in regard to third states:

Art. 58.1 UNCLOS reading in conjunction with Art. 87 UNCLOS determines that the freedoms of the high seas – with the exception of the freedom of fishing – still apply in the EEZ.

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[335] B. Kwiatkowska, The 200 Mile Exclusive Economic Zone, p. 201; R. Lagoni, Legal Aspects of Submarine High Voltage Direct Current Cables, p. 23; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, pp. 159 et seq.

[336] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 101; L. Gündling, Die 200 Seemeilen-Wirtschaftszone, p. 205; D. J. Attard, The Exclusive Economic Zone, p. 124.

[337] P. M. Dupuy, Droit international public, p. 775; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 248; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 155; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 102.

[338] Case Concerning the Continental Shelf (Libyan Arab Jamahiriya v. Malta), verdict from 3. June 1985, ICJ Reports 1985, (4) 33, para. 34: "Although the institutions of the continental shelf and the exclusive economic zone are different and distinct, the rights which the exclusive economic zone entails over the sea-bed of the zone are defined by reference to the regime laid down for the continental shelf." S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 102; M. N. Shaw, International Law, p. 523.

In contrast, regarding to Art. 78.2 UNCLOS the coastal state has only to take care that its exercise of the rights over the continental shelf "must not infringe or result in any unjustifiable interference" with rights and freedoms of other States as provided for in the UNCLOS.[339]

Concerning the freedom to lay submarine pipelines this problem is solved by Art. 79 UNCLOS which is incorporated in the regime of the EEZ. As a result there are no relevant differences in the regime of the EEZ and the continental shelf concerning the freedom to lay submarine pipelines.[340]

bb. The freedom to lay submarine pipelines

(1) The "laying" in the proper meaning of the word

All States have the right to lay submarine pipelines across the exclusive economic zone and the continental shelf of a coastal State, as long as these means of transport are not part of the offshore operations or installations under the coastal State's jurisdiction. In the latter case, the consent of the coastal State is needed.[341]

The provision of importance for the EEZ is Art. 58.1. UNCLOS determining that "all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention."

[339] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 103; W. Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 156.
[340] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 103; with a different opinion S. Kaye, International measures, p. 400: "(…) the two regimes approach the issue of cables and pipelines slightly differently."
[341] S. Vinogradov, Challenges of Nord Stream, p. 42.

For the continental shelf Art. 79.1 UNCLOS regulates, that every country is "entitled to lay submarine cables and pipelines on the continental shelf, in accordance with the provisions of this article."

Reflecting the wording of the latter regulation, its meaning seems to be totally unambiguous. But the development of the principle laid down in this provision illustrates that the question whether the freedom to lay submarine pipelines should apply on the continental shelf was not out of discussion but of great importance during the consultations of the *International Law Commission* in preparation for the first Conference on the Law of the Sea. Art. 26.2 United Nations Convention on the High Seas and Art. 4 United Nations Convention on the Continental Shelf hark back to Art. 61.2[342] and Art. 70[343] to the draft that the ILC presented in its last report to the United Nations General Assembly.[344] Art. 61.2 of the draft from 1956 mentions pipelines. To the contrary, Art. 70 of this draft does not lead to a contradictory legal situation concerning the laying of submarine pipelines on the continental shelf. This state ended with the passing of Art. 26.2 United Nations Convention on the High Seas and Art. 4 United Nations Convention on the Continental Shelf which harmonized both regulations and now referring both to pipelines.[345] This contradictory legal situation concerning the laying of submarine pipelines on the continental shelf illustrates how much the ILC struggled to determine the freedom to lay pipelines to the continental shelf. The reasons mentioned by the ILC why the freedom to lay on the continental shelf should apply for cables but not for pipelines were the lack of practical relevance and potential restrictions of rights of coastal states.[346] This illustrates that the laying of

[342] Art. 61.2 of the draft from 1956: "Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not impede the laying or maintenance of such cables or pipelines."

[343] Art. 70 of the draft from 1956: "Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not impede the laying or maintenance of submarine cables on the continental shelf."

[344] Report of the International Law Commission to the General Assembly, covering the work of its eights session, 23. April – 4. July 1956, Document A/ 3159, ILC Yearbook II (1956), p. 253 ff.

[345] D.P. O´Connell/ I. A. Shearer, The International Law of the Sea, Vol. II, p. 822; Wiese, Seeverlegte Rohrleitungen im Völkerrecht, pp. 142, 143; R. J. Dupuy/ D. Vignes, A Handbook of the Law of the Sea, Vol. II, pp. 979, 981.

[346] Report of the International Law Commission covering the work of its third session, 16. May – 27. July 1951, Doc. A/ 1858, ILC Yearbook II (1951), p. 142; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 106; see also R. J. Dupuy/ D. Vignes, A Handbook of the Law of the Sea, Vol. II, p. 981; M. Roelandt, La condition juridique des pipelines, p. 121, 122.

submarine pipelines on the continental shelf could cause further reaching restrictions of the rights of coastal states than the laying of submarine cables. This also explains that the caveat of approval in Art. 79.3 UNCLOS - an issue dealt with later in this dissertation - regarding its wording only applies for submarine pipelines.[347]

(2) The other activities in the context of the laying

Art. 58.1. UNCLOS specifically mentions the freedom to operate submarine pipelines in the EEZ. As opposed to this, the provision for the continental shelf (Art. 79.1 UNCLOS) only mentions the laying itself.

However, this distinction does not have any effects on the content and extent of the freedom to lay submarine pipelines. The spirit and purpose of Art. 79.1 UNCLOS and the systematic of Arts. 79.2 and 79.5 UNCLOS clarify that this freedom is not only contracted to the laying itself, but also to the operation, the maintenance and the reparation of the pipeline. Furthermore, the freedom of the coastal state to lay submarine pipelines on its own continental shelf emerges from Art. 79.1 UNCLOS – related to the exclusive economic zone this right belongs to the "other rights and duties provided for in this Convention" (Art. 56.1 lit (c) UNCLOS).[348] Besides this, the argumentation outlined for this issue concerning the high seas also applies here. The freedom to lay submarine pipelines includes, besides the laying in the proper meaning of the word, all measures to the extent necessary to ensure the laying and the permanent utilization and operative readiness. Otherwise, the granted right would come to nothing.[349]

[347] S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 107.
[348] Wiese, Seeverlegte Rohrleitungen im Völkerrecht, p. 177, 178; R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 205; S. *Wolf*, Unterseeische Rohrleitungen und Meeresumweltschutz, p. 104.
[349] R. Lagoni/ A. Proelß, Festlandsockel und anschließende Wirtschaftszone, p. 205.

(3) Restrictions

The freedom to lay and maintain submarine pipelines in the EEZ and the continental shelf is subject to some limitations. In this context, Art. 79 UNCLOS plays an important role.

(a) Art. 79.2 UNCLOS

Art. 79.2 UNCLOS places an obligation on the coastal State not to "impede the laying or maintenance of (…) pipelines", limiting its "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 from pipelines."[350] Paragraph 2 of this Article is quite similar to Art. 26.2 United Nations Convention on the High Seas[351] and Article 4 of the 1958 United Nations Convention on the Continental Shelf.[352] The only difference is a reference to the protection of the marine environment by which the provision of the UNCLOS is expanded. This is a manifestation of the growing concern about the environmental impacts of (submarine) pipelines.[353]

However, the UNCLOS and especially its Art. 79.2 do not provide an exact definition of the term "reasonable measures". To avoid ambiguity concerning its meaning, it has to be examined to what is the exact extent of the coastal State's rights and powers.
The answer can only be a differential one as it will depend upon the type of pipeline in question.

[350] Art. 79.2 UNCLOS.
[351] Art. 26.2 United Nations Convention on the High Seas: "Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not impede the laying or maintenance of such cables or pipelines."
[352] Art. 4 United Nations Convention on the Continental Shelf: "Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not impede the laying or maintenance of submarine cables or pipelines on the continental shelf."
[353] S. Vinogradov, Challenges of Nord Stream, p. 42.

According to Articles 208 and 214 UNCLOS,[354] the coastal state is generally empowered to adopt and enforce its environmental legislation in this context. But these rights and powers are limited to pipelines directly connected to offshore resource-related activities within its jurisdiction.[355] Opposed to that, for long-distance transmission pipelines, which are often cross-border projects as they pass through zones under the jurisdiction of various coastal States, should apply a different legal regime. They should be protected against discretionary application of national regulations - "reasonable measures" should not represent a more incising intervention than what is normally expected from a prudent laying and/ or operation state or organization applying generally accepted standards, such as "good oilfield practice," or "best available technology and best environmental practice."[356]

(b) Art. 79.3 UNCLOS

Another limitation on the general freedom to lay submarine pipelines harks back to Art. 79.3 UNCLOS.

This regulation determines that "the delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State." (According to the unambiguous wording of this provision, (submarine) cables are not included from this constraint.) It is essential to examine the latter in this thesis as this constraint is of drastic importance for submarine pipelines - all the more because it has been doubted whether this provision is compatible with the freedom to lay pipelines.[357]

[354] According to Arts. 208 and 214 UNCLOS, the coastal States has the right to adopt and enforce "laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction."
[355] S. Vinogradov, Challenges of Nord Stream, p. 42.
[356] S. Vinogradov, Challenges of Nord Stream, p. 42.
[357] R. R. Churchill/A. V. Lowe, The Law of the Sea (1999), p.174; S. Vinogradov, Challenges of Nord Stream, p. 43.

Occasionally, an analogy with the use of traffic separation schemes in the exclusive economic zone, a well-established practice, which also involves certain limitations on the freedom of navigation, is suggested.[358]

However, the term "freedom" does not always carry as much weight as its wording might suggest. Besides, the practical application of the regulations of the UNCLOS regarding (submarine) pipelines – no matter how clearly and even unambiguously this legal framework might look on the face of it – reveals various problems in this context. The Nord Stream project is exemplary in this context.

The prevailing tendency by the coastal States to apply very rigorous requirements regarding the pipeline routing through the maritime zones of their EEZ and continental shelf could be well illustrated with an analysis of the Estonian decision to refuse a permit to survey part of its EEZ for the purpose of route selection by the Nord Stream consortium.[359]

To understand this decision, it is important to make clear that this process of opinion making was based on the Estonian government's interpretation of the seabed route survey as scientific research.[360]

According to Art. 246 UNCLOS, coastal States indeed do exercise jurisdiction in this relation. Paragraph one of this article gives the coastal state "the right to regulate, authorize and conduct marine scientific research in their exclusive economic zone and on their continental shelf in accordance with the relevant provisions of this Convention."

As a limitation of this right, this regulation determines in its paragraph three that coastal states are required to "grant their consent for marine scientific research projects by other States" in "normal circumstances".

Coastal state can withhold their consent if the "project: (a) is of direct significance for the exploration and exploitation of natural resources, whether living or non-living; (b)

[358] Glen Plant, Update: Traffic Separation Schemes in the EEZ, Marine Policy 9 (1985), 332; S. Vinogradov, Challenges of Nord Stream, p. 43.
[359] S. Vinogradov, Challenges of Nord Stream, pp. 43, 44.
[360] S. Vinogradov, Challenges of Nord Stream, p. 44.

involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment; (c) involves the construction, operation or use of artificial islands, installations and structures referred to in articles 60 and 80; (d) contains information communicated pursuant to article 248 regarding the nature and objectives of the project which is inaccurate or if the researching State or competent international organization has outstanding obligations to the coastal State from a prior research project."[361]

The argumentation that the pipeline-related seabed survey involves activities covered by the exemptions provided by Art. 246.5. UNCLOS is relatively weak bearing the actual objective of this survey in mind. The aim was to identify the optimal route for a submarine pipeline – this can hardly be qualified as marine scientific research.

On the contrary, it is the exercise of the right to lay submarine pipelines across the EEZ (granted in Art. 58.1. UNCLOS) and the continental shelf (Art. 79.1 UNCLOS) of a coastal State, as long as these means of transport are not part of the offshore operations or installations under the coastal State's jurisdiction.[362] As no pipeline can be built without first examining the seabed along its planned route, the freedom to lay submarine pipelines cannot be realized in principle without such a survey and would come to nothing.[363]

The upcoming discussion whether the Estonian government's rejection of the Nord Stream application can be qualified as conduct in "good faith" or, on the contrary, as an abuse of rights in the sense of Article 300 UNCLOS[364] clearly illustrates, that the practical application of the regulations of the UNCLOS regarding (submarine) pipelines

[361] Art. 246.5. UNCLOS.
[362] In the latter case the consent of the coastal State is needed.
[363] See in this context the argumentation for the high seas concerning the other measures besides the laying in the proper meaning of the word necessary to ensure the laying and the permanent utilization and operative readiness of a submarine pipeline, p. XXXXX; see also S. Vinogradov, Challenges of Nord Stream, p. 45.
[364] Art. 300 UNCLOS, provides that "States Parties shall fulfill in good faith the obligations assumed under this Convention and shall exercise the rights, jurisdiction and freedoms recognized in this Convention in a manner which would not constitute an abuse of right."

sometimes causes serious problems, huge legal and financial risks for the parties involved and therefore the potential for serious conflicts between states and/or international organizations.[365]

3. Conclusion

On the face of it, the regulations of the UNCLOS look clear and unambiguous. But the practical application of these provisions concerning the freedom to lay submarine pipelines, and all measures to the extent necessary to ensure the laying and the permanent utilization and operative readiness of this means of transport, reveals various problems. Furthermore, some aspects are not even regulated by this legal framework. These deficiencies inevitably do cause disputes. The controversy concerning the question whether decommissioned submarine pipelines have to be removed from the ocean floor as well as the Estonian decision to refuse a permit to survey part of its EEZ for the purpose of route selection by the Nord Stream consortium are exemplary in this context.

As guidelines are missing, a strange situation emerges in which the pipeline project have their own legal regimes resulting from various bilateral contracts negotiated beforehand. In some cases this might be – and already proved to be – a good way to ensure legal and financial security as well as best possible protection and preservation of the marine environment.

But this does not apply to all possible facts and circumstances. Compulsory, unambiguous and comprehensive guidelines and clear regulations how to apply them are needed to avoid serious conflicts. Otherwise, the risk remains that provisions are

[365] For a detailed analysis of this controversy concerning the Estonian government's decision see M. H. Nordquist, United Nations Convention on the Law of the Sea 1982: A Commentary, Vol. V., p. 150, 152; G.D.S. Taylor, The Content of the Rule Against Abuse of Rights in International Law, British Yearbook of International Law 46 (1972–1973), p. 323, 333, 334, explains that "a State … acts in bad faith where it abuses its rights – by pursuing an improper purpose, taking account of an irrelevant factor, or acting unreasonably – and does so knowing that it is abusing its rights." See also S. Vinogradov, Challenges of Nord Stream, p. 45, 46 as well as A. E. Boyle, Dispute Settlement and the Law of the Sea Convention: Problems of Fragmentation and Jurisdiction, International and Comparative Law Quarterly 46 (1997), p. 37.

interpreted and applied differently by the international community of States, even when acting in good faith.

Controversies in this context could well lead to huge risks for the marine environment and the preservation of the oceans as an indispensable route of transportation – and so finally into a threat for the energy security and national economy of whole continents.

This applies all the more as new technology is available enabling new ways of utilization of the oceans, the exchange of energy sources becomes more important and the increased exploitation of natural resources of the sea combined with new claims for territorial sovereignty creates potential of conflicts. Besides, the often unsolved question emerges whether or not, and to what extent, the utilization of the oceans should be restricted by the aim of environmental protection.

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