# MSc Thesis

## Blue versus red and black versus green

The European Union on the crossroads: the dilemma between national policy goals and the greater communal good in the struggle for energy security in the context of perceptions towards fossil fuel dependence on Russia

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*"The way in which a state handles a conflict is the mirror society holds up to it"*

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# Abstract

This thesis seeks to uncover why the continuous EU efforts over the years to create a common energy policy have not yielded strong results: despite successful integration in other policy areas, the so-called EU Energy Union remains a rather de jure reality. The rationale for a common energy policy is partially found in the EU's dependency upon Russian fossil fuels, especially on oil and natural gas. The EU is indeed dependent on foreign powers for its energy supply to a large extent, yet it is not nearly at odds with its other main supplier (Norway) to the extent it is with Russia. The EU as an international organisation views the state of energy dependence on Russia rather negatively, bringing mainly geopolitical, but also environmental reasons for concern into the debate, and attempts to curtail the dependency via diversification and integration efforts. Meanwhile, the level of energy dependence varies per EU Member State (mainly due to geographic and historical factors), and is seen as desirable by some states, while worrisome by others. The observable differences between the national debates regarding energy security are therefore striking, rendering perception crucial to this research – more so than hard facts. These national debates namely frame the narrative in a country, and the differences therein make it extremely complicated for the EU to form a de facto common energy policy, that are to protect against Russian undermining of EU energy security. I thus ask: to what extent does perception influence the debates on EU energy security in the context of the fossil fuel dependency on the Russian Federation in the endeavour to strengthen the EU's position of leverage vis-à-vis its own energy security?

# List of abbreviations

| | |
|---|---|
| AII: Alliance for Innovation and Infrastructure | IEA: International Energy Agency |
| ACER: European Agency for the Cooperation of Energy Regulators | IMF: International Monetary Fund |
| Bcm: billion cubic metres (quantity measure of natural gas) | INEA: Innovation and Networks Executive Agency |
| Bcm/a: billion cubic metres per annum | IPD: Internal policy dimension (part of Baumann's 2008 theoretical framework on energy security) |
| BDEW: Bundesverband der Energie- und Wasserwirtschaft | IRSEC Hub: International Relations and Security Affairs Research Hub – think tank |
| BEMIP: Baltic Energy Market Interconnection Plan | ISACs: (EU) Information Sharing and Analysis Centres |
| BP: British Petroleum (energy company) | LNG: Liquefied natural gas |
| Bpd: Barrels per day (quantity measure of oil produced) | Mbpd: Million barrels per day (of oil) |
| Center for Applied Policy Research (CAP) | MS: Member States (of the European Union) |
| CCS: carbon capture and storage | Mtoe: Millions of tonnes of oil equivalent |
| CEE: Central and Eastern Europe | NATO: North Atlantic Treaty Organisation |
| CEF: Connecting Europe Facility | NEEAPs: National Energy Efficiency Action Plans |
| CFSP: Common Foreign and Security Policy | OECD: Organisation for Economic Co-operation and Development |
| CIS: Commonwealth of Independent States | OPEC: Organisation of Petroleum Exporting Countries |
| COMECON: Council for Mutual Economic Assistance – also abbreviated as CMEA | OSCE: Organisation for Security and Cooperation in Europe |
| COP21 and COP22: 21st and 22nd Conference of the Parties to the United Nations Framework | OSW: Ośrodek Studiów Wschodnich im. Marka Karpia – Centre for Eastern Studies (Polish think tank) |
| CORDIS: The Community Research and Development Informational Service | PCI: Project(s) of Common Interest |
| CPC: Caspian Policy Centre | PEC: Primary energy consumption |
| CPF: Casimir Pulaski Foundation | PISM: Polish Institute of International Affairs |
| CSD: Center for the Study of Democracy | |
| CSDP: Common Security and Defence Policy | QMV: qualified majority voting |
| EC: European Commission | REMIT: Regulation (EU) No 1227/2011 on wholesale energy market integrity and transparency |
| ECB: European Central Bank | RoC: Republic of Cyprus (Greek Cyprus / South Cyprus) |
| ECIs: European critical infrastructures | R&D: Research and development |
| ED: Economic dimension (part of Baumann's 2008 theoretical framework on energy security) | R&I: Research and Innovation |
| ECJ: European Court of Justice | SCP: South Caucasus Pipeline |
| ECT: Energy Charter Treaty | SEA: Single European Act |
| EEG: Renewable Energy Act (Erneuerbare Energien Gesetz) | SEE: Southeast Europe (also spelt as SE Europe) |
| EEZ: Exclusive Economic Zone | SEM: Single European Market |
| EFSI: European Fund for Strategic Investments | SLEGM: single liberalised electricity and gas market |
| EIA: United States Energy Information Administration | SU or USSR: Soviet Union |
| EIB: European Investment Bank | TAP: Trans-Adriatic Pipeline |
| ENTSO-E: European network of transmission system operators for electricity | TANAP: Trans Anatolian Pipeline |
| ENTSOs: European Network Transmission Systems Operators | Tcf: trillion cubic feet (quantity measure of natural gas) |
| EP: European Parliament | Tcm: trillion cubic meters (quantity measure of natural gas) |
| EU: European Union – at the time of writing the EU is comprised of 28 Member States | TFEU: The Treaty of the Functioning of the European Union |

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|---|---|
| FEC: Final energy consumption | TEN-E: Trans-European Networks for Energy |
| Fraunhofer IWES: Fraunhofer-Institut für Windenergiesysteme – a German research institute | TEN-T: Trans-European Transport Network |
| FSRUs: floating storage and regasification units | TNCEIP: Thematic Network on Critical Energy Infrastructure Protection |
| GCC: Gulf Cooperation Council | TPA: Third-party access |
| GCV: Gross calorific value (measured in terajoules) | TWh: terawatt hours |
| GMF: German Marshall Fund of the United States | UNFCCC: United Nations Framework Convention on Climate Change |
| IAEA: International Atomic Energy Agency | US or USA: United States of America |
| IAI: Istituto Affari Internazionali – an Italian think tank | WTO: World Trade Organisation |

# Chapter 1. Research outline

## 1.1. Introduction, research problem and rationale

*"Energy security is built from within. It starts with having a common vision, objectives, and speaking with a united voice"* (Hedberg, 28 January 2015).

### 1.1.1. General Introduction

This is the introduction to a Master thesis on the topic of European Union (EU) energy security in the context of the dependency of both the EU and its Member States chiefly on two Russian fossil fuels: crude oil and natural gas. In this first chapter, my goal is to set the parameters of the research and present the framework in which the research is to take place. In order to do this, I shall start by presenting the research problem in subsection 1.1.2, whereupon I will elucidate the problem statement and justify the necessity of this study in subsection 1.1.3. Finally, subsection 1.1.4 concludes the first sub-chapter with the presentation of the main question of the research as well as a very concise overview of the thesis.

The European Union knows far-reaching inter-state co-operation (also called intra-Union integration) with its Member States in countless issue areas: from shared economic policies to social and environmental policies; all initiated in an effort to prevent yet another war on the continent (c.f.; Archick 2017, p1). European collaboration started around seventy years ago on 9 May 1950 with the Schuman Plan, and co-operation became concretised through the European Community for Coal and Steel borne out of the Plan in 1951 (EUR-Lex, ECSC Treaty). Interestingly enough, this high-level of interstate teamwork is not omnipresent in all areas: energy for example, is seen more as a state affair than a Union-wide concern, as we will see. There can be myriad reasons why a particular issue-area might be designated as politically sensitive. Where energy is concerned, the core argumentation concerns its security nature: without a continued flow of energy at a reasonable cost, states and nations cannot survive. To cede sovereignty to the EU on this topic is therefore seen as rather undesirable, as states prefer to set and pursue their own national policy goals to provide energy security. This standpoint, however, is not without repercussions. Henry Helén (2010) describes the situation very aptly. He writes: *"[t]he European energy policy agenda has since 1980s focused almost exclusively on the completion of an internal energy market. Due to the continued strong sense among EU member states, that energy policy belongs to the field of sovereignty and national security, the EU's efforts to build a Union-wide energy market have failed, with the EU remaining to be characterised by a series of bilaterally-linked national markets (Helm 2007: 38; McGowan*

*2008: 95). Having failed in creating an internal energy market as a source of strength, the European energy policy has, by default, been poorly prepared when confronted by the external challenge of Russia"* (Helén 2010, p.7).

Aside from energy security being an issue that centres on national security and therefore flagged as politically sensitive, another reason why states prefer to keep energy security in the national domain revolves around perception. The way in which a certain situation or matter is perceived, determines to a great extent how one responds to it. Perception is not – or at least not purely – based on factuality: it is coloured and biased by design. Yet despite its subjective nature, perception overwhelmingly influences policy-making. In fact, one could even argue that perception might be primary to reality: this is because, as social constructivism suggests, we shape our own reality. Following from this, a strong interplay can be observed between perception of matters related to energy security on the one hand, and policy-making, political debates, and norm creation in political energy affairs on the other. The key role of perception becomes especially clear against the backdrop of the condition of the EU's energy dependence – specifically the dependency on Russia in this regard.

The EU countries are dependent upon several supplier states for their energy consumption, but the case of energy dependence on Russia is different from that of Norway, for example. Evidence supporting the notion that Russia plays political games and seeks to exert influence on the EU is found throughout the thesis, and although there is a discussion regarding whether or not the infamous Russian 'energy weapon' is fact or fiction, the political and academic community largely agree that Russia exports more than just energy to Europe. High levels of dependency on a fundamentally important good such as energy, conflated with political pressure and (covert) influence, make for a rather toxic cocktail. This leads to greater political wariness and suspicion, because the consumer country's perception can be affected by this situation – which in turn negatively affects mutual trust between the EU and Russia. This is why I chose to write about the EU's energy security in the context of its dependence on Russia of all supplier states. To be fair, the European dependence is only one side of the story: in actuality, there is a situation of interdependence, as Russia is strongly dependent on the revenue gained by the energy trade with Europe. Although this interdependence is touched upon in the thesis due to purposes of completeness and clarity, one of the two main focal points of this study concerns the EU's energy dependence on Russia.

The above context portrays the inherent complexity of the quest for energy security. As the prisoner's dilemma theorem namely teaches, although co-operation and the pursuit of the greater good would in turn be more gainful for the individual Member State than having to fend for oneself, coloured perception sometimes prevents logic from prevailing in politics. However, not all EU states distrust Russia to the same degree; the countries are divided on the matter of whether or not to view energy dependence on this supplier as a potential political threat, as well as whether further European integration in the field of energy would constitute a wise policy move. The foundations of the common energy policy and the so-called Energy Union (the intended culmination of inter-state energy collaboration) are grounded in voluntary intergovernmental co-operation, rather than supranational integration led by the European Commission. This is because the issue-area of energy is a shared powers competency with limited EU competences: both the EU and the Member States can legislate and regulate. Member States only lose their legislative powers if the EU moves to exercise its own powers (European Policy Centre: Competences). With regards to energy, we can see an interesting phenomenon wherein the MS (Member

States) hold on to their national policies, while the EU has legislated and put in place the foundations of the aforementioned common energy policy.

The fact that the Member States have not ceded their sovereignty in this policy area and that the EU allows this situation to perpetuate further evidences that energy is a highly politicised and complicated policy area. This phenomenon is eloquently put by Mr Jan Frederik Braun as follows: *"[t]he carefully formulated, new energy provisions in primary law, which formalise the shared ownership of this policy field, offer little that will move intergovernmental topics into the Union arena, hence neglecting to reinforce aspects like solidarity"* (Braun 2011, p.8). Inter-state solidarity, particularly regarding energy and energy politics, indeed remains low, as we will see throughout the thesis. Aside from energy being an inherently complex topic, there also appears to be a mismatch between the goals that are to be achieved. On the one hand, the MS have their respective national energy policies, in which they control their national energy mix and apply state market rules, while on the other hand the EU seeks to create an Internal Energy Market with cross-border infrastructure based on Art. 194 TFEU (Treaty of the Functioning of the European Union) (Koch 2014, p.5). Naturally, when the Member States disagree, the EU is effectively stifled in its policy course. As such, the EU now finds itself on a crossroads and must debate whether it should continue energy integration efforts in spite of a growing Eurosceptic socio-political climate, or curb its desire to streamline national energy markets, which could allow Russia to increase its influence and power play against individual EU countries.

We see that national perception of the EU, Russia, and matters such as energy dependence, -security, and the agreed upon transition from fossil fuels to renewables influences national debate and plays a pivotal role in policy-making. Therefore, the power of perception in policy-making serves as the other main focus of this thesis. From the above naturally flow key research questions, such as the main research question, which reads: to what extent does perception influence the debates on EU energy security in the context of the fossil fuel dependency on the Russian Federation in the endeavour to strengthen the EU's position of leverage vis-à-vis its own energy security? This question obviously tackles a plethora of issues that need to be examined in their own right. The sub-questions posed to help answer the main research question are presented below in subsection 1.1.4.

### 1.1.2. Presentation of the research problem

Energy security holds a prominent place on the political agenda of the European Union and its Member States. This is due to its unique importance to the European economies and their post-industrialised societies. If a country proves unable to obtain an uninterrupted flow of energy at a reasonable price, this can be interpreted as a major threat to national security and state survival, as nearly all states rely heavily on this vital resource. This is not to say that dependency is inherently problematic: the EU's energy dependency on Norway, for example, has been growing in recent years. Still, this is not seen as problematic, since Norway is considered a reliable exporting state. The problem lies in the possible political power a state could – and actively works to – exert under certain conditions. Such conditions include: if the importing state is highly energy dependent on the exporting state, bilateral political relations are poor, the exporter seeks to expand its sphere of influence, and can be argued to have used energy as a weapon of foreign policy in the past. As Reymond confirmed in his 2007 article: *"[t]he choice of natural gas to produce electricity, similarly to oil, raises the issue of Europe's vulnerability and dependency on gas. Scientific reports and experts agree that "the present gas supply to the EU is*

*dangerously dependent on too few sources and venues. There is a decided lack of optionality" (Weisser, 2007). Diversifying geographical sources of supply will help importers to avoid economic and geopolitical uncertainties"* (Reymond and Weisser 2007 in: Reymond 2007, p.4169).

Aside from sec energy dependence and its possible geopolitical repercussions, another level of complexity is added by perception. As noted in the abstract, among those EU Member States dependent on Russian fossil fuels, the views towards Russia and their dependence on this exporter vary greatly. Some, such as Germany, have positive political energy relations with Russia – witnessed by the construction of major joint pipeline projects – while others, among which Poland, are highly sceptical of Russian political intentions projected through perpetuating energy dependence in consumer countries. These differing standpoints among EU states make it very difficult to initiate a common EU energy policy, which would include an EU Energy Union wherein a uniform energy trade tariff were to exist and Member States could pool and share their energy resources with one another. This is why the research problem of this thesis primarily concerns the EU and Member States' quest for greater energy security, which is to be achieved either on the national-, the EU level, or both. In this this geopolitical puzzle, Russia could be seen as a common threat, and therefore possibly a vehicle that could provide the agreed need for greater intra-EU co-operation.

### 1.1.3. Problem statement and research justification (rationale)

Succinctly put, the starting point of this thesis is the debate about EU energy dependency on Russia, because this very clearly uncovers the national differences in perception on energy-related topics. As briefly indicated in the Introduction, the reality of the EU-Russian energy relationship is interdependence, but since the Russian dependence on monetary revenue gained from the fuel trade with Europe is unimportant to this research, I will focus on the European dependence on Russian fuels. Herein, although a marginal level of energy dependency does not pose a perilous situation, high dependency levels on one single producer state renders a country exposed and thus vulnerable. In such cases, especially when energy dependency on this producer is growing year after year, this can have potentially very negative – even dangerous – repercussions. This perceived danger is compounded when the political relations with said energy partner are less than amicable. The reason for such potential peril is because a link can be seen between energy security and geopolitical-, as well as state security; which is the rationale for this research. The rationale's validity is proven by the sensitive and protective way in which energy security is treated by nation-states in general, as well as the refusal of the EU Member States to cede sovereignty and legislation powers to the EU under the guise of national security. Unfortunately, it goes beyond the scope of this research to explore said linkage itself in-depth. This is because the debate on the inherent security nature of energy as a resource, though assumed by this thesis, would be too broad to expound when the research has to focus on the power of perception in the context of energy dependence. As such, the relationship between energy security and state security will not be further investigated in the research itself and serves solely as research justification.

### 1.1.4. Main question

In light of growing dependence on an energy partner with which diplomatic relations have become severely strained in recent years, we can ask ourselves the following relevant question: to what extent does perception influence the debates on EU energy security in the context of the fossil fuel dependency

on the Russian Federation in the endeavour to strengthen the EU's position of leverage vis-à-vis its own energy security? This will be our main research question of the thesis. To answer this question, we must first look into the how EU cooperation regarding energy has developed over the decades and mathematically calculate to what extent the EU Member States are actually dependent upon Russia for different fuel types. This is done in the first research question in Chapter 3. After this, it is of relevance to find out to what extent a common EU energy policy is already factually in place and measure the Union's energy security, which will be expanded on in the second research question in Chapter 4. The final component required to answer the main question arises from the national debates on EU energy security in the Member States in order to see how the Energy Union and EU energy integration in general are perceived on the national level versus on the EU level. This will be considered in the third research question in Chapter 5. I will conclude this thesis by answering the main question and considering the possible consequences of the apparent lack of completion and implementation of the common energy policy. By bringing together various perspectives on EU energy integration in light of the larger context of energy dependency on Russia, I hope to shed light on the way in which perception plays a role in integration. However, it is first important to explicate the way in which the thesis is structured, to which the first two chapters are dedicated.

## 1.2. Scientific relevance, societal relevance, and research structure

### 1.2.1. Introduction

In this sub-chapter, I will map out the rudimentary foundation of the research by first elaborating on the scientific relevance (subsection 1.2.2) and societal relevance (subsection 1.2.3) of this thesis. This first chapter ends with a more comprehensive outline of what the research will entail, in subsection **Error! eference source not found.**. The outline – or roadmap – of the thesis provides the possibility to present the sub-questions which together help to holistically answer the main question.

### 1.2.2. Scientific relevance

I intend to measure energy security in the EU and display the debate regarding energy security both at the EU level as well as at the national level, so as to contribute to the academic debate on EU integration in the field of energy. This debate focusses on the field of tension between the long-term group interests of the EU (a common energy policy) and the short- to medium-term individual policy goals of the Member States (sovereignty over national energy policies). On the one hand, the greater good is served when all countries co-operate with each other, which will in time lead to higher energy security for all. On the other hand, however, Member States are reluctant to cede control over national energy policies and at times even undermine European-wide energy security by entering into bi-, tri- or multilateral gas deals with Russia that may harm other Member States in the process. This zero sum game centres on the notion that one state's energy wealth strengthens it at the cost of the other state (c.f.; Proedrou 2012, p.16). It paints the background of the debate in a constructivist setting wherein perception and national gain outweigh facts and common benefit in policy-making. This foregoes Proedrou's argument that normative foreign policy (the EU using soft power to convince trade partners to play by its rules) does not necessarily contradict rational choice theory, since the establishment of stability and norms of non-violence is rational in itself (c.f.; Proedrou 2012, p.19). The topics of energy security and perceptions in policy are studied separately in academic literature, but have, as far as I know, never been discussed in an intersectional way. It is my hope to contribute to the social sciences in this manner and end the thesis not just with conclusions drawn, but also with ideas and questions that render more research on this topic in order.

### 1.2.3. Societal relevance

The societal relevance of the thesis concerns my endeavour to assist in helping to bring about a more secure future for the EU that can sustain a growing economy as well as allow for population growth (in light of the immigration influx into the EU) and the growing energy needs that go along with it. Another reason why I hope to make this research of societal relevance is to help create a stronger geopolitical standing of the EU in the world as well as a greater bargaining position in regard to energy negotiations due to a lesser degree of dependency on other state entities for vital commodities. The potential audience of this research could therefore be quite wide and might encompass national and EU policy-makers as well as anyone who is interested in learning more about the perceptions that govern energy politics and the complicated and layered reality that is energy security in a contemporary European setting. The societal relevance pertains to increasing EU energy security while decreasing its oil and gas dependence on Russia. This hinges on two points: to diminish dependency and to strengthen the position of political

leverage in energy negotiations with the government of the Russian Federation and its proxies, such as state-owned energy companies.

### 1.2.4. Research outline: an overview of the thesis

To answer the main question of the research, a few sub-questions need to be asked in order to break the main question down into clear questions that address the concrete issues in the research. Sub-question 1 reads: How have intra-EU energy co-operation and energy dependency on Russia developed and to what extent are the EU Member States factually dependent? This question provides the opportunity to look into the complex matter of EU energy dependency. Here, I will write about the extent to which a common EU energy policy is already in place and how the regional cooperative framework regarding energy has been formed over the course of many years. It also gives the possibility to look into how the European states have become dependent upon Russia – this is done separately for Western Europe and Eastern Europe. In this chapter, I also will measure the EU energy dependency to see how dependent the EU really is and whether this dependency is increasing or decreasing. This is done for three fossil fuel types: gas, oil, and coal. That being said, as the focus of this research, oil and gas will be the main fuels considered. Coal, on the other hand, will only be mentioned where deemed appropriate. This is done for the following three reasons: firstly, it helps to bring focus and narrows the scope of the research. Secondly, coal is too polluting to logically remain a major resource in the future in light of EU emission regulations and global climate agreements, and thirdly, the two main energy products the EU imports from Russia are gas and oil. In essence, sub-question 1 in chapter 3 maps out the facts surrounding energy dependency as well as possibly considering the elusiveness of these concepts and the in politics shrouded reality on which they hinge. It is of vital importance to first have history and facts straight before turning to other sub-topics; they will namely serve as a frame of reference for the rest of the research.

The main topic of sub-question 2 is to measure the contemporary level of energy security in the European Union as accurately as possible. This is not a straightforward exercise, since energy security itself is an intricate concept that is difficult to quantify and can be defined in various ways. In order to be as comprehensive as possible, I will operationalise Baumann's 2008 theoretical framework on energy security. Florian Baumann, a researcher with the Center for Applied Policy Research (CAP) has devised a framework to measure energy security in the European Union. It takes into account various aspects from different perspectives, called dimensions: there is the internal policy dimension, the economic dimension, the geopolitical dimension and the security policy dimension – each with their respective relevant issues. Together, they form a holistic way of measuring energy security in the broadest sense of the word. This theoretical framework serves as a guide which helps differentiate between the extent to which a common EU energy policy in factually in place on the one hand and the extent to which it is mostly rhetoric on the other. More detailed information on how this is done can be found in the chapter on methodology, below. Sub-question 2 is therefore: How secure is the European Union today in terms of energy and to what extent has the EU Energy Union been de facto implemented? The reason that this sub-topic is important is explained as follows: the founding and implementation of the EU Energy Union is a fundamental step in the creation of an EU-wide common energy policy. This joint policy is to (amongst others) help check energy dependency, strengthen and increase the linkages (both political and physical interconnectors) between EU countries, and bring about a stronger bargaining position during energy negotiations. This seems like an interesting step towards greater unity on EU-wide energy issues. As we will see, the Energy

Union is, a decade after its foundation, still not fully implemented. It is necessary to find out how much is yet to be implemented and what the causes are of its delay.

The final research question of the thesis is dedicated to the debates regarding energy security, energy policy and the energy mix on the EU and national levels. A perceived discrepancy in policy goals can namely be observed between the EU and the Member States as well as between the Member States themselves. The third research question reads: How is energy security and particularly the dependence on Russia perceived on the national level and what consequences does this bear for a common EU energy policy? The analysis of these debates will help us understand how Russia is perceived by the EU and the Member States: as a threat in energy politics, as a (semi-)reliable trade partner, or perhaps even as both. Since analysing the discourse and debates of 28 Member States would render this Master thesis more of a PhD study, I will limit myself to two countries: Germany and Poland. Why precisely these Member States have been selected and how this will be done, is explained below in the methodological framework. The tone and topics of the debates aim at uncovering the perceptions that lie beneath these and as such show one of the many ways in which national and EU policy towards Russia is shaped. I will look at the discourse by EU, German and Polish officials on sub-topics pertaining to energy security. These sub-topics are stated in the methodological framework. I will also look at the interview answers by experts and see to what extent the same items and topics are mentioned.

This brings us to the Conclusion of the research, in which the main question will be answered and a recapitulation of the answers to the sub-questions as well as the findings of the research chapters will be given. Finally, in the section on recommendations and possibilities for future research, I will briefly consider how the EU could enhance the state of its energy security and increase its position of leverage regarding energy in relation to Russia. Leverage is a crucial factor in exercising pressure to influence the outcome of a situation, such as a round of negotiations on energy prices and possible new infrastructure projects. Here too, certain aspects of Baumann's framework can be operationalized to see how the current situation could be improved upon to increase leverage, for example through a collective EU bargaining position. I will end this research by making several recommendations to EU and national policy-makers as well as propose opportunities for possible further research on the topic of EU energy security.

# Chapter 2. Conceptual framework and Methodological framework

## 2.1. Conceptual framework

### 2.1.1. Introduction – the concept of energy security: definition and measurement

This sub-chapter of the research is dedicated to detailedly elucidating the conceptual framework: these are essentially the concepts used in the research that are part of Baumann's (2008) theoretical framework on energy security. The theoretical framework is applied and operationalised in the research in order to adequately measure energy security. Since this is an intricate concept with various facets and complex layers, there is no simple method of calculating energy security. Hence, one way to attempt such quantification is by applying the criteria for proper energy security set by Baumann. Before getting into details of what the framework encompasses, I should like to add that there are, of course, alternatives to Baumann's framework. Different researchers utilise differing statistical analyses as well as various measurements set by the many ways in which to define the concept of energy security. For example: Cherp and Jewell (2014) define energy security as: *"(…) low vulnerability of vital energy systems"*, while Winzer (2012) deems this to be *"the absence of, protection from or adaptability to threats that are caused by or have an impact on the energy supply chain"* (Cherp and Jewell 2014, p.420; Winzer 2012, p.41). Yet rather than present and debate here the ideas of social scientists whose different definitions and measurements I will not explore further in the research, I would like to introduce the thoughts of the experts from various fields with whom I had the privilege of sitting down for an interview. I asked three of them how exactly they defined and measured energy security.

To start with Mr Brigham McCown, CEO of Nouveau Incorporated, chairman of the Alliance for Innovation and Infrastructure, former senior executive at the United States Department of Transportation. I commenced by saying: *"[m]y first question in this interview, as it is about energy security and transport, would be: How would you specifically define 'energy security'?"* Mr McCown: *"[t]hat's a great question. I think energy security consists of multiple components; one is either possessing or acquiring the raw materials for energy, and then second is having security over the transportation of raw materials for energy and the security over the delivery of finished energy products – meaning being able to safely transport them or transmit them to market."* My follow-up question was: *"[d]oes your definition differ between the US and the European Union?"* Mr McCown mused: *"[n]o, I think the definition is fairly universal. There's certainly different opportunities and challenges between different countries or different regions, but I think the terminology is pretty much the same."* Next up was the then Danish Ambassador to Poland, His Excellency Mr Steen Hommel, whom I asked how he defined energy security in general, and what energy security means to the EU specifically. He defined energy security as *"(…) the security that we will receive energy – for those who need the energy."* His Excellency deliberated: *"[t]hat basic concept of energy security is more or less the same for all of us, but what we see is, elements of energy security differ: it differs in time, it differs between where and who you are. But the basic understanding of energy security is that you have access to energy; safely and all over your country, I would say. For all the consumers needing it at all time, in all situations."* Finally, there was energy analyst Mr Martin Vladimirov, to whom my precise question was as follows: *"[w]hen we look at energy security, how would you define this – especially for the European Union?"* Mr Vladimirov replied: *"[w]ell, the energy security definition has been a very vague, fuzzy term. Energy security is usually seen as made up of all different factors, meaning:*

*affordability of supply, so, availability of supply, reliability of supply, affordability of energy supply, and sustainability. And these four factors have different logic and have different policy applications for European leaders. And some of them have affected European countries more disproportionately than others. For example: although the European Union has moved very aggressively on the sustainability front by investing in renewable energy, subsidising renewable energy…"* [end of sentence]. The follow-up question then was: *"[w]ith regards to the energy security, how would it best be measured? Is there a way to measure this?"* Mr Vladimirov cogitated: *"[t]his is very interesting, because at the centre we're actually doing a lot of (…) we talk a lot about energy security indexes measuring that* [energy security]. *The best way to measure energy security that has been out there, at least the one of the US 21st century energy centre that publishes an annual US energy security index and international energy security index. The international energy security index has 75 ranks, 75 countries: 75 largest consumers of energy. It's a very good composite indicator made up of all these four factors that we talked about, but still it's a bit oil- and fossil fuel heavy. I mean, the way the index is composed is very much dependent on reliability of supply, availability, and the price of the thing – so affordability. Less so on sustainability and less so on political factors."*

All respondents' replies are interesting and valuable. They approach this complex and multifaceted issue from different perspectives and, this way, find various ways to measure this rather abstract concept. The method each expert prefers to use in order to quantify energy security tells us something about how they perceive the subject and treat it in their work. Yet none of these definitions or alternative measurements are as broad and as comprehensive as Baumann's framework and as such do not satisfy the requirements of an academic analysis in this particular Master thesis; which is why I decided to use Baumann's measurement rather than any other. Before being able to apply the selected framework (an endeavour to which Chapter 4 has been dedicated), it is first important to find out what exactly his framework entails. There are four dimensions, each with their own points:

Baumann's 2008 theoretical energy security framework

1. The internal policy dimension
    - Infrastructure investments
    - Emergency planning
    - Energy efficiency
    - Fuel mix

2. The economic dimension
    - Energy markets
    - International trade
    - Technological leadership

3. The geopolitical dimension
    - Transnational networks
    - Energy Charter Treaty
    - Re-nationalisation
    - Soft power

4. The security policy dimension
    - Energy Infrastructure Security
    - Hard power

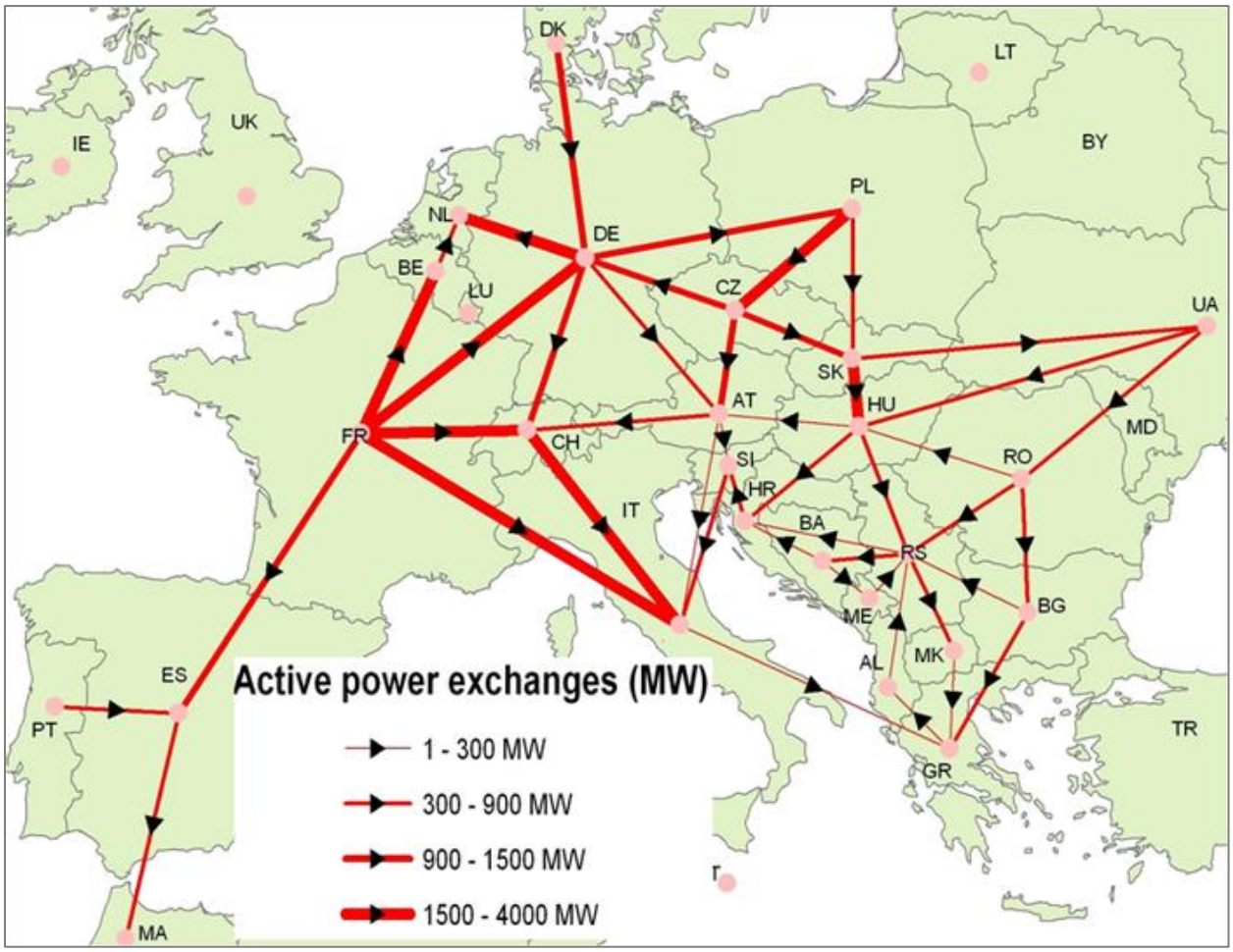
I shall now turn to every dimension individually and discuss its respective sub-issues and facets.

### 2.1.2. The internal policy dimension

Baumann first emphasises that in order to understand energy security, we need to look at the internal policy dimension (IPD). The core idea of this dimension revolves around what the EU Member States can do on the national level to increase energy security and cooperate efficiently on the EU level. Baumann indicates that two themes are central in this regard: *"(…) extensive financial acquisitions for maintenance, and extension of energy networks"* (Baumann 2008, p.5). According to Baumann, it is imperative that governments diligently plan the construction of new power grids and facilities in light of growing energy demand; governments must seek to assure that the existing energy systems on their national territories are well-maintained via infrastructure investments to facilitate the extension of energy networks in the EU itself. As such, the IPD calls for extensive financial acquisitions for maintenance and extension of energy networks. The growing demand of electricity particularly requires massive investments in new grids and power plants.

Baumann sees an active role for MS wherein governments try to assure that their energy grid is connected beyond their national territories to effectively create linkages with the energy infrastructure of other states forming 'energy highways' in their direct regional vicinity. These international linkages are called interconnectors and are vital for cross-border energy transports. To visualise this, please see Map 1 on the next page. I should ask the dear reader to please be advised that this is but a hypothetical and rather fictitious view of what could be; it is not an accurate display of the current state of European energy grid connectivity. Baumann's idea of emergency planning rather speaks for itself and concerns the existence of a contingency plan to prevent and mitigate supply fluctuations in case of extreme weather conditions as well as regional (political) conflicts (Baumann, 2008, p.5). A third aspect of the IPD is energy efficiency, defined as *"(…) attaining the same output with a lower input, which translates into lower energy costs, higher productivity, and greater efficiency per same amount of energy"* which, if implemented correctly, could stimulate economic gain and lessen environmental damage in Baumann's view (Baumann 2008, p.6). The last facet of the internal policy dimension of Baumann's energy security framework concerns the fuel mix (or energy mix), this being interpreted as the different types of energy utilised by a state in various consistencies, indicating on which types the state is dependent and uses most.

**Map 1: Planned future European energy highway displaying interconnectors**




SOURCE: DEEPRESOURCE WEBSITE: OBSERVING THE WORLD OF RENEWABLE ENERGY AND SUSTAINABLE LIVING, 5 JUNE 2017

### 2.1.3. The economic dimension

The economic dimension (ED) principally accentuates national demand and international supply. Here, energy markets are important with regards to energy prices as well as the liberalisation of energy markets that boosts competition, flowing over into cost minimisation and efficiency maximisation through R&D (research and development). The above is logically linked to international trade, while technological development and R&D are needed to achieve and entity's technological leadership in the field of energy. These underlined notions are fairly self-explanatory and it seems logical to include these three matters in the ED when speaking of trade, the economy, and ways in which to remain competitive in a rapidly technologically advancing age.

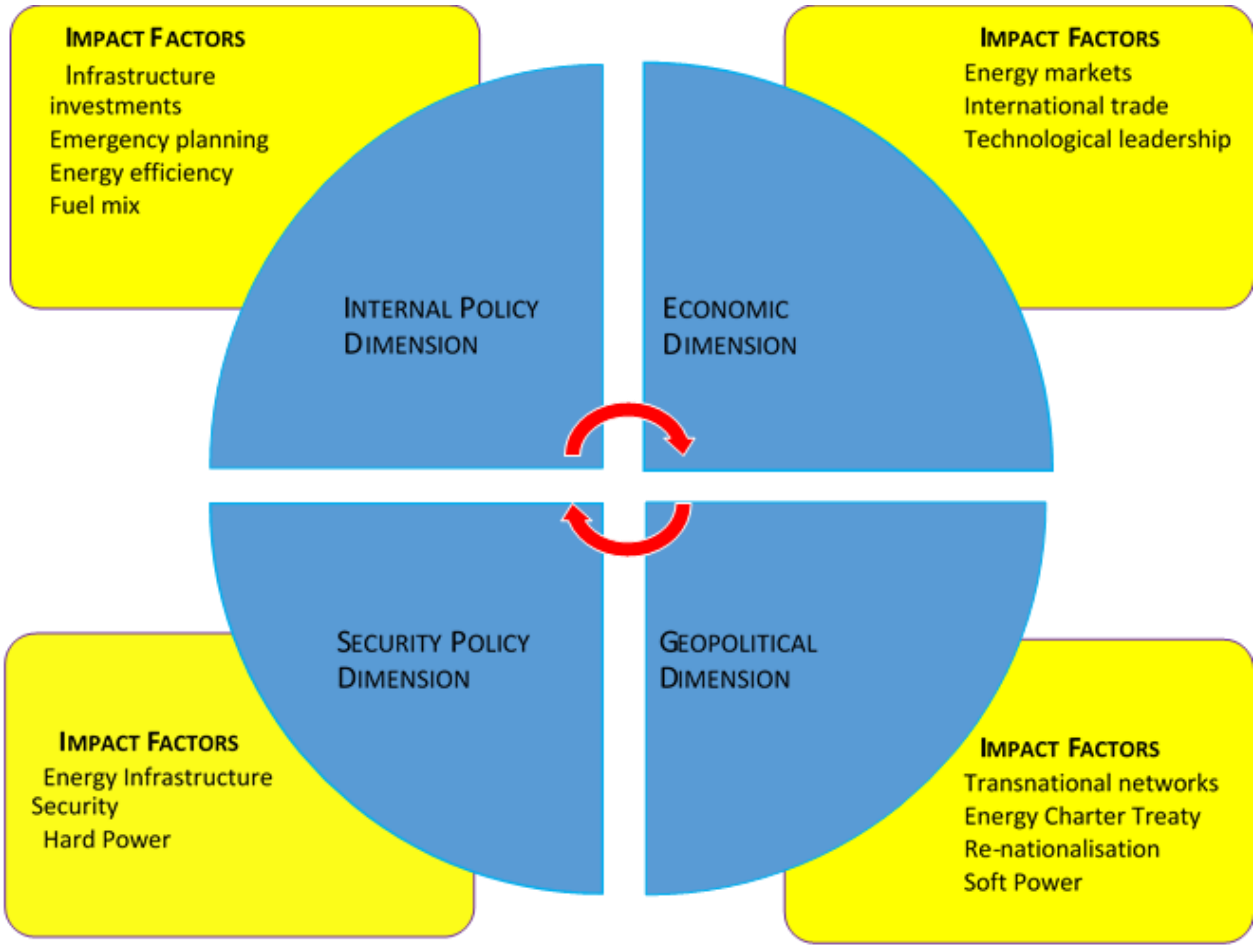
### 2.1.4. The geopolitical dimension

Transnational networks are the first point of Baumann's geopolitical dimension. These are cross-border energy networks that join national energy grids with each other via interconnectors. The issue of transnational networks links back to the aforementioned infrastructural investments in the IPD above. Member States namely have their national grids and power plants, and if a national shortage were to arise for whatever reason, it would greatly increase national as well as regional energy security if other Member

States in the vicinity could lend a hand and help resolve the temporary shortage. As such, transnational networks are important in Baumann's theoretical framework. The next item concerns the Energy Charter Treaty (ECT). The Energy Charter Treaty was signed in December 1994 and entered into force in April 1998 (ECT website, *The Energy Charter Treaty*). The ECT provides a multilateral framework for energy cooperation to heighten energy security by boosting openness and competitiveness of energy markets (ECT website, *The Energy Charter Treaty*). All EU Member States are signatories to the treaty, as is the Russian Federation, yet this state has not ratified the ECT (ECT website, *The Energy Charter Treaty*). By incorporating the ECT, Baumann portrays the political ties between the signatories and their expressed intentions to co-operate on the issue of fossil fuel production, transportation and trade. Political clarity names increases certainty and therefore trust – and by this virtue, energy security is increased.

The ensuing topic in the geopolitical Baumann's framework is that of renationalisation, meaning when a state's government places the energy sector under state control and takes over commercial endeavours of energy companies such as oil deposits, mines, and infrastructure. These are subsequently exploited by state-owned companies, which is often detrimental to fair competition and transparency of the energy market. It seems logical of Baumann to incorporate this matter into his framework. The European Commission namely applies strict rules regarding cartels, state aid and monopolies, while major Russian energy companies such as Gazprom, Rosneft, and Transneft are state-owned, making for market inefficiency and an imbalance between Russian and European petroleum businesses. The last issue in the geopolitical realm according to Baumann is soft power. To understand this, we must first define power itself: *"(…) power is the ability to influence the behaviour of others to get the outcomes one wants"* (Nye 2004, p.5). Soft power is the diplomatic toolbox employed by a state consisting of non-military means to convince or persuade another state to act a certain way – methods include, but are not limited to lobbying, propaganda, ultimatums, non-violent threats, boycotts, and sanctions. Nye defines soft power as *"getting others to want the outcomes that you want – co-opts people rather than coerces them. (…) Soft power rests on the ability to shape the preferences of others"* (Nye 2004, p.5).

**Figure 1: Visual representation view of Baumann's energy security framework**




SOURCE: BAUMANN 2008, P.5-10

### 2.1.5. The security policy dimension

Finally, Baumann's fourth section is the security policy dimension. Firstly, Baumann makes mention of energy infrastructure security, which is to prevent energy disruptions caused by destruction of any type of affected energy groundwork. The security risks of destruction of foreign or national property in order to disturb fuel flow as foreign policy tactics, such as the usage of energy as a weapon, fall under the category of hard power. Hard power itself rests on a military and an economic pillar, as well as on inducements ('carrots'), threats ('sticks') and/or payoffs (Nye 2004, p.5). As seen above, the research will follow Baumann's conceptualisation of energy security in exploring EU energy dependency on Russia and its repercussions for the state of energy security of the EU. The graphic representation of Baumann's theoretical framework below illustrates the four dimensions that are divided into their respective sub-topics as discussed above.

## 2.2. Methodological Framework

### 2.2.1. Introduction

This sub-chapter is devoted to the methodological framework of the thesis. It starts by discussing which research methodology and worldview I have taken to fit this research and why (subsection 2.2.2). It subsequently looks into the methods and techniques employed in this thesis, which will be the main topic of subsection 2.2.3. Next, in subsection 2.2.4, I explain how I will calculate the European Union's energy dependence on Russia, after which I will expound the way in which Baumann's theoretical framework to measure energy security is operationalised in the research (subsection 2.2.5). The methodological framework is completed by a discussion regarding the limitations of the research itself, in subsection 2.2.6. The chapter will end with a brief note on special punctuation utilised in the research (see subsection 2.2.7).

### 2.2.2. Qualitative research methodology and the application of a Constructivist worldview

Before we dive into the reasons for the selected methodology, it is necessary to ask: what is a research methodology? This is concisely explained by Leedy and Ormrod in Williams as follows: *"[r]esearch methodology is defined by Leedy & Ormrod (2001) as "the general approach the researcher takes in carrying out the research project" (p. 14)"*, (Leedy & Ormrod (2001) in: Williams 2007, p.66). Choosing an appropriate research methodology is crucial to the research, since it shapes what data are taken into account, the way in which the research is structured and how the findings are perceived. All of the above influences the outcome of the research to a great extent. Seeing as this research will endeavour to gain insights into the specific case of EU energy security and its dependency on Russian energy, a qualitative research methodology will be applied. This is mainly because this research will emphasise the perceptions and inherent biases behind EU energy security politics that shape policy, rather than seek to uncover the hard facts and numbers regarding energy security. Taking this into consideration, qualitative research methods, flowing from a Constructivist worldview, are more befitting this research and it is owing to these reasons that I have selected a qualitative rather than quantitative methodological toolset. Perspective is also crucial when it comes to the worldview applied to the research; it is indeed a kind of lens through which one perceives the research topic.

Interestingly, I started this research with the intention to apply a Rationalist (realist-liberalist) worldview, because it was my endeavour to try and map out the EU-Russian energy relations as factual-based Realpolitik. However, the more I read, the more I discovered the inherent flaw in my thinking: from the outside, decisions in international politics seem to be based on facts, and weighed carefully with the state of the world economy as well as the diplomatic relations between states involved. Nevertheless, by studying the case further, I realised the gravitas of perceptions in how policy comes about and hence realised that to understand decision-making, we need to explore how, and which perceptions play fundamental roles in policy-making. Politicians, diplomats, and policy-makers are human beings: they are driven by interests, preconceptions, ideas, convictions, and perceptions of the representatives of the countries dealt with – aside from the perspectives they hold of their own respective states. These ideas may be in part based on facts, yet will never be fully factual, yet much more based on human emotional convictions, ideas and expectations. The original goal of uncovering the facts and the systems that have

led to, and perpetuate, the EU's supposed dependency on Russian oil and gas is still there – I still intend to measure this dependency as objectively as possible. Nevertheless, the awareness of the notion that peoples cast judgement emotionally rather than purely fact-based, which essentially is the most important difference between Realism and Constructivism in perception of the world around us, must be duly taken into account. For this reason, I have changed the worldview that I seek to apply onto this research from Rationalism to Constructivism. Constructivism namely implies that the world around us shapes us as much as we shape it – or as aptly put by Campbell: *"(…) knowledge is constructed by a combination of physical and mental activities"* (Campbell 1998). In view of the above regarding the importance of perception, a Constructivist worldview is most appropriate in this study on EU energy security. Moving on, I will next elaborate on the methodologies and methods are selected and arguably best fit the research.

### 2.2.3. Methods and techniques

a. Subject-matter expert interviews
b. Discourse analysis
c. Case studies
d. Site selection, respondents and databases

The methods listed above seem most appropriate to the research, for the following reasons:

#### *2.2.3.a. Subject-matter expert interviews*

To collect experts' views on topics related to EU energy security, I have conducted five interviews, each roughly one hour in length, with the exception of one interview during which the expert had little time and could only stay for about forty minutes. On three occasions an opportunity arose to conduct interviews during and thanks to the network of the Casimir Pulaski Foundation in Warsaw, Poland. The first expert I interviewed was former senior executive at the United States Department of Transportation Mr Brigham McCown, who spoke mostly about the geopolitical side of energy security. After this, I interviewed the then Danish Ambassador to Poland, His Excellency Mr Steen Hommel, who told me about European co-operation and integration in the field of energy. I also got to interview Mr Maciej Kowalski, an operations engineer in the petrochemical industry and expert in the field of oil and gas extraction and transportation. Mr Kowalski works for Weatherford Poland, a service company assisting in the extraction of oil and gas in Poland and the Baltics, and specialising in energy technology (Weatherford website, *Who we are*; interview with Mr Kowalski). The final two interviews took place during two Model United Nations conferences (in Norway and in Bulgaria respectively). The expert interviewed in Norway was Professor Muyiwa Adaramola, a leading scientist conducting research in the field of renewables at the Norwegian University of Life Sciences, NMBU. The final expert was Mr Martin Vladimirov, security analyst at the Center for the Study of Democracy (CSD) in Bulgaria. Professor Adaramola was contacted via the reverend at my church congregation in Warsaw, as they are personal friends. Mr Vladimirov was invited to give a speech on energy security at the Model United Nations conference in Bulgaria, wherein I acted as chairperson of the Security Council. He had some time after the speech and agreed to an interview. All other interviews were set up in advance.

All interviews were semi-structured in nature, with one exception. By a semi-structured interview, I mean that I pose an expert an open question whereupon he is free to elaborate on the topic in his

answer. Moreover, it allows for the answers to be interpreted to a limited extent. The semi-structured interview format permitted me to ask follow-up questions based on answers the respondents had given. It also gave me the freedom to ask different experts diverse questions. This may seem unreliable, because seeing as not all experts answered the same questions, I cannot really compare their answers. The reason why this was done, however, was because of the varying backgrounds of the experts: one knows a lot about renewable energy, the other about shale products and fracking etc. Many interview answers are still quite comparable after all, because respondents touch upon the same subtopics or put forth similar arguments. The only exception to the semi-structured interview was that with energy analyst Mr Vladimirov. After posing the first question, I noticed Mr Vladimirov had so much interesting information to share on various topics, and one topic would lead him to the next. I was thus unable to pose many questions, but received a lot of valuable insights from this expert. The wisest and politest step to take – it seemed to me – was to not interrupt Mr Vladimirov, but to cut the interview up into quotes afterwards. The outcome of this becomes clear in the thesis: all interviews have clear questions with a question and reply – loose quotes exist, but are quite rare. Mr Vladimirov would speak about a certain topic that would be more relevant in a different section of the research than the place wherein the question was posed. His loose quotes are thus to be found throughout the thesis, but the context is always clear – and indicated for purposes of clarity wherever it is not.

The sources most important to the research rather consist of policy documents of the European Union, analyses of social scientists, as well as data and statistics from Eurostat and other relevant sources. The main reason for conducting these interviews, on the other hand, was to verify and acquire insights unobtainable from literature and EU statistics. These are mostly anecdotes of personal experiences in the respective area of expertise of the subject-matter expert in question. By incorporating interviews into the research, some counterweight is given to theories, facts and rhetoric by highly placed officials. The subject-matter experts portray practical views on the aspects of energy security portrayed in the literature and the theoretical data in books, research documents and academic articles. The thesis does not aspire to conducting countless interviews, however. This is because the research is about the state of European Union energy security for which the rhetoric by prominent EU leaders will serve to back check against facts, data/statistics, and theories. The research internship at the Casimir Pulaski Foundation has offered a good opportunity to conduct a few interviews, which were mostly semi-structured and at times structured in nature. During the interviews, I would start with the questions and based on the expert's reply, new questions would arise. On occasion, a short dialogue would start after which I would return to the questions at hand. My main goal in the interviews would be to find out how the expert would define energy security and which aspects the person would denote as crucial in framing the debate on energy security. The added value of this research method is that every expert clearly has overlapping as well as differing ideas on how to secure the European Union's energy supply as well as on which themes and sub-topics are most relevant in the debate. As such, the interviews serve to enrich the research by offsetting official data against the diverse unofficial, practical realities the experts encounter in their respective areas of expertise.

#### *2.2.3.b. Discourse analysis*

This is a method that helps to investigate what officials say about the energy strategy of the EU focussed on securing common energy interests in the context of the dependency on Russian oil and gas. Discourse

analysis stands in direct connection with the conceptual framework, because the same concepts that are discussed in their theoretical and political contexts in said framework are also mentioned in political debates and rhetoric. Discourse analysis helps to clarify and contextualise written policy by elucidating the points of view EU and national leaders on the topic, thus attributing greater depth to policy decisions and elucidate what motivated leaders to opt for a certain policy. Furthermore, it can support the exploration of power relations and structural inequalities. This is mainly because politics is a human endeavour, and the perceptions and biases that influence policy-making can be uncovered via discourse analysis. Most importantly, the discourse analysed will be that of the European Union itself, via press releases, statements, press conferences, and similar written and spoken sources by officials. Finally, it is worth noting that discourse analysis cannot stand alone as a research methodology: politicians do not always speak truthfully or objectively. This is taken into account in the research simply by realising that the truth is a much contested topic in politics, as policy is based not on hard facts, but on convictions, perceptions and inter-human relations.

Another such note is that not all political plans materialise eventually, adding yet another layer of complexity. The reason I find it important to utilise discourse analysis as a methodological tool nonetheless, is to weigh theory against practice in a more successful manner: the mentioned theories have their merit, yet to what extent can they really explain the reality on the ground? Having conducted a few interviews with experts gives the research more credibility; however, none of the interviewed persons make EU policy or are in charge of the direction the EU with regards to energy. There is no realistic chance that I can interview the top EU-decision-makers in the field of energy. That being said, discourse analysis is of great importance, because it portrays EU leaders' plans for the future of energy security in the Union as a unitary actor in world politics. The discourse analysed will be that of top EU-officials and policy-makers commenting on EU energy security, and a common EU energy policy. The contribution of this methodological tool is to balance practice (political realities) with the perceptions that have created and shaped these. As such, discourse analysis attributes added value to the research. An example of where such discourse is found is in speeches and on the websites of the EU and of national governments. Additionally, discourse can be seen in the format of direct quotes in the articles of digital newspapers which report on matters pertaining to the EU and its Member States, such as EUObserver and EurActiv.

#### *2.2.3.c. Case studies*

Case studies are a good way of looking at a specific phenomenon or manifestation in a wider research context. Case studies can uncover anomalies and explain irregularities in statistical data. They can also provide greater understanding of the research matter as they allow for describing the situation of a specific case in greater detail. In this way, the researcher can gain better understanding of the micro-, meso- and macro levels in the research.

Naturally, there are also disadvantages to including case studies in one's research: it is difficult to draw clear cause-and-effect conclusions, a case study cannot be generalised to provide insights into other cases no matter how similar they may be, and as such a case study is not representative for the entire research consisting of multiple cases. However, I have selected case studies as a method, because they can provide a clearer view of the debates on the national level to indicate whether and if so to what extent, these debates differ and concern different topics. The reason why this is important to discover, is because it gives a rough indication as to how united or divided the EU as a whole is on the topics regarding

EU energy security. These topics include: the state of energy dependency on Russia, the national energy mix, climate change and the need for a greater percentage of renewables in the energy mix, the need (or lack thereof) for a common EU energy policy possibly leading up to the implementation of the EU Energy Union, and the idea of creating ways to increase leverage of the EU when dealing with third states such as Russia. I will conduct these concise case studies by looking into the national energy policies and environmental policies, the statistics on energy mixes, and the discourse by leading national officials. It might seem peculiar to seemingly mention renewables and emission cuts when the thesis concentrates on oil and gas. There are, however, two important reasons to highlight the current situation concerning clean energy and lower levels of pollution. Firstly, as seen in the first sentence of this subsection, two key indicators of whether the implementation of the EU Energy Union concern a greater volume of renewables in the energy mix, as well as improved energy efficiency. Secondly, the EU directly binds renewable energy up with energy security, as proved by the following quote: *"(…) energy security? In 2014, the deployment of renewable energy cut around €20bn worth of fossil fuel imports. Thanks to renewables, Europe could save around €58bn per year by 2030 in terms of avoided fossil fuel imports. This is the equivalent to the current Gross Domestic Product (GDP) of Luxembourg"* (European Commission Fact Sheet Renewables: Europe on track to reach its 20% target by 2020, 1 February 2017). In the first *State of the Energy Union*, the foundation of the Energy Union seems rather focussed on increasing renewable energy levels in the common EU energy mix – as far as we can speak of this.

It appears that the political debate in a country leading to policy decisions is mostly based on interpretations of facts. This political bias and these perceptions will be reviewed from the perspective of the EU, and two Member States selected for the purpose of this research, that is to say Germany and Poland. For the purpose of this research, the energy security will be framed within the geopolitical, economic and environmental context to determine whether there is a difference between factual situation of the energy dependency and political bias observed in political discourse. It has been observed that the debates on energy security in Central and East European Member States focus on general security and defence, whereas those in West European countries are focussed on profit-making, the general dependency on fossil fuels, and the implications of fossil fuels on the environment. These dimensions of energy will be analysed in the context of the EU as a whole and two member states, selected for the purpose of this research. To analyse the arguments behind various perceptions on energy security within EU for the purpose of the thesis, three actors have been selected: the EU on the regional level, as well as Germany and Poland as concise national-level case studies. These two Member States (MS) are selected for three reasons:

- To depict energy mix profile and dependency on fossil fuels (Poland is known to use a lot of coal due to major reserves, while Germany has put in place large wind turbine parks);
- To portray the energy security debates on the national level (the debate in Poland revolves mostly around geopolitics, sovereignty and lessening dependency, while the debate in Germany focusses amongst others on practicalities such as co-operation with other states and obtaining low energy prices);
- To demonstrate the differences in national debates between the Member States themselves and between the MS and the EU (the Member States concentrate on which outcome benefits their respective nation the most, without much concern for other states, while the EU looks out for all states yet is to some extent powerless in the face of national initiatives that harm other MS).

Finally, it is important to note that as the thesis regards the EU, these case studies will be concise and shall only serve as illustration of the national debates and concerns on the Member State level. I will therefore not go into a great level of detail regarding these countries and their respective backgrounds.

#### *2.2.3.d. Site selection, respondents and databases*

This research field concerns dependency on Russian gas and oil as a key factor determining energy security in the European Union. My fieldwork has mainly consisted of a research internship at the Casimir Pulaski Foundation – a leading Polish think tank situated in Warsaw. Working there for over seven months, I was tasked with assisting in the organisation of congresses and roundtable discussions. The foundation helped me to expand my professional network, and through it, I was able to conduct interviews in my own time. Learning by doing and collecting data through the active channels of the internship organisation has proven to be interesting to the research, in that it has allowed access to various sources of information, daily press and contacts. The data collected are chiefly derived from European Union sources (such as the website of the Commission, Directives, other legislation, implementation plans regarding energy affairs, as well as statistics from Eurostat – the EU's statistics office). The thesis will take into consideration numerous sources of various kinds, amongst others, but not limited to, critical European Union (EU) newspapers EUObserver and EurActiv, the International Energy Agency (IEA), the Organisation for Economic Co-operation and Development (OECD), and the U.S Energy Information Administration (EIA). Monographs and scientific articles on energy security in the EU and the energy relations between the Union and the Russian Federation will play a key role in this research to find out what kinds of perceptions govern bilateral and multilateral energy relations in the European Union, as well as trustworthy, well-established non-academic articles from newspapers among which the New York Times and the BBC to portray how the issue is talked about in the media. Finally, a major addition to the thesis are experts' quotes obtained through interviews.

### 2.2.4. The calculation of energy dependence

Quantifying a relative concept such as dependency in regard to energy is not a straightforward task; there are namely many variables. Baumann's framework does not measure energy security; his analysis caters more to the business than to the academic world. To substantiate oft-heard statements such as *"EU energy dependency is growing"*, I had to find another way of proving this. Fortunately, Skinner (1995) has devised a simple mathematical equation to measure energy dependency: (net imports) / (products supplied) x 100% or $\frac{net\ imports}{products\ supplied} x\ 100\%$ (Skinner 1995, p.ii). The net imports are the total imports (of oil, gas or coal) minus total exports, and products supplied is called by Skinner *"(…) the denominator in all measures of import dependence"*, as it measures the total consumption of petroleum products consumed in a particular country in any given year (Skinner 1995, p.i). The reason why national energy production is not taken into account and neither are any exports the country might deliver, is because I seek not to investigate the balance between imports and exports here, but rather to uncover the extent to which a state is dependent upon foreign (in this case Russian) energy resources.

What is more, the way in which the equation is structured allows us to concentrate on the European states as the focal point; if the equation were reversed – dividing all energy delivered by Russia by total energy imports – Russia would be our main interest. We would then not have calculated the intensity of EU energy dependency on Russia, yet rather the percentage of Russian energy in the EU energy

mixes. This is also being interesting, and as such I have incorporated a map displaying amounts of Russian energy used as a tool of verification for my own numbers, yet it is not exactly the same as finding the hard numbers which are freely available for all on Eurostat and applying the equation to subsequently plot a graph for the dependency rates of each energy resource over the years. It is thus Skinner's calculation that I use at the end of the chapter on the first research question in order to calculate the precise levels of dependency for all respective EU Member States, the Eurozone and the EU average from 1990 till 2014. This computation is done for gas, oil and coal, and the results are put into three line graphs dependency on Russian fossil fuels (one graph per fuel). On the x-axis, the level of dependency is depicted in percentages, while the y-axis shows the time in years.

### 2.2.5. The operationalisation of Baumann's theoretical framework

As we have briefly seen in the beginning of this chapter, Baumann designates four dimensions which pertain to energy security in his view: the internal policy dimension, the economic dimension, the geopolitical dimension and the security policy dimension. How the interplay between these four dimensions takes place is unclear, as this is not explicitly elucidated in Baumann's research article. That being said, it is possible to deduce this implicitly from Baumann's research: the internal policy dimension refers to policy made at the EU level. EU energy policy impacts and is impacted by the economic standing of the Union and therefore of the economic policy dimension. Since energy security is directly connected with security and politics, and as the EU's dependency on Russia renders it a regional issue, geopolitics is bound up with a security dimension. Naturally, neither the economy nor geopolitics operates in a vacuum: all Baumann's dimensions are therefore intertwined in reality. Baumann argues that energy security is a multidimensional concept, and that its dimensions are closely connected with each other (Baumann 2008). Baumann in fact argues that the dimensions of energy security are complementary to some extent (Baumann 2008). In the chapter regarding the second research question I will analyse the obtained data from statistics, rhetoric and other information in light of Baumann's model. This is done by looking at every concept in all four dimensions and seeing to what extent the issue areas mentioned are actually in place. Put together, the second data chapter aims to give an accurate view of the current state of energy security in the European Union.

### 2.2.6. The matter of coloured perceptions and limitations of the research

We need but read or watch the news to see that the relations between the EU and Russia seemingly find themselves at the lowest point since the end of the Cold War. From this, we can determine that the mutual views (the Russian perception of the EU and the EU's perception of Russia) have not been very positive in recent times. The EU recognises the importance of good relations with Russia and has set out 'new' cooperative policy goals since the war in Ukraine and the annexation of Crimea started, which specifically focus on strengthening democracy-building, human rights, and the rule of law in Russia; agreed upon in the 2008 EU-Russia Summit in Khanty-Mansiysk (European Parliament resolution on the EU-Russia Summit in Khanty-Mansiysk in June 2008). These, however, are not actually new policy aims in the EU, yet old ones – perhaps in a new 'wrapper': the EU namely applied very similar goals before 1997 in the ''partnership cooperation agreement'' – as well as in a treaty that had to replace these and become a breakthrough in EU-Russia relations at the Samara meeting held on 17 and 18 May 2007 (Barysch 2007, p.2). This treaty failed, however, and the breakthrough did not materialise (Barysch 2007, p.2). From the

above we can distil that the EU is pragmatic and puts economic benefits such as lucrative trade deals over moral objections against the state with which it conducts business. In this research I do to a certain extent intertwine my arguments with the EU's perspective on its energy security situation; although mutual dependency can be seen as a neutral condition wherein states influence each other, dependency itself could have negative political repercussions. Therefore, at the end of the research there is a concise section on recommendations that seeks to find solutions to the European side of the problem of energy dependency on the Russian Federation. In the research, I seek to understand how the European Union manoeuvres and efforts to position itself as a major energy player in energy politics and diplomacy, as well as how the Union perceives the Russian Federation in the framework of bilateral energy relations. It is namely the EU's perspective of Russia that shapes its policies towards this state.

The above being noted, the research itself is unbiased, as is the way in which it is conducted: this notion logically forms a fundamental precondition to any academic research. The research question bears in itself a certain political concern, as my premise is that lower energy dependency rates on Russia would be an improvement of the EU energy security situation. Nevertheless, the research itself, of course, remains fully objective. The research will only to a certain extent manage to acquire insights into the European perspective; including how EU officials perceive Russian interests and ambitions. My aim is thus to gain greater understanding of how EU perceptions of Russian intentions and interests play a role in European and national policy-making regarding energy politics. Still, I also keep in mind that it can go the other way around too; as Proedrou (2012) puts it: *"(…) the emphasis does not lie in how energy issues can open a window of opportunity for more inclusive deals and subsequent amiable relations. It is up to the main actors to seize on such opportunities in order to deliver public goods, such as consolidation of peace and stability"* (Proedrou 2012, p.19). That being said, even though energy could well be a force for reconciliation of soured relations, the success rate of it would still depend on the mind-set and policy preferences held by politicians on both sides, leading us back to perception. The research will not take the Russian perspective into consideration, so as to be able to focus on the European perception without greater confusion of an already complicated topic. A final important constraint to the research is that 'the truth' can and will not be uncovered by this research. The reasons, preconceptions and ideas national and EU leaders make known to the public regarding what has led them to implement certain policies frame the political realities with which the research will work and in which frame it will analyse and operate. Whether, and if so to what extent, there are discrepancies between how leaders actually think and their true reasoning behind certain policies, will remain unclear. Dissimilarities between public rhetoric on the one hand and private conceptions politicians and national secret services hold on the others (which they do not wish to disclose) cannot be uncovered. The research will not attempt this and it helps me realise once again that 'the truth' is quite an elusive concept in politics.

### 2.2.7 Brief statement on specific punctuation in the research

This may well be redundant, but just to avoid confusion, I would like to explain the kinds of punctuation used in this thesis and what they signify. Readers will often see (…), which means either that a quote starts in the middle of the original sentence, or that there was a pause whereupon the quote is continued. Another punctuation sign is *[…]*. When placed at the beginning of a sentence, it designates that this is the start of a quote, but cannot be capitalised as the sentence in the research has already started. This punctuation will then always be in italics to make clear it is part of a quote. When, however found mid-

sentence, […] is meant to clarify something or give extra information. As it is then not part of the quote, it is not written in italics. This sets clarifications inside quotes apart from those in the regular text.

# Chapter 3. Research question 1: How have intra-EU energy co-operation as well as energy dependency on Russia developed and to what extent are the EU Member States factually dependent?

*"Despite the current geopolitical uncertainties, Europe's forging ahead with the clean energy transition. #CleanEnergyEU"* — Miguel Arias Cañete, EU Commissioner for Energy and Climate Action, 31 January 2017 (@MAC_europa)

*"Take the European part, the oil and gas of Siberia. This is a major issue. This will change our very being. These are major economic indicators. They will change our possibilities, our relationship with all of Europe – and not only with the Socialist countries, where we are able to ship gas and oil, but with France, the FRG, Italy. The key is in our hands. Gas hither – hard currency thither. This is a big economic and political question."* — Leonid Brezhnev, 5 February 1971 (Perović and Krempin 2014, p.113).

## 3.1. Introduction Chapter 3

An exponential growth in energy consumption can be observed after the Second World War. This growth can be explained by the fact that war-torn countries needed to be rebuilt after devastation – which holds particularly true for the European states. This and the desire to prevent future conflicts on European soil served as a catalyst for European cooperation and policy integration. In this chapter, we will first look at how and where it all began up till present-day energy co-operation between EU Member States – including foundation of the so-called Energy Union. This chapter will also take into account of plans for the future of EU energy integration and the notion of the common EU energy policy. To tackle such a rather broad topic methodically, this chapter is divided into five sub-chapters. After this first introductory sub-chapter, the second sub-chapter will look past collaboration initiatives. It will track through the famous economic growth spurt in Europe after the Second World War until the point of the current state of energy affairs in the EU, to end with – as mentioned – the future plans regarding energy co-operation and integration. After this, we turn to how the energy relationship with the former Soviet Union and Russian Federation has been shaped throughout the decades and how EU energy dependency on Russia came to be in sub-chapter 3.3. This part of the chapter will also allow for a concise overview of the pipelines that connect Russia with the European Union today. Subsequently, in sub-chapter 3.4, the facts surrounding EU energy dependency will be uncovered and I shall present the hard data and statistics from Eurostat which I have computed using Skinner's equation, and turned into three graphs illustrating EU energy dependence on Russia between the years 1990 and 2014. From this, conclusions can be drawn about actual dependence that can later in the thesis be weighed against the perception of European energy dependence on Russia to see to what extent the facts support political fears and rhetoric.

## 3.2. How has the energy integration process developed in the European Union? A historical overview of the EU's common energy policy: from coal and nuclear to sustainability

### 3.2.1. Introduction

In this very first research sub-chapter, we will travel through history to track the process of energy collaboration between the European countries after the Second World War. As war became increasingly less likely on the continent, integration efforts were strengthened and co-operation initiatives became more elaborate, which will be the main topic of subsection 3.2.2. Subsection 3.2.3 sees the continuation of this with Europe's economic growth, and talks about the oil crises and how they have affected the political discussion and sense of urgency vis-à-vis energy security. After this, in subsection 3.2.4, we will look into the current state of European integration in the field of energy. This revolves mainly around the Energy Packages, the Energy Union and the Energy Community. Finally, the planned initiatives which the European Commission has proposed regarding future energy integration will be summed up and discussed. Professor Adaramola, a leading renewable energy expert whom I had the privilege to interview, will give his point of view on the main challenges the EU faces where energy is concerned.

### 3.2.2. Earliest European supranational cooperative frameworks regarding energy

After the end of the Second World War, the European countries sought a viable solution to prevent history from repeating itself yet again and decided to develop a co-operational framework. On 9 May 1950, then Minister of Foreign Affairs of France, Robert Schuman, held a famous and visionary speech in which he presented his goals and views on a peaceful, prosperous and cooperating group of European states (European Union 2016, *The Schuman Declaration – 9 May 1950*). To render this a reality, Schuman's plan was to create the very first supranational institution on the European continent in the form of a European Coal and Steel Community (ECSC) wherein its member states could exchange and share these specific goods with each other (European Union 2016, *The Schuman Declaration – 9 May 1950*). The founding Member States of the ECSC were France, West-Germany, Italy, the Netherlands, Belgium and Luxembourg, yet the cooperative framework was chiefly meant to merge the countries' coal and steel production so as to *"(…) make war between historic rivals France and Germany not merely unthinkable, but materially impossible"* (European Union 2016, *The Schuman Declaration – 9 May 1950*). This trade was desired in order to create openness and build mutual trust, so as to eliminate the threat of war through full transparency into the other country's supply and consumption. Although the reason for selecting coal and steel as trade products was because these were the goods necessary to prepare for, and fuel, war, one could argue that the ECSC formed the very first trans-European energy policy, since coal is an energy source. The importance of coal has since generally declined and oil (and later also natural gas) have taken its place as widely used fossil fuels, although coal has recently been making a comeback – which can be deduced from the rising emission levels (Langsdorf 2011, p.2; European Commission, CORDIS: Community Research and Development Informational Service). Meanwhile, the ECSC was formally disbanded on 23 July 2002.

However, the oil pipelines in place have remained – even when they have partially gone out of use. I wanted to know more about this situation and asked Professor and sustainable energy expert Adaramola the following question: *"[w]hat will happen with the conduits that transport oil?"* The

Professor replied: *"[n]o, no, they are pipelines: they are, like, designed to carry water, so they are not the same. So the water is different, so the way you compare, you can compare what type will work with crude oil, but for energy, the logistics, it's more like a cable: an underground cable similar to internet cables are being laid."* Although the answer did not quite lead me to where I had hoped for, it was important to obtain clarity on the fact that there are, of course, many kinds of conduits with different widths and amounts of pressure fit to transport different kinds of liquids or gasses. Later in the research, we will find field expert Mr Maciej Kowalski saying that a wellbore will remain in the ground after fracking and pumping up oil.

Returning to our main story on the ECSC, this integration endeavour led to the Treaties of Rome which officially founded the European Economic Community (EEC) as well as the European Atomic Energy Community (Euratom): both treaties were signed on 25 March 1957 by the same aforementioned six states and entered into force on 1 January 1958 (Eur-lex: *Treaty establishing the European Economic Community*, EEC Treaty - original text (non-consolidated version); Eur-lex: *Treaty establishing the European Atomic Energy Community* (Euratom)). Euratom was created as an effort to facilitate national research programmes on the peaceful uses of nuclear energy, which was deemed of great relevance having witnessed the tremendous destructive power of the nuclear bombs the United States dropped on the Japanese cities of Hiroshima and Nagasaki – something which all states agreed had to be prevented in Europe at any cost (Eur-lex: *Treaty establishing the European Atomic Energy Community* (Euratom); LeMay and Tibbets 2016). EURATOM is still active today and focusses on knowledge-sharing, nuclear infrastructure and security of nuclear power channelled through a single authority (Eur-lex: *Treaty establishing the European Atomic Energy Community* (Euratom)). Despite having briefly made mention of Euratom to highlight its role as unifying co-operative structure in the earliest stages of European integration, this thesis will not be taking into account Euratom or nuclear energy any further.

### 3.2.3. From *Wirtschaftswunder* to the Single European Act

Remarkably, despite the horrors of both World Wars, the European states focussed their attention once again to their national energy policies and infrastructure; they did not seek to streamline ideas and goals on a regional level. The European Economic Community's (ECC) wish to devise one Community-wide common energy policy was expressed for the first time by the Council of the EEC in 1964 (Maltby 2013, p.437). It can however also be argued that all preceding initiatives were also forms of a common energy policy and these have laid the groundwork of what was later to become the EU Energy Union. In 1968, the Commission of the EEC proposed a 'Community Energy Policy', as it concluded that the lack of integration regarding energy between the Member States in the newly created common market posed grave dangers due to insufficient supplier diversification (Maltby 2013, p.437). The Commission also proposed an action framework and a common energy market, yet since energy was readily available at low prices prior to the first oil crisis, there was little political will for further integration as Member States did not deem regional coordination necessary (Maltby 2013, p.438). We can therefore conclude two things: firstly, the idea of an EU Energy Union with one coordinated energy policy and a common energy market is not a novel proposal. Secondly, European integration cannot be successful as long as it is not desired from a national perspective, rendering any EU integration endeavour almost purely an instrument of gain for national governments. This is explained as follows: the EU prides itself in being more than the sum of its parts and that intra-EU co-operation and integration have not only brought material wealth, but also stabilised

countries and pacified former enemies. Now this may well be true, but the flipside remains that when co-operation and information-sharing is not in the interest of one or more Member States – it is unlikely to happen. This way, states cherry-pick what EU-led endeavours or integration are of interest to them on a national level. For example, initiatives like product standardisation facilitate the Single European Market and as such are in the interest of the MS, which therefore allow their incorporation. Yet other EU proposals such as a European military are not in national interests and may oppose NATO interests; they are therefore blocked, voted down, or put on the slow track. Bearing this in mind, we can conclude, firstly, that the EU may perhaps not be more than the sum of its parts and secondly, that integration is only employed when it serves the Member State as a tool used for national gain and vetoed when it does not (or when the topic is too strategically or politically sensitive). We will later see that that the current Energy Union is no exception to this. Generally remarked, the Western European economies (those not behind the Iron Curtain) grew rapidly in the 1950s and 1960s. In Germany this was called the *Wirtschaftswunder* ('economic miracle') and it spiked energy – specifically oil – consumption (Kachi 2012). When Chancellor Willy Brandt sought political rapprochement with the Soviet Union via his *Ostpolitik* ('eastern policy'), this opened the door to a large increase in Russian gas imports (Kachi 2012). The other EEC countries also helped to create a political détente – both individually as well as regionally as a trade bloc (Centre Virtuel de la Connaissance sur l'Europe (CVCE): *Declaration on European Identity* (Copenhagen, 14 December 1973) 2013, p.4).

As a consequence, dependency on oil and gas grew. Meanwhile, the only continued integration effort on the EEC level was the Oil Stocks Directive of 1968 (officially called 68/414/EEC), which had the Member States create, keep and replenish oil stockpiles (Wallace, Pollack, and Young 2015, p.358; Eur-lex: *Council Directive 68/414/EEC*). On 1 January 1973, Denmark, Ireland and the United Kingdom joined the European Economic Community, increasing the total number of Member States from six to nine (website of the EU: *A growing Community – the first Enlargement*). By the time the first oil crisis struck in October 1973 (lasting till March 1974), foreign dependency on petroleum products had reached an all-time high mainly due to the high amounts of oil in the national energy mixes of EEG countries. To take Germany's example again: oil made up 47% of the Federal Republic's energy mix in 1973 (Kachi 2012). The first oil crisis was directly due to, and had been triggered by, the Yom Kippur war: the countries that supported Israel opposing the Arab nations (led by Egypt and Syria) were subjected to an oil embargo (Department of State: Office of the Historian, *Milestones: 1969–1976 Oil Embargo, 1973–1974*). Aside from the embargo – from which the European states that suffered the most were Portugal and the Netherlands – the OPEC states also implemented steep production cuts and suddenly annulled the old pricing system that had come into being after years of negotiation (Department of State: *Office of the Historian, Milestones: 1969–1976 Oil Embargo, 1973–1974*).

The spiralling oil prices and collapse of the pricing system made for high volatility on international markets and posed a direct threat to national economies and state survival. This subsequently triggered new political will between the EEC Member States to connect, cooperate and integrate in the face of a global crisis that could not be coped with on the national level: for instance, the International Energy Agency (IEA) was founded in 1973 in the wake of the first oil crisis (OECD/IEA: *About*, 2016). Faced with severe disruptions in supply that made for political unrest, the EEC countries concluded it would be wise to cooperate and diversify. Pearson et al. (2012) make a key observation about the obfuscated lines that separate energy as an economic good from energy as a political means to an end: *"[o]ne notable source*

*of market failure is the fact that energy can be considered both an economic and a political good. In recent years, analysts have often commented on the manner in which natural gas is used as a political lever in the Russian-Ukrainian relationship – a practice that has greatly distorted both the price and reliability of the natural gas delivered to Ukraine. However, in the broader historical context, the most noteworthy example of the use of energy for political ends is the deployment of the so-called oil weapon. The switch from international-private to national-public ownership of the international oil market from 1973 onwards paved the way for a number of noteworthy, politically motivated interventions in crude oil reserves and production by OPEC governments. Short-term domestic concerns continue to influence the energy agendas of many producer countries today, a fact that some claim has contributed to the recent volatility of energy markets"* (Pearson et al. 2012, p.142). It is here that we find the 'when' and 'why' to the sudden gravitas attributed to energy security and its rise to the top of political agendas in Europe, and worldwide. Dov Lynch writes the following in the research paper by Monaghan and Montanaro-Jankovski (2006): *"[e]nergy security, in terms of supply and stability of price (two key factors for economic strength and growth in industrialised and industrialising countries), is intertwining with geopolitics and international relations"* (Lynch in: Monaghan and Montanaro-Jankovski 2006, p.7). Without energy, states and communities can namely not persist. To politicise energy, is to politicise state survival. Reliance on fossil fuels that are no found in abundance on the national territory makes for energy dependence on foreign states. Too much of such dependence on a single or a few suppliers makes for vulnerability.

The 1970s saw gas gaining prominence over oil, a process that was sped up even more after the second oil crisis of 1979 (Verleger 1979, p.464). This took place in light of heavy production and export cuts by Iran following its Islamic revolution (from 5,8 mbd (million barrels per day) to 445.000 bpd (barrels per day)) in total world exports (Verleger 1979, p.464). Therefore, continued strong post-war economic growth, the wish to diversify away from oil and from the OPEC countries after the oil crises, and the increased focus on the Soviet Union together made for a booming increase in gas imports from the socialist bloc into the EEC countries. Russian gas exports to Western European states soared with a staggering increase of 764% from 3,4 bcm (billion cubic metres) to 26 bcm in a timespan of ten years (1970s to 1980s) (Kachi 2012). After the oil crises, the EEC devised a common energy policy to limit dependency, risk, as well as future energy shortages. According to Kovačovská, this common policy amounted to the following three goals:

1. Diversification of oil supplier states;
2. Diversification of energy resources;
3. Development of oil and gas exploitation in the EEC Member States (Kovačovská 2007, p.7).

Meanwhile, the Euro-Arab oil dialogue kept faltering after the first oil crisis, which had two observable consequences. Firstly, diversification of energy supplier states gained a prominent place on national political agendas and the wish to look into new oil and gas markets, as European states could no longer routinely rely on Saudi Arabia for a continuous flow of oil at a reasonable cost (Hayes 2004, p.2). Secondly, the first oil crisis triggered the United Kingdom, the Netherlands and Denmark to strive for energy autarky (Bardazzi 2016, p.30-31). The first consequence found concrete follow-up in the construction of the Maghreb-Europe pipeline from Algeria via Morocco to Spain, as well as the Trans-Mediterranean or Transmed pipeline from Algeria via Tunisia to Italy, which was completed in the early 1980s (Hayes 2004, p.2). Aside from looking at the Southern Mediterranean, the political and economic situation (growing

populations and economies) in Western Europe rendered it logical to increase energy imports from Russia. Unsurprisingly therefore, Germany sought a détente with Soviet Russia in the 1970s under Chancellor Willy Brandt – the aforementioned famous *Ostpolitik* – and allowed German companies to cooperate on the construction of a Russian pipeline project (Amphas-Mampoua 2004, p.75).

The second consequence found some European states looking into alternative fuels and concentrate more on attempts at extraction of fossil fuels on their own territories. This focus on national production (mainly via exploration in the North Seabed) coupled with the diversification endeavours, curbed the EEC's growing foreign dependency on oil which was diminished to 45% in the late 1980s (Kovačovská 2007, p.7). The first genuine common coordinated energy policy emerged with the Single European Act (SEA), which was signed in 1986 and entered into force in 1987. The SEA set out to establish a common European market. In the treaty text, the SEA focussed on the European Atomic Energy Community or EURATOM in regard to energy (Single European Act, *Official Journal of the European Communities* 1987, p.12 and 14). Conversely, the SEA had much greater plans regarding energy in the context of the creation of the single market: the EU liberalised the energy markets by virtue of the so-called EU Energy Packages (website of the EC, Competition, Energy, Energy and Environment: *Overview*).

### 3.2.4. Current state of integration: Energy Packages, Energy Union and Energy Community

A major shift in national energy policies can be observed as having taken place between the late 1990s and the late 2000s: the EU Energy Packages were introduced and institutionalised. These three harmonisation programmes sought to end national constraints with regards to the cross border transport, delivery by energy companies, and consumption of energy throughout the European Union. This policy shift is attributable to the larger aim of the creation of a common energy policy – the wish to establish the EU Energy Union is found in this same framework. A perhaps somewhat philosophical side note on perspective seems to be in order before we dive into the Energy Packages. Proedrou (2012) argues that energy policy striving towards autarky is built along national lines, placing the importance on sovereignty – diminishing the increasing intertwinement of the international system wherein unilateral policy will only serve to isolate a state (Proedrou 2012, p.17). This puts the European Union's Energy Union endeavour's status in a special light: depending on our perspective, the Energy Union can namely be seen as both. If we consider the EU as a single entity (this being derived from the fact that the EU operates as a block in the world economy), the Energy Union attempting to lessen energy dependence on neighbouring states such as Russia, and trying to make it possible for Member States to share energy via interconnectors, can be seen as an isolationist policy. However, if we see the EU as no more than the sum of its parts – a union of united states – then constructing trans-European energy infrastructure lines and creating a single European energy market through the Energy Packages can indeed be seen as increasing interdependence and stability across the continent.

The first energy Package, also known as the liberalisation directive, concerned the electricity and gas markets and was adopted in 1996 and 1998 respectively, after which it was transposed into national law by 1998 and 2000 (Website of the EC, Competition, Energy, Energy and Environment: *Overview*). The second Energy Package soon followed in 2003. (Website of the EC, Competition, Energy, Energy and Environment: *Overview*). The main reason to liberalise the energy markets was to break the power of the national state-owned utility companies and to encourage Union-wide competition. This explains why the

European Commission is always hawkishly keeping an eye on mergers of large (energy) companies in the EU. The Third Energy Package on market liberalisation was concluded in 2007 and planned to be fully institutionalised on the national level in 2009. As the liberalisation of electricity and gas markets is an on-going endeavour, the Third Energy Package continues down this path and focusses once again on the same topics: common rules for the internal electricity market (Directive 2009/72/EC), and for the internal gas market (Directive 2009/73/EC), amongst others (Directive 2009/72/EC; Directive 2009/73/EC). The main energy integration project on which the EU is current working concerns the Energy Union. According to EU Energy Commissioner Mr Miguel Arias Cañete, the idea for the Energy Union's inception stems from the agreed upon urgency to improve energy security in the wake of the 2009 and 2014 Russo-Ukrainian energy crises (Speech by Commissioner Miguel Arias Cañete on 12 April 2018, p.1-2). The Energy Union has set three core goals it aims to achieve:

1. security of supply;
2. sustainability and;
3. competitiveness (European Council for an Energy Efficient Economy, *Energy Union*).

In order to accomplish these goals, five interrelated dimensions have been introduced:

1. *<u>energy security</u> - security, solidarity and trust: diversifying Europe's sources of energy and ensuring energy security through solidarity and cooperation between EU countries;*

2. *<u>the internal energy market</u> - a fully integrated internal energy market: enabling the free flow of energy through the EU through adequate infrastructure and without technical or regulatory barriers;*

3. *<u>energy efficiency</u> - improved energy efficiency will reduce dependence on energy imports, lower emissions, and drive jobs and growth;*

4. *<u>decarbonisation of the economy</u> - the EU is committed to a quick ratification of the Paris Climate Agreement and to retaining its leadership in the area of renewable energy;*

5. *<u>research, innovation and competitiveness</u> - supporting breakthroughs in low-carbon and clean energy technologies by prioritising research and innovation to drive the energy transition and improve competitiveness (website of the European Commission, Priorities, Priority, Energy Union and Climate: Making energy more secure, affordable and sustainable).*

As we can see, the Energy Union quintessentially concerns *"(…) increasing energy security, deepening the integration of the European energy market, improving energy efficiency, decarbonising the economy and increasing competitiveness"* (Hoffmann 2017). Its versatile nature encompassing security, economic and environmental domains renders the Energy Union a complicated topic to investigate. The EU wishes to utilise the Energy Union as an instrument to make energy *"(…) more secure, affordable and sustainable"* by facilitating intra-Union energy flow across Member States, which is said to cut costs and boost employment as well as make for a more environmentally-friendly and sustainable future (website of the EC: Building the Energy Union). As we have seen in the Conceptual Framework in the preceding chapter, one of the key 'ingredients' of energy security, to Mr Vladimirov's mind, is affordability. The expert weighs in on the topic with the following statement: *"[a]ffordability is an issue that is a stronger, is a more potent*

*problem in some countries, and less so than in others; for the poorer Member States in Central and Eastern Europe. Energy efficiency has been a major issue, because with the increase of renewable energy capacity in a number of countries, power prices, fixed power prices, that used to be regulated, are increasing. And in the places where the price has been left unchanged – so, the artificially low level, meaning household prices – this has contributed to large financial gaps in the state-owned companies, or state-owned suppliers. And in a way, basically, the budget has been affected in many countries; probably sustainability. And this is mostly the case for Central and Eastern Europe. Affordability in Western Europe has more to do with competitiveness: so, electricity prices that have been determined largely by this energy transition are higher, ceteris paribus, than prices in the US, China and Japan. So, on a global scale, the European business is less competitive, because of higher energy price. So, affordability has the household dimension, which is energy poverty: so, people struggling to pay the utility bills, and underheating or underusing electricity in their homes… or distinct heating, whatever, gas. And then there is the macroeconomic aspect, which is the amount, the weight of imports: energy imports on the economy, and the effect on businesses. So: how competitive, especially energy-intensive businesses, like petrochemicals, like metallurgical plants, like large manufacturers of electrical goods. But, you know, Europe has done a lot to improve efficiency: of production efficiency, of energy. So, it is diminishing the negative effect of high energy prices. But if it wants to be competitive on a global scale and even move out of the stagnation it is currently* [in]*, it needs to find a balance between its energy transition trajectory with renewable energy, and, you know, macroeconomic prosperity"* (interview with Mr Vladimirov).

It is noted that the energy analyst sees a dichotomy present between the state of affairs around energy affordability in Western European countries on the one hand, and in Central and Eastern European states on the other. Energy prices in Western Europe are higher than average in the post-industrial countries around the world, thus being uncompetitive. Meanwhile, he notes that energy prices in the Eastern countries are kept artificially low and therefore do not have any financial margin. This means that there are no funds to invest in R&D, interconnect to each other's national grids, or render green energy a viable option on their territory. It is highly plausible that this dichotomy has come into existence because of the Soviet grip on Central and Eastern Europe. While Western European states developed a capitalist system wherein energy trade was free and grids were at least partially open to private companies, in Communist Europe, the energy grids were fully controlled and operated by the state. The governments set the energy prices which, – as we can understand from Mr Vladimirov's quote – they still do to this day. One does not need to be an economist to know that artificial pricing, subsidies, state aid and other such governmental interventions make for market distortions that hamper the natural ability for the energy market to grow and sustain itself financially. Moreover, as mentioned, it undermines the incentive to modernise, innovate and increase efficiency as developments and discoveries are made in the field of energy. This way, it is very difficult for Eastern European states to catch up to the standards of innovation, interconnectedness, grid strength and durability, and efficiency in the Western countries.

Speaking of efficiency, in the view of the Vice-President of the European Commission, Mr Maroš Šefčovič, the key word of the future is 'energy efficiency' as he aims, together with Energy Commissioner Mr Arias Cañete, to: *"(…) establish and promote 'energy efficiency first' as a fundamental principle of the Energy Union with it the moderation of demand. This is why we have invited Member States to give energy efficiency primary consideration in their policies and to consider energy efficiency as an energy source in its own right"* [quote dates from June 2015] (Auketebayeva 2016). After having founded the Energy Union

in 2014, the EU published its first *"State of the Energy Union"* in November 2015 as well as a second update in February 2017, and a third in November 2017 the wherein the goals reached, and challenges faced by the Energy Union are shared with the public (European Commission, *Second Report on the State of the Energy Union*). I will consider the most important statements made in the 2015 and both 2017 *State of the Energy Union* reports in sub-chapter 4.6 and will now turn to the EU's future plans for a common energy policy and integration.

While the Energy Union is the EU's main energy policy integration tool, the other key cooperative framework is the Energy Community, of which twenty EU Member States are participants, and to which Albania, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Kosovo, Moldova, Montenegro, Serbia, and Ukraine are Contracting Parties (Energy Community: Energy Community Facts in Brief; Energy Community: Participants; website of the European Commission: *Energy – Energy Community*). The Energy Community, founded in 2005 and entered into force in 2006, was essentially created to *"(…) extend the EU's internal energy market to south-eastern Europe and the Black Sea region"* (website of the European Commission: *Energy – Energy Community*; Energy Community: *Energy Community Facts in Brief*). Other non-EU states can be either Candidate Countries (Georgia) or Observers (Norway, Armenia, and Turkey) (Energy Community: *Members*). Since this institution is not a purely EU endeavour and as such largely irrelevant to this research, it is nevertheless worthwhile to be briefly mentioned here, since the Energy Community has conducted a stress test aimed at measuring the levels of energy security in Europe in the winter of 2014-2015 (Communication from the Commission on the short term resilience of the European gas system: *Preparedness for a possible disruption of supplies from the East during the fall and winter of 2014/2015* 2014, p.2). *"[t]he scenarios proposed by the Commission to all participants in this exercise covered the disruption of the Ukrainian gas transit route as well as all Russian gas flows to Europe for periods of one month and six months (September to February), supposing average winter conditions in each case"* (Communication from the Commission on the short term resilience of the European gas system: *Preparedness for a possible disruption of supplies from the East during the fall and winter of 2014/2015* 2014, p.2). The stress test revealed that large parts of the EU find themselves in a precarious situation and that energy security is particularly low in Central and Eastern EU Member States (Communication from the Commission on the short term resilience of the European gas system: *Preparedness for a possible disruption of supplies from the East during the fall and winter of 2014/2015 2014*, p.6 and 8). Another result of the stress test showed where the missing energy could come from in the case of a 6-month total energy cut from Russia. Of the of average Russian-imported gas consumption in the EU (22%), 33% would be substituted by LNG (liquefied natural gas), 28% would be taken from storage, 13% would be imported from Norway and 4% extra would be produced – leaving a 22% energy deficit (Communication from the Commission on the short term resilience of the European gas system: *Preparedness for a possible disruption of supplies from the East during the fall and winter of 2014/2015* 2014, p.5).

I also decided to ask His Excellency, the Danish Ambassador to Poland about his take on the matter, posing the following question: *"[d]o you think the founding of the European Union Energy Union would be a wise integration policy?"* The Ambassador answered as follows: *"[a]n integration policy? I think it's a very wise policy as such. Even the question is whether this will help integrate people, or whether this is a great integration. I think it is a great integration, but I think – because many voters and people of the Union react to short-term changes, and once in a while introducing a single market for energy would also*

*have consequences for… There could be a coal miner in Poland, and that particular person would definitely* [be] *annoyed. So, whether it's bringing all people on board; not necessarily in the short-term. But the thing in the long-term, it's obvious: it's the right thing to do. And I guess combating development is most often a lost cause. Rather work with development and be part of it. So, it's also about our politicians and leaders to explain why we do it and what's the benefit. In that process except some national priorities that cannot be pursued or have to be adjusted, and there have to be some compromises taken. From quite different sectors in Denmark, we've had sectors that work, very important, not these to local communities that simply do not exist anymore. At the point in time where we closed down the sectors, or the market closed down the sectors, there was an outcry. But the thing is all about: 'this you can't stop'. You can stop it through state intervention and subsidies, but that's very costly and this will take you somewhere where we don't want to go. At some point we'll break our leg on it. (…) And I guess, in some of our energy industry – in our black fossil industry, when* [unintelligible] *those engaged in that industry, they're now working in the offshore green industry. So, again: finding new jobs using the past experiences in the future of that kind of business and that will also increase job security – basically at some point also the pay."* From his answer, I conclude that the Ambassador is in favour of founding the Energy Union on the premise that development can only be postponed so long; it cannot be stopped forever. Furthermore, His Excellency noted that disadvantaged individuals and groups could perchance be compensated via compromises reached.

### 3.2.5. EU Energy Strategies for the future

Having briefly mentioned the Commission's ideas for a more energy efficient EU through the Energy Union in subsection 3.2.4, we will now turn to the future. The EU has devised plans on how to shape the future of the Bloc's energy trade and usage. The milestones to be reached are coupled with the following years: 2020, 2030 and 2050 (Commission: *Energy Strategy and Energy Union*). To start with the nearest goal on the horizon, the EU plans to have attained the following in 2020: the EU efforts to combat climate change and increase its levels of energy sustainability by a 20% *"(…) or even 30%, if the conditions are right"* increase as well as a 20% decrease in greenhouse gas emissions both based on 1990 levels (website of the European Commission: *Europe 2020 targets*). The EU 20-20-20 goals do not just concern the Member States' energy mixes and combatting of climate change, yet the other goals set in this framework are beyond the scope of this research and shall therefore not be taken into account other than sporadic mentioning where appropriate. It is interesting to note that although the Energy Packages had deadlines by which their implementation was to be completed (see subsection 3.2.3), the Energy Union is rather considered to be a work in progress without a set deadline.

This brings us to the 2030 goals of the EU; the so-called 2030 energy strategy, and the 2030 Framework for Climate and Energy and the Energy Security Strategy. The strategy presents *"(…) a 40% cut in greenhouse gas emissions compared to 1990 levels, at least a 27% share of renewable energy consumption"*, and *"at least 27% energy savings compared with the business-as-usual scenario"* (European Commission, *2030 energy strategy*). The framework adds to this that it is planning on *"(…) improving energy security, while delivering a low-carbon and competitive energy system, through common action, integrated markets, import diversification, sustainable development of indigenous energy sources, investment in the necessary infrastructure, end-use energy savings and supporting research and innovation"* (*EU policy framework for climate and energy in the period from 2020 to 2030*). For its part,

the European Energy Security Strategy boasts the Union's progress in renewable energy that has already been made, stating that *"(…) the EU is the only major economic actor producing 50% of its electricity without greenhouse gas emissions"* (EUR-LEX, *European Energy Security Strategy*). The EU report echoes International Energy Agency (IEA) projections of growing energy dependency: from 80% today to 90% in 2035 for oil and from 60% today to 80% in 2035 for gas, the total annual import bill for both commodities having risen from €180 billion on average between 1990 and 2011 to €400 billion (which represents around 3,1% of the GDP of the entire EU) (*EU policy framework for climate and energy in the period from 2020 to 2030*). The report presents a correlation between a stronger dependence on foreign supplies on the one hand, and higher vulnerability to possible supply cuts and energy price fluctuations on the other. To prevent this from happening, the Commission has set forth a three-tier action plan which, unsurprisingly, involves more integration between the Member States in the field of energy every step of the way and invites:

1. to make more use of locally found energy sources – both renewable and conventional including nuclear, depending on the preferable energy mixes of the respective Member States. This is to happen in the wider framework of an interconnected EU-wide energy market;
2. to diversify the number of supplier states and supply routes for fossil fuel imports as well as liberalisation of national energy markets of the MS to create one internal market. To establish this successfully, cross-border infrastructure and the number of interconnectors must increase the 2002 agreed upon norm of a *"(…) 10% level of interconnectors (…) as a share of installed production capacity"*;
3. to ensure a higher level of energy intensity (buildings, products and processes accomplishing the same output with less input) in a cost-effective manner (*EU policy framework for climate and energy in the period from 2020 to 2030*).

Before moving on with further future scenarios, let us briefly look at the way in which the EU Commission intends to reach these goals. For every policy, a state – or governing entity – has its methods, instruments and tools to translate policy into reality. Throughout this thesis I seek to measure the EU energy policy on its effectiveness and the implementation of the EU Energy Union. One of the ways it can be measured is by critically looking at the decision-making criteria that lead to such a policy. I asked Professor Adaramola for his views on the matter. Interviewer: *"[w]hat would you say are the decision-making criteria with regards to what is feasible concerning the increase of renewables in the European Union and Member States' energy mixes?"*[1] The Professor answered: *"what is feasible? Well, I guess one of the things you have to look at: again, you have to look at the resources. You also have to look at the economic ability of that particular state. So I gather those are the main issues that you need to consider. So: the resources, the economic ability and sometimes you may also look at the skill available. That message is key; so, because sometimes if you don't have the skill, then you have to really get some people from outside. Then, the question is: how willing are you ready to come? And… so if you don't have the resources, it would be difficult for you and the financial relationships to do that. I think that is one of the issues of most of the countries, and two: and another issue* [is] *that the EU – whether from stately want, you know they have to… back to with oil and gas in North Stream. Oil and gas is already established, and most of the… (…) the*

[1] Here, I meant to say: "what do you think should be the decision-making criteria applied by the EU with regards to what is feasible concerning the increase of renewables in the European Union and Member States' energy mixes?"

*crude oil gas. So they already established, and most of them too; I mean,* [unintelligible] *most of the politicians ask if it's possible, most of them. So they have to really* [be] *ready to step up some stunt and some will say: 'this is what we think is good for* [the] *EU, even though it's a games – some of those big men or women in the business are Hollanders. So what… that's the issue for separately fiscally and the resources, the economy, the technical or skills that are required to handle the project, which is also a form of construction that is available to…. So when all those things, you have to look at those issues before you can decide that 'ok, now we know that you have this; you have this key – maybe we can do this', but if those designs are unavailable, then it would be difficult for you to make any kind of a decision."*

Professor Adaramola concluded: *"[s]o, even though there's free movement, but the incentives might not be there to move people to some areas."* With regards to what decision-making criteria the EU ought to in the case of encouraging the use of renewable energy in the Member States, the Professor emphasises the importance of feasibility, resources, skill, looking both at what benefits an individual Member State, and what is good for the EU as a whole. The Union can suggest or impose a 20% norm of green energy per country, but if some states lack the financial resources or knowhow, then this standard is barely, if at all, feasible for them in the short term.

Lastly, there is the 2050 energy strategy, also called the Energy Roadmap, wherein the Union plans to cut greenhouse gas emissions by 80%-95% based on 1990 levels (*Energy Roadmap 2050*, p.3). In the energy strategy document, the Commission writes that the EU needs a new energy system wherein the focus is on more energy efficiency and renewable sources of energy (*Energy Roadmap 2050*, p.10). *"[t]he European Commission's 'Energy Roadmap 2050' identifies gas as a critical fuel for transforming the energy system. The report states, 'gas is expected to play an important role in the EU energy mix across all scenarios, representing 22-25 % of primary energy consumption by 2030, and between 19 and 26 % by 2050"* (Directorate-General for External Policies, Policy Department DG, policy briefing: *The Shale gas 'revolution' in the United States: Global implications, options for the EU* 2013, p.15). Interestingly, gas is designated as a key gateway source: in order cut emissions before 2030-2035, the Commission advises to cut coal and oil usage and substitute it with gas (*Energy Roadmap 2050*, p.12). Regarding energy security, dependency and diversification, the report remains rather vague. The roadmap estimates that decarbonisation of the economy would result in a drop in fossil fuel import dependency by 35%-45% in 2050, whereas the current policy paths of the MS would lead to a 58% dependency on foreign fossil fuels (*Energy Roadmap 2050*, p.6). The report also suggests that the loss of dependency on fossil fuels from external sources due to decarbonisation would also render the EU less vulnerable to the volatility of fossil fuel market prices (*Energy Roadmap 2050*, p.9).

In terms of supply security, the EU hopes to further develop carbon capture and storage (CCS) to store quantities of coal and nuclear and as such rely less on foreign suppliers (*Energy Roadmap 2050*, p.5, 9 and 12). I asked Professor Adaramola: *"[w]hat are the main concerns of facing the future of energy in Europe?"* Professor Adaramola said: *"[c]oncerning the only fear, the only issue, I would say, is that: moving from oil and gas, coal and other things, might not… calling might not be as smooth as planned, if they're same manner.*[2] *And two: if proper investments are not put in place, then it will be a challenge to achieve end of*

[2] I am not completely confident about whether my transcription was fully accurate in this particular sentence. I have done my best to understand what was said and correctly transcribe it, but apologise for any possible inaccuracies.

*duty for the future of* [unintelligible] *in Europe… And then we also know that even some countries in Eastern Europe might still need money for investment to develop. We talked about poverty elevation, as some of them are still living below – at least not as good as the people in Western Europe, and these people might still need some resources. And one of the ways to reduce some more energy, and the same thing globally: if you look at Asia, some MENA countries in Africa that are still living below the poverty line. The moment you have resources, the moment you have energy, your salary level will be improved, which means you consume more electricity or more energy. So a future – and coupled with the population growth too, because the more people you have, the more people you will imagine. So in the future, the population is an issue that, to improve the quality of life or the standards of living of many people around Europe, especially in Eastern Europe and most other parts of the world have created a kind of unforeseen challenges for energy."* Interviewer: *"[s]o it's mainly to – if the fossil fuel transition is not going…"* Professor Adaramola: *"[i]t's not managed properly, yes, definitely, you might still to go back to fossil fuel again."* Interviewer: *"[a]nd the investments, if they're not in place, and the poverty elevation: those are the core points?"* Professor Adaramola: *"[y]eah, yeah."*

### 3.2.6. Conclusion

We have seen that the European states have come a long way: the collaborative initiatives taken after the Second World War led to increased trust and energy trade throughout the decades of the Cold War. In this time, the Soviet Union supplied energy to the Western European countries, which also bought energy from a few Arab states. The oil crises of the 1970s inspired the European Community to start thinking of ways to lessen energy dependence and exposed the dangers of a low level of energy security. As the Member States made the European Union grow in importance and expanded its issue areas, the EC began to make plans for EU-wide energy laws, initiatives, and policies. The increasing data and evidence regarding climate change made use of fossil fuel energy a policy priority, which led to the development of the Energy Packages, and later, the initiation of the Energy Union and Energy Community as parts of a joint energy policy across the Union.

One of the oft-heard key words in the search for greater energy security, is diversification. I asked energy and security expert Mr Brigham McCown whether he deemed the present time would be good to work towards lessening energy dependence on Russia, and if he saw it as an important policy goal to strive for. Mr McCown mentions diversification in this answer. I asked: *"[w]ouldn't you agree this is the time to try to lessen dependency on Russian energy?"*[3] Mr McCown answered: *"[y]eah, no, it absolutely should be, because what we've been talking about earlier today… It just makes good sense if, even if you were getting natural gas from your very best friend, if you don't have the option of purchasing from multiple suppliers, you know, you're at a disadvantage for pricing. And for getting the best deal. So, Europe is like a… If you, like, in Europe, to a consumer, buying energy is no different than anything else: buying a cell phone – or mobile phone I guess as you say – or anything else. If you have choices, then you typically get a better price and, you know, Europe needs to do a couple of things:*

- *one, they need to be able to secure supplies from multiple places to insure that they have both a stable and a good price and;*

[3] I phrased the question rather subjectively in the interview. What I meant to say was: *"do you think this is the time to try to lessen dependency on Russian energy?"*

- *two, Europe really must modernise its energy infrastructure to be able to deliver those products anywhere around the EU.*

*And, again, I would sort of argue that the infrastructure component is the more difficult task and ultimately will require some of these projects being directly funded by the EU in order to get them started. And you know, but you know, we have this in the States where somebody will say ''why should I have an oil pipeline going through my state? I don't use it and if it spills, then it's my problem.'' And they don't realise that, well, the oil that you're not directly using get turned into gasoline or diesel and ultimately that is supply that lowers your price here, even if it's not the exact same energy you're using. Energy is always all about supply and demand, like any other cert… Like, I don't know if you've had economics? But it's supply and demand, so when, you know, price goes up, when more people want it or there's less supply. You know, what we have found in the US, where we have the lowest, or the cheapest natural gas – I think in the world – is that when we increased supply by a mere 20%, the prices dropped by 50%. So there's an exponential correlation to, you know, price. And, you know, economies in Europe, especially in the Southern parts that are struggling with high unemployment rates, you know, if you can marginalise or reduce the cost of energy that is a huge benefit to the economy, because inexpensive reliable energy is something that really, literally – it's going to sound like a pun – but it literally powers the economy. It gives you lots of options and you know, yeah, that's something what Germany's experiencing with its very high pricing. It's really been a drag on the economy, especially on their manufacturing capacity."*

With this in mind, I later asked Professor Adaramola his take on the EU's policy plans and strategies to fundamentally alter European society into a more sustainable one which does not rely on fossil fuels. I said: *"[b]ut to change the economy from one that's dependent on fossil fuels into one that's dependent on renewables, it takes a lot of time, a lot of skill, and a lot of investment."* Professor Adaramola replied: *"[y]eah, so that's why I say: you have to have it be a gradual transition. So, see, I mean oil and gas are default for a hundred years. So you – it was not possible to ship from this end to the other end. It needs to be gradual. And in the United States lastly some of the people that you need to, you know, you lose those people. Those guys have to be fine – find another way to fit in. But when we talk in terms of energy security it's possible, you know, it will guarantee most security of energy within Europe. Because the movement of energy is only local resources."*

To briefly recap and analyse the statements made by these three experts: the Danish Ambassador sees a future possibility of purchasing Russian energy at market prices without the political interference from the supplier state. He argues the best way to do this is through diminished reliance on Russian energy – diversification of supplier states specifically – and an agile European grid that interconnects the entire Union. This is essentially a diplomatic and political argument in favour of more integration and closer agreement and co-operation between MS in energy affairs. The energy expert, Mr McCown, for his part emphasises the importance of economics – focussing on the basic balance between supply and demand – and infrastructure. He compares the situation in the EU with that of the United States. Professor Adaramola stresses the notion that a lot is possible with hard work – things that were deemed impossible for a long time are now becoming conceivable and even, reality. He urges that this carbon transition be done in a due manner: gradually and in good preparation, so that people do not end up jobless – popular discontent could severely damage the EU and the legitimacy of the entire undertaking. While both Excellency Hommel and Mr McCown mention diversification as a crucial and integral component on the

path towards greater energy security in the Union, Professor Adaramola emphasises that local resources found in Europe are the key to solving the energy security conundrum.

## 3.3. The EU's energy dependence on Russia: how did we get here? The development of energy relations between EU countries and Russia throughout time

### 3.3.1. Introduction

We already know that the EU is dependent upon Russian fossil fuels. This pertains to natural gas and oil, but also to coal. Naturally, this dependence did not occur overnight, but grew over the course of the past decades. As we shall see in this sub-chapter, a crucial difference can be observed in the way fuel dependency grew in Central- and Eastern European Soviet satellite states on the one hand, and in the Western-European trade partners on the other.[4] This dissimilarity continues to influence dependency rates and the relationship with the Russian Federation to this day. To elucidate how these differences between fossil fuel dependencies arose on either side of the Iron Curtain, this sub-chapter reflects on how the energy co-operation between the European Community and the then Soviet Union commenced, how the co-operative framework was shaped through political and economic history, as well as how the situation developed into the status quo. This divide made between Western- and Central/(South)-Eastern is necessary and important, as both 'blocs' of countries had differing experiences in their dealings and relationships with then Soviet Russia. To Western European countries, Russia was a trade partner and an energy exporter. Conversely, in the case of the satellites which were part of the Soviet Union and/or the Warsaw Pact, Russia had been able to place itself in a position wherein it could decide precisely how much oil, gas (and coal) would be transported when to which SU state at what cost. Subsection 3.3.2 considers the development of Western-European and Soviet energy cooperation throughout the decades of the 20th century, whereas subsection 3.3.3 focusses on intra-Soviet co-operation with its European satellite states. This segment also presents some basic information on the pipelines that quite literally laid the foundation for Central- and Central/(South)-Eastern European energy dependence. After this, I will expound the status quo of the EU's current energy dependency vis-à-vis the Russian Federation in subsection 3.3.4.

### 3.3.2. A concise historical overview of Western-European – Soviet energy co-operation

Unlike in unit 3.1.1 where we saw that the journey of intra-European energy cooperation started very soon after the Second World War, European oil imports date back to late Tsarist Russia: 7% of all Russian exports at the end of the 19th century were oil exports to Europe (Goodrich and Lanthemann, 2013). Although this number initially fell after the Communist revolution in Russia due to socialist asset nationalisation, it rose again to 14% of total export revenue in the 1920s (Lee and Connolly 2016, p.108; Goodrich and Lanthemann, 2013). The Soviet Russian government rekindled the oil industry and trade deals in search of high-end technology (machinery) and hardware (superior quality steel pipes fit for heavy duty long-distance transportation) in the interbellum (Gilette 1973, p.478 in: Lee and Connolly 2016, p.108). This endeavour was initially met with scepticism from European companies which held monopoly positions on their respective national markets (Gilette 1973, p.478 in: Lee and Connolly 2016, p.108). Pipelines started to be laid at a pace which greatly improved export efficiency and velocity of oil transportation from Russia to Europe. Exports to European countries subsequently rose progressively,

[4] It goes beyond the scope of this thesis to look into how the oil and gas relationship between the Soviet Union and Yugoslavia developed. The current EU Member States which were part of former Yugoslavia will be taken into account from the point of their EU Membership onwards.

only to slow down once again partly due to glitches in the production process, after which the entire industry came to a grinding halt owing to the Second World War; this led the USSR to become a net importer of oil, notably importing from the US (Considine and Kerr 2002, p.36; Heymann 1948, p.315-316 in: Lee and Connolly 2016, p.108; Perović 2016, p.54-55). As oil exports to Western Europe subsequently slowly but steadily increased again in the 1950s, oil exports had risen to half of total Soviet Russian export earnings (Lee and Connolly 2016, p.108; Goodrich and Lanthemann, 2013). In fact, *"[b]etween the 1950s and 1960s, Soviet oil output had doubled, making the Soviet Union once again the second-largest oil producer in the world and primary supplier to both Eastern and Western Europe"* (Goodrich and Lanthemann, 2013). This is valuable information, as it shows that not only were (and are) European states dependent on (Soviet) Russian fuels; Russia itself was (and still is to a considerable degree) dependent upon European fuel monies. This is the primary supposition of the so-called theory of mutual dependency developed by Keohane and Nye, which theorises that threat is diminished and security is increased due to a common need of one another's offered goods or services (c.f.; Proedrou 2007, p.329). We will turn back to the notion of mutual dependency in Chapter 4.

With the oil industry rapidly growing in Russia and in Europe as well as the increase noted in European dependency on Russian oil, the Russian gas industry was effectively initiated only after the Second World War. Although gas pipelines had been in existence since the nineteenth century just as oil conduits, new welding techniques invented in the 1920s made it possible for longer pipelines to be laid, thus opening up new business opportunities in the gas industry (Markus 2015, p.43). The Second World War quite directly helped the Soviet gas industry develop: in need of more energy resources, gas fields were searched for and discovered in Medvezhe, Urengoy and Yamburg, after which several European countries also became client states of Russian gas (Markus 2015, p.43). Moreover, Russia has the largest proven gas reserves in the world and had become the world's largest gas exporter by 1984 (Beyli 2015). The 1970s were in large part marked by the two international oil crises (taking place in 1973 and in 1979/1980, respectively). When the first oil crisis hit, European countries realised energy security was a highly important matter on the political agenda not to be taken for granted. They started to look into options to diversify away from oil (resource diversification) and from the Middle East (import diversification), seeking to increase gas imports, notably from Russia. This plan was ultimately materialised by help of the negotiation of a pipeline contract in the early 1980s that paved the way to construct a large East-West gas conduit, called the Urengoy-Uzhgorod line (Closson 2011, p.1).

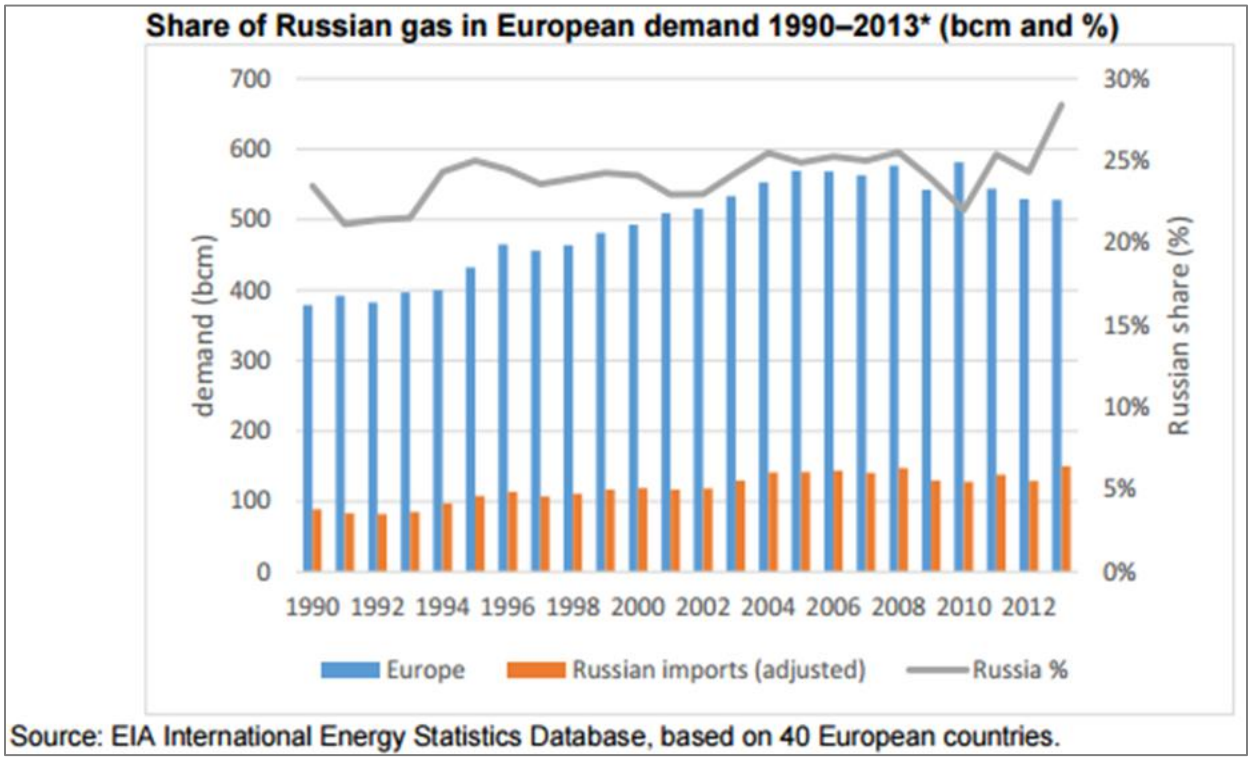
This collaborative action, however, was met with concerns and protest from the US government, which feared steep future levels of Western-European energy dependency upon the Soviet Union (Closson 2011, p.1). Another concern for the Americans was that the SU could strengthen its military capacity with the hard currency obtained by selling Western European states large amount of gas (Åslund 2007, p.35). The idea that Western European states would share technology with the Russians in order for the pipeline to be constructed was also looked onto with great apprehension and unease on the western side of the Atlantic Ocean (Åslund 2007, p.35). While the European states sent equipment to assist Russia in the construction of the pipeline, the Reagan administration placed an embargo on the Soviet states against deliveries possibly aiding the construction process, which caused serious political friction between Western Europe and the US (Closson 2011, p.1; Åslund 2007, p.35). The European states decided to sign the gas deal regardless, as the conclusion of European threat analyses did not infer the same high peril as American risk reports. As noted above, to the Europeans this gas deal was primarily seen as a

diversification option and secondarily as a boost to domestic employment levels (Closson 2011, p.1). After the aforementioned discovery of the Urengoy gas field (please see subsection 3.3.3), gas production started in 1978 and increased up to 300 bcm (billion cubic metres) by the early 1980s. This allowed petroleum exports to Western Europe to rise from 3,4 bcm to 26 bcm between the 1970s and 1980s, and even to 63 bcm in 1990 (Belyi 2016; Markus 2015, p.43). That being said, when putting these figures into percentages, the threat level looming from possible high Western European energy dependency is softened somewhat. The total amounts of European gas demand and the percentages of Russian gas from 1990 up till the early 2010s can be seen in Figure 2, which shows that less than 25% of the total amount of consumed fossil fuels in the 1990s originated from Russia (Figure 2, Dickel et al 2014, p.7).

After the disintegration of the Soviet Union, a euphoric 'end of history' feeling with great hopes for market-based trade rules in a globalising setting swept across the world (Finon and Locatelli 2008, p.424). The European Union laid the groundwork for the Single Market, while the Member States initiated liberalising and privatising initiatives with Union support (Finon and Locatelli 2008, p.424). The European Union desired good relations with Russia, and signed a Partnership and Co-operation Agreement (PCA) in 1994, which entered into force in 1997 and ended in November 2007 (Haghighi 2007, p.342-344). Thereafter, a European Common Strategy regarding Russia was adopted in the EU, as well as the formation of an Energy Dialogue with this state in 2000 (Haghighi 2007, p.342-343). This was followed, five years later, by the EU-Russia energy dialogue in 2005 (Monaghan and Montanaro-Jankovski 2006, p.24). Still, Forsberg (2013) contends that *"(…) concrete achievements in EU-Russia relations remain limited. The four common spaces agreed upon in 2003 have progressed little, and despite mutual rhetorical emphasis on a strategic partnership the EU and Russia have failed to conclude a new treaty to replace the outdated Partnership and Cooperation Agreement from 1994"* (Forsberg 2013, p.4). As total European gas demand fell from 2010 onwards, we see that percentagewise, the share of gas imported from Russia rose. Dickel et al. (2014) also remark this, and point out that the diagram *"(…) shows a simple dependence chart with European imports of Russian gas (adjusted to European units) plotted against European demand for the period 1990–2013. From this it is clear that the share of imports was relatively steady (in the range of 20–25 per cent) until 2013, when European demand fell and Russian exports increased, at which point it reached 28 per cent of the total (similar to the EU figure of 27 per cent cited above)"* (Dickel et al. 2014, p.6).

In the decades to come, imports (and as such dependency), would develop into today's levels, seen below in Figure 3. It reveals the most recent available data at the time of writing (extracted in April 2018) with regards to the Member States' purchased of energy products. The main differences between Figure 2 and Figure 3 – aside from the decades taken into consideration – are, firstly, that Figure 2 displays imports from Russia, while Figure 3 does not focus on Russia specifically, yet demonstrates the overall value of the total energy imports into the EU. Secondly, Figure 2 portrays the imports in billion cubic metres, whereas Figure 3 counts the energy in millions of tonnes of net mass. Finally, Figure 2 portrays only gas, whereas Figure 3 takes all kinds of energy products into consideration. It is therefore not possible to compare these two graphs, but the only conclusions that one seems to be able to draw is that, firstly: EU dependence on Russian gas rose after 2010. Secondly, that the net mass of imports have remained somewhat steady around the 80 million tonne lines, and thirdly, that the value of these foreign energy purchases as expressed in billions of euros, on average, diminished.

**Figure 2: Total average EU gas imports and percentages of imports from Russia 1990-2013**

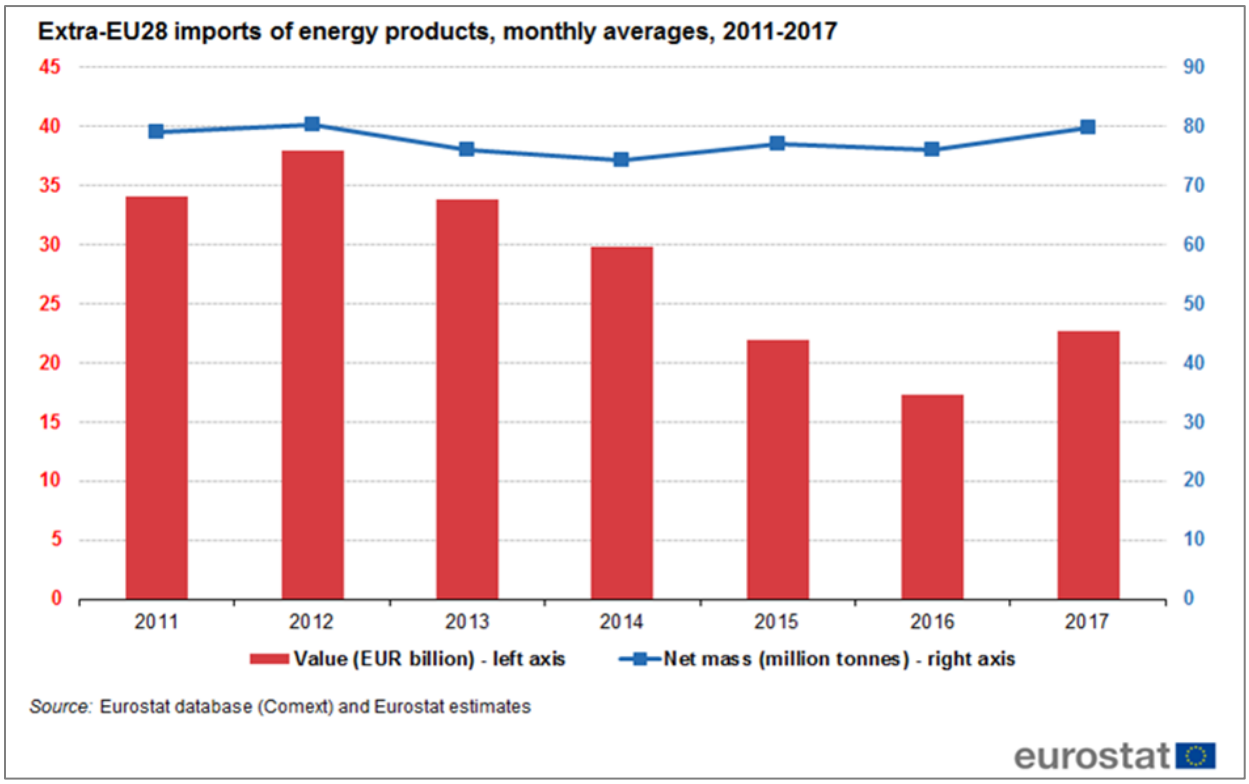



SOURCE: DICKEL ET AL 2014, P.7.

Now that the history of Western European imports of Russian oil and gas has been elucidated, a final brief note on coal cannot be left out here to explain in more detail why it is logical that this particular energy resource is not taken into consideration. Despite being a vital energy means since the Industrial Revolution and the fact that intra-European coal trade was boosted via the European Coal and Steel Community, oil became increasingly more important from the 1970s onwards, after which natural gas also grew in significance (c.f., European Parliament, DG for External Policies 2016, p.22). This has partly to do several reasons: firstly, the pipelines laid from the Soviet Union to Western Europe diminished the need for coal, as did in part also the source diversification efforts towards North African LNG in the 1960s, Soviet gas in the 1970s and North Sea gas in the 1980s (c.f., European Parliament, DG for External Policies 2016, p.22).

Before we come to the final point of this subsection, let us look a bit more closely into what liquefied natural gas actually is. This is important, because LNG will be mentioned here and there throughout this thesis, as a potential diversification option. I have already fleetingly mentioned LNG in subsection 3.2.4, as a possible partial substitute for Russian gas. To gain more first-hand knowledge on the topic of LNG, I asked Mr Maciej Kowalski the following question: *"[c]ould you tell me some more about LNG, now? How does that work?"*

**Figure 3: EU energy imports from third countries 2011-2017**




SOURCE: EUROSTAT: EU IMPORTS OF ENERGY PRODUCTS – RECENT DEVELOPMENTS

Mr Kowalski replied: *"[b]asically… where do I start? As I said, for example, going back to this one number that we already know, the total Polish consumption of gas: sixteen billion cubic metres. That is a vast, vast area or however you want to call it – that volume that we need to transport or store, and decompressed gas takes a lot of space. And when we get that gas and oil out of the ground, it decompresses and it takes a lot of space. In order to compress it back and make it more manageable to send it if we don't have a pipeline, we need to liquefy it. And that is, that's what LNG is. It's basically a cooled down, compressed natural gas that takes up a lot less volume. It's still pretty big to economically transport it from one place to another, if you take a look at the LNG tankers; they're huge. And one such tanker may be carrying, like, one billion cubic meters or no maybe not, maybe 0,5 million cubic metres in one go. But it's just huge, it's several hundred metres long. If it wasn't compressed, it'd be unimaginable to transport it. Anyway, the problem we have, I think that you'll find that interesting, is that an LNG plant that would compress this gas is pretty expensive to transport. So basically, in Poland it does not make sense, or even if we had the greatest gas fields, it would not make sense for us to liquefy the gas on site and transport it via trucks for example. We need the gas pipelines. LNG is only good for transporting very cheap gas over larger distances, but where the price sufficiency is very significant: for example Qatar and Poland, they get their gas virtually for free. And in most of the countries of the Arabian Peninsula, gas is something they just get with oil and they don't know what to do with it. It's for free, basically for free: just drill the hole and the gas comes out and you don't know what to do with it. And similarly in the States after the shale revolution, the gas got so cheap, they just don't have anything to do with it. So in that sense, then it makes sense to build an expensive plant if your marginal costs are very low and you build that plant, it pays off after some*

*time. But it's still pretty expensive and it would be more expensive, for example, than the Russian gas, which is transported by pipeline."* One of my follow-up questions then was why only very inexpensive gas could be transported as LNG and reasoned that the liquefying and subsequent gasification processes would be expensive (aside from the construction of LNG plants). Mr Kowalski answered my question by confirming my educated guess.

Finally, there is the fact that oil and gas are more efficient energy sources as well as less polluting than coal (c.f., European Parliament, DG for External Policies 2016, p.22). Especially after the Second World War, coal gradually lost its pivotal position in European energy mixes, which, responding differently to the oil crises in the 1970s, led in turn to the very large differences in energy mixes, ideas on green energy, national policy goals and societal norms today (European Parliament, DG for External Policies 2016, p.22). I will return to the topic of varying European energy mixes and differing societal norms regarding the future of energy in the EU in Chapter 5. Now that Western European energy co-operation with Russia and the Soviet Union has been discussed, we will next turn to how the events leading to energy dependency unfolded in the Soviet-occupied European states currently part of the European Union.

### 3.3.3. The COMECON and the fossil fuel dependence of Central European Soviet satellites

A few years after the demise of Nazi Germany and the end of the Second World War, the Council for Mutual Economic Assistance, Organization for International Economic Cooperation (COMECON) also known as Council for Mutual Economic Assistance (CMEA) was founded by the Soviet Union and the Communist satellite governments of Bulgaria, then Czechoslovakia, Hungary, Poland, and Romania in January 1949 (Encyclopaedia Britannica: *COMECON*). The COMECON, the economic side of the Warsaw Pact, was established as a response to the newly created European Economic Community, and chiefly concerned an international cooperative economic framework between the Member States of the Soviet Union; it existed until its official dissolution on 28 June 1991 (Encyclopaedia Britannica: *COMECON*; Closson 2011, p.1; NATO: *Dissolution of COMECON*). The European Soviet satellites purchased oil from the leading state of the Communist Bloc, while in return offering industrial goods such as machinery and equipment, consumer goods, and agricultural goods (Zickel 1991, p.601-602). Owing to the CMEA pricing system, European satellite states paid under average world prices for the oil they imported from Russia in the 1970s (Zickel 1991, p.602).

Yet after the first oil crisis struck in 1973 and global prices suddenly skyrocketed, Soviet Russia was faced with a difficult dilemma on whether to raise oil prices for its satellite states so as to keep itself economically viable, or to retain its political influence over them by keeping prices low via continued subsidies (Goodrich and Lanthemann, 2013). Moreover, owing to a pending internal crisis, the Soviet Russian government was forced to look beyond the Iron Curtain, as it required hard currency to keep the economy running; a need met by increasing energy exports to Western Europe. From this we can logically conclude that there was most probably no elaborate scheme to purposefully render the (Western) European states dependent upon Russian oil – at least not at that point in time. In 1975, Russia decided to raise prices for its European Soviet clientele, even nearly doubling them by 1976, forcing a great number of countries into debt by loans (likewise given out by the same state entity) (Goodrich and Lanthemann, 2013). Nevertheless, after a drop in the international oil price in 1985, the price difference was left uncalculated to CMEA Member States which then effectively paid more for Russian oil than the standard

world price (Zickel 1991, p.603). This led to the reality that the European Soviet satellites were solely connected to Russia as their energy lifeline and that the Iron Curtain as well as the Soviet regime effectively prevented them from diversifying to other energy suppliers. This situation in turn led to these states finding themselves in a difficult position of dependency, having no other realistic option but to accept any energy price Russia would charge. Evidently, as we shall see in the dependency levels portrayed in section 3.3, this has shaped energy relations between Russia and the affected EU Member States to this day – particularly those former Soviet satellites that have by now joined the EU.

As a final point, the case of Finland warrants some extra attention, as both its past energy dealings with Soviet Russia and its present high dependency rates make an interesting example. Aside from Estonia, Finland is the only country in the EU that holds a perpetually steady line of precisely 100% gas dependency[5] on Russia (see Graph 1 below in subsection 3.4.5). The country saw a rising oil dependency that peaked in 2010 at 95,3% before dropping back to 75,6% in 2014, thus remaining well above the EU average for commodity dependence. During the Cold War, Finland's economic relationship with the Soviet Union was conducted through bilateral clearing agreements to maintain a trade balance between exports and imports (Zickel 1991, p.605). Given that Finland did not have a convertible currency at the time, this same trade system was used between Russia and other COMECON Members (Zickel 1991, p.605). In the early 1980s, Finland increased the amount of oil it imported from the SU: by 1988, 90% of total Finnish imports from the Soviet Union was oil and Finland even served as a transit state for Soviet oil exporting its unconsumed surpluses to Western European states (Zickel 1991, p.605; p.611).

A quote from Mr Vladimirov explains how the situation stands today with regards to the reliability of supply in the Eastern European Member States, and how this differs from the state of affairs surrounding supply reliability in Western Europe: *"[s]o, the reliability of supply – especially for the Central and Eastern European Member States – has been good at risk since 2006 and 2009, when Russia cut the gas supply for Ukraine to most of the region. Western Europe has been cushioned from that, because it has available the… you know, it has diversified its energy supplies, gas supply. It is able now to import natural gas, among other fuels, from a large variety of countries, using energy tankers: especially France, Belgium, Spain, the UK have been… have had a major success in* [unintelligible] *energy markets and diversifying their supply. While Central and Eastern Europe have lagged behind, but things have – things are changing on this front too. Because the European Commission has been aggressive in reforming the natural gas markets in Central and Eastern Europe, and pushing forward, interconnecting things between the countries, so that they have… they can buy, basically they can receive natural gas from an alternative source if their main source of supply is cut. So, the only outliers in that case have been the Balkans, the Western Balkans – Bulgaria, which, where very few improvements have been done on the natural gas security front, where interconnectedness is inexistent and storage capacity is too low to accommodate the whole demand in the country. If the main supplier stops the flow – so this is reliability"* (interview with Mr Vladimirov). Having briefly considered the trade structures regarding oil and gas between Soviet Russia and its European satellite states, we will next turn to look at an overview of the most important pipelines running from Russia to Europe.

[5] Up until and including 2012, Finland was indeed precisely 100% dependent on Russian gas. This has been diminishing ever so slightly to 99,9% in 2013-2014, and to 99,7% in 2015-2016.

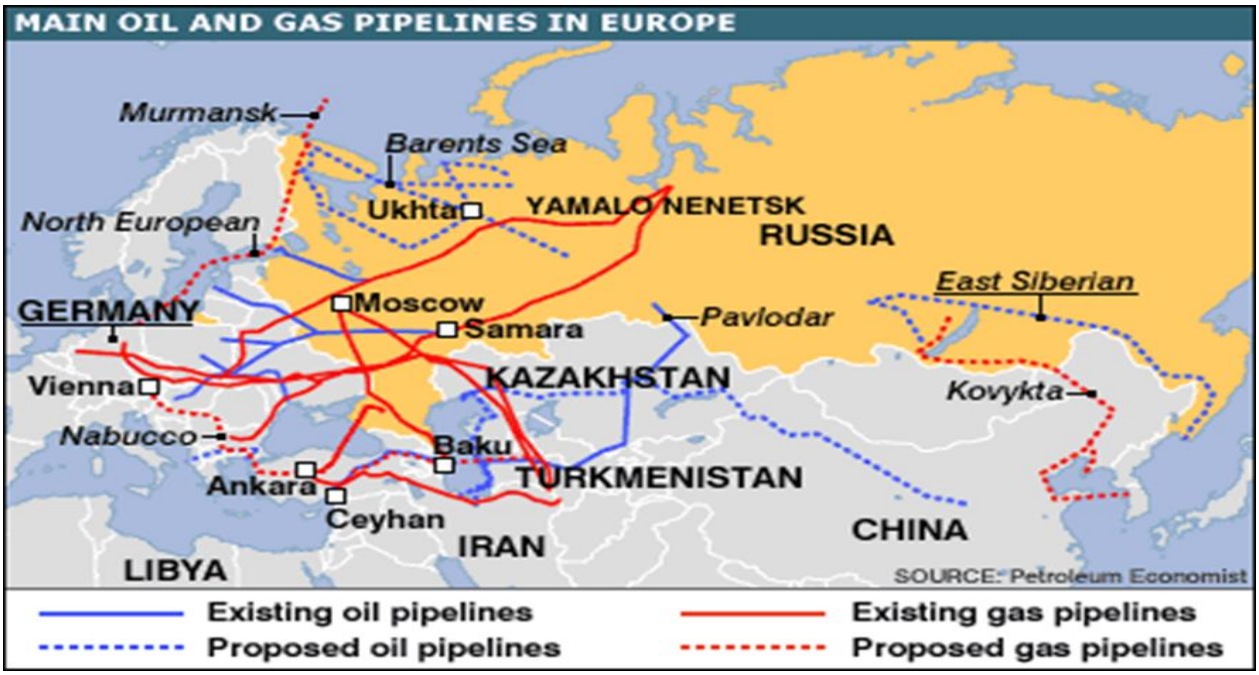
### 3.3.4. Pipelines: the foundation of European fossil fuel dependence

The Soviet Union created its first major oil pipeline between several of its CMEA Member States in order to reduce the high transportation costs of oil via railroad (Lee and Connolly 2016, p.108).[6] This subsection will mainly look into gas pipelines, as there is but one major oil pipeline. Only those pipelines which originate in Russia and end in one or more Member States of the EU will be taken into consideration in this research.

#### *3.3.4.a. The Druzhba ('Friendship') oil pipeline*

The first conduit connecting Soviet Russia to some of its European satellites was the Druzhba ('Friendship') line. This pipeline runs a total of 5500 km from Almetyevsk (near Samara) in Russia to Germany (via Poland) (the line's northern branch) and to Slovakia, Czech Republic and Hungary (the southern branch), making it one of the longest oil pipelines in the world (International Association of Oil Transporters: *Druzhba Pipeline*). Another northern branch bypasses Ukraine and ends at the Baltic Sea via Latvia (please see Map 2 below for the precise location and trajectory of the Druzhba line). Construction was overseen by the COMECON and was completed in 1964 with each Soviet state participating in the pipeline contributing by producing parts and owning the line on its territory (International Association of Oil Transporters: *Druzhba Pipeline*). Today the Druzhba's flow capacity is 1,2-1,4 mbd (million barrels per day) with a potential of 2 mbd and is operated on Russian territory by Transneft, a state-owned Russian pipeline company (International Association of Oil Transporters: *Druzhba Pipeline*). The other pipelines to discuss are all gas conduits.

**Map 2: Locations of main oil and gas pipelines from Russia to Europe**



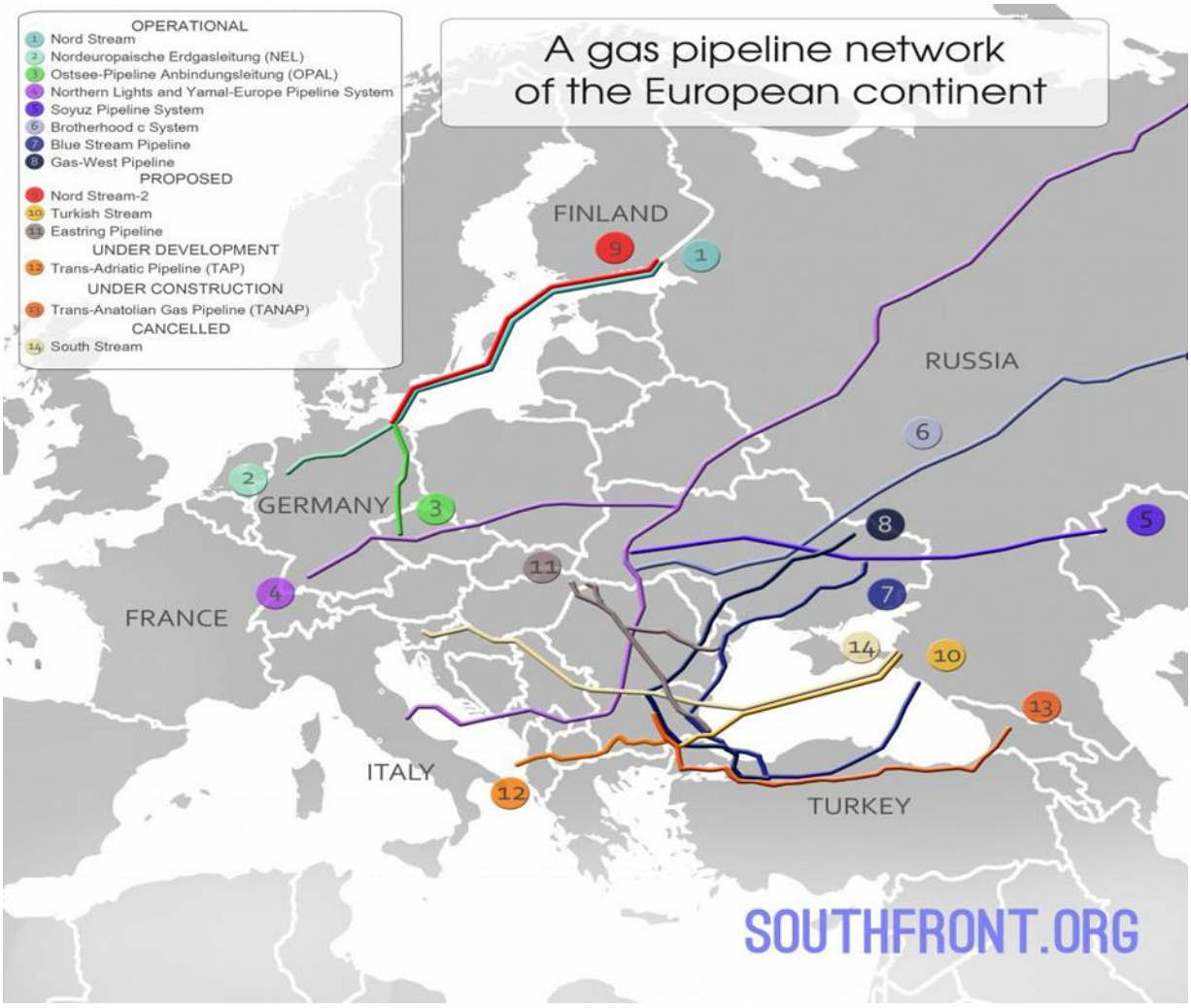

SOURCE: BBC: RUSSIA: KEY FACTS – PIPELINES

[6] It is worth mentioning that intra-Soviet Union railway construction was also an endeavour by the COMECON (Encyclopaedia Britannica: COMECON).

### 3.3.4.b. The Urengoy-Pomary-Uzhgorod / 'Brotherhood' / 'Bratstvo' pipeline

The second pipeline laid from Russia to Europe is called the Urengoy-Pomary-Uzhgorod (also known as 'Brotherhood' or 'Bratstvo') line, completed by 1983 and in part named after the Urengoy gas field, discovered in 1966 and yielding a potential deposit of 9,9 tcm (trillion cubic metres) (Hydrocarbons technology website, 12 November 2013). The Urengoy-Pomary-Uzhgorod pipeline is on Russian soil operated by the Russian state-owned gas company Gazprom. Gazprom is open about the fact that it is not a private company, but run by the Russian government, stating the following on its website: *"Gazprom is the largest joint-stock company in Russia. The total number of bank accounts holding 23,673,512,900 shares of Gazprom exceeds 470 thousand. Russian Government controls over 50 per cent of the Company's shares"* (Gazprom website: *Shares*). The Brotherhood pipeline conjoins the Northern Lights and Yamal-Europe lines in Ukraine. Its location can be seen on Map 3 below as pipeline 6.

**Map 3: Overview of all major gas pipelines entering Europe**




SOURCE: GLOBAL RESEARCH IN: MIDDLE EAST NEWS SERVICE: A NETWORK OF RUSSIAN VEINS OF INFLUENCE: GAS PIPELINES OF THE EUROPEAN CONTINENT

#### *3.3.4.c. The Northern Lights and Yamal-Europe pipelines*

The Northern Lights line, of which the Bratstvo line is an extension, was built throughout the 1960s to the early 1980s, initially to supply Moscow and Leningrad, but later extending to deliver to Finland and the Baltic states in 1974, as well as to Austria, France and West-Germany in 1984 (Dahl 2015, p.249-250). The pipeline is operated by Gazprom on Russian territory and *"Gazprom plans to increase the capacity of the Northern Lights pipeline from Ukhta to Torzhok by 110 billion cubic meters a year (bcm/y), which is more than the combined capacity of the Blue Stream, Nord Stream and South Stream projects"* (East European Gas Analysis: *Irrational Gas Pipeline Construction Plan in North-western Russia*). The Yamal-Europe pipeline can be mentioned very briefly too: it runs parallel to the Northern Lights line and has a flow capacity of 33 bcm per year (Gazprom Export: *Yamal-Europe*). The Northern Lights and Yamal-Europe lines are indicated by purple line number 4 on Map 3.

#### *3.3.4.d. North Stream I, North Stream II, and pipeline politics: the case of Ukraine*

The North Stream pipeline consists of two lines which are in place and operational; construction of line 1 was finalised in June 2011 with transportation starting in November 2011, while line 2 became operational in October 2012 – together they transport 27,5 bcm (North Stream website: *Operations*). It runs from Vyborg, Russia to Lubmin near Greifswald in Germany (The Nord Stream Pipeline Project: *Fact sheet*). Meanwhile, North Stream II is under construction. It runs parallel to North Stream I, also has a flow capacity of 27,5 bcm and will also consist of two lines, rendering the total North Stream transport capacity 55 bcm (Adomeit 2016, p.2). The North Stream II project is set to be accomplished by late 2019 (Erbach 2016). Unlike the other conduits discussed above which have been in place for decades, these lines are quite new. These two projects are not without controversy, however: national debates regarding North Stream II continue as each Member State affected holds its own concerns in regard to construction and the pipeline's presence. For instance, the pipeline will pass through the exclusive economic zones (EEZ) or the territorial waters of Finland, Sweden and Denmark – while none of these countries will be connected to the North Stream II grid (c.f., Gotkowska and Szymański, 12 October 2016). Nevertheless, none of the Nordic states are likely to block or veto construction one the basis of national apprehensions, owing to the fact that Germany is in favour of the project (Gotkowska and Szymański, 12 October 2016). The Baltic countries and Poland make known their mostly geopolitical trepidations as the relations between these states and participating countries in North Stream deteriorate (c.f., Gotkowska and Szymański, 12 October 2016).

While the North Stream projects serve to circumvent Ukraine and weaken the geopolitical standing and importance of this country as a transit state, the ongoing conflict between Russia and Ukraine further weakens relations between EU states and Russia (c.f., Gotkowska and Szymański, 12 October 2016). What is more, Pearson et al. (2012) write in an EC Joint Research Centre report that: *"[m]any Southern and Eastern European states were severely affected by a disruption of Russian gas through Ukraine in 2009, and the continued instability in other supplier states as a result of the 'Arab Spring' is a compelling reminder of the dangers of over-dependence on any one gas source or supply route"* (Pearson et al. 2012, p.5). It is because the crisis in Ukraine affects EU relations with Russia and therefore EU energy security, that I would like to elaborate a bit more on the case of pipeline politics between Russia and Ukraine, as well as North Stream. To begin, I sought the views of Mr Vladimirov on the topic of North Stream (and South Stream). My question was as follows: *"[y]ou mentioned how we can diminish energy*

*dependence on Russia. How do you, in this light, see projects, large pipeline projects such as North Stream and South Stream and such?"* Mr Vladimirov deliberated: *"North Stream and South Stream are major Russian-led gas pipeline projects, that are currently, under the current price environment, not economically sustainable; and it would be difficult to find an economic logic for these projects. They're more – mostly designed to be political projects that they need to circumvent Ukraine, and in this way, on the one hand improve reliability of supply directly to European customers. That's one goal; that's also supported by Germany. But the second goal – and I think is the more realistic one, because I mean, to be honest: Ukrainian disruptions of supply have been only minor, and you know, easily manageable – but the big problem is that if you are able to circumvent completely Ukraine and transfer the gas flowing through Ukraine to North Stream and South Stream, then you're basically squeezing* [the] *Ukrainian economy, which depends a lot on the transit revenue. One of the biggest companies in Ukraine, Naftogaz, is accumulating large deficits every year, because of the price it pays for natural gas imports and the one that it charges customers at home. This gap has been narrowing because of the low oil prices now, but is still substantial. And it covers part of this gap with the transit revenues from transit ingression gas. If you don't have that, we're talking about a budget deficit of five to seven percent GDP per year, because this is going to be paid then by the government directly. And this is unsustainable, especially in the concentration – in the current difficult economic situation that is Ukraine. Having said that, although these projects are financially nonviable, Russia has proven before that it is able to finance large projects when it thinks that political goals trump economic considerations. I think this is the case much more strongly about North Stream than South Stream."* The expert contemplated the extent to which North Stream is financially and economically viable, versus the extent to which this is purely a political project to circumvent Ukraine.

The heavy political component bound up with the North Stream projects drives the debate on North Stream towards geopolitics, and even conflict. How can we see energy security in this context? I therefore decided to ask the Danish Ambassador what the Russo-Ukrainian war could mean for EU energy integration: *"[h]ow do you see the current conflict between Russia and Ukraine with regards to securing Europe's energy sources?"* His Excellency, Mr Steen Hommel: *"[i]t highlighted the issue. It created that kind of burning platform, and I think this, the whole decision on the Energy Union, as I said at some point that a lot of the issues in the Energy Union have cost many times and it makes a lot of sense. And it makes a lot of sense without the Russian-Ukrainian conflict. But it has highlighted a risk and it has created this platform that makes it more likely that we will actually go all the way and find the compromises needed to make it work, which has been the issue thus far."* Interviewer: *"[t]o what extent, do you think, has the current conflict in Ukraine become a wake-up call for Europe concerning its energy dependency on Russian energy and concerning the notion of how we can deal with this in the future?"* His Excellency: *"[i]t definitely has been a wake-up call. I think this is the most important element of why we manage to agree on the Energy Union."* Interviewer: *"[b]oosting European integration, basically?"* H.E. the Ambassador: *"[i]t does, hopefully. Hopefully, we'll keep the momentum, because it is this burning platform. Because if we all agreed and there is no sacrifices individually, we would have done it long ago. So, it has to keep the momentum that we actually progressed thus far that we see – start seeing the obvious benefits of the Energy Union coming our way also. So there's more individual sacrifices in countries have to be outweighed and quietly benefits coming the other way once it starts working."*

To compare interview answers, I asked former senior executive at the United States Department of Transportation McCown a very similar question, that being: *"[h]ow do you see the current conflict between Russia and Ukraine with regards to Europe's energy security? I know that you mentioned it already a bit, and I was wondering how, you know, we don't know how long this conflict is going to take. We don't know whether Crimea will ever be part of Ukraine again or it's Russian forever – what's going to happen. So, as we know that the pipelines are running through these countries, for example Ukraine; how do you see Europe's energy security in the near future?"* Mr McCown replied: *"[w]ell, it's, you know I don't think Russia can shut off the supply of natural gas even though… It's really unfortunate for Russia, right, because the supply of natural gas goes right through Ukraine and I'm sure they had rather that'd not be the case because Ukraine can syphon off natural gas that's destined for Europe or other places, if they wanted to. And, but, Russia absolutely cannot afford at this point to lose those pipelines and, you know, what we've seen in Ukraine thus far has been, you know, NATO will say substantial Russian involvement. I would still argue that's very limited Russian involvement because, you know, frankly if Russia wanted to they could be in Kiev in three days. They're not, and my sense is that is they would like to – most of us think that they want to establish a land bridge to Crimea but are having difficulties doing that – and what the fighting in Ukraine could do though, is damage the pipeline or pipelines that are running through the country and unintentionally block natural gas to Europe. I think that's frankly the more likely scenario. I don't think any of it's likely, but if gas were to be disrupted to Europe, I would suggest that it's more likely an unintended consequence of the conflict there versus Russia trying to shut off the gas supplies."* The gentlemen's answers are valuable and insightful, and really put the European Union's quest (and that of its Member States) into (regional and international) perspective. As we have seen, though the topic at hand mostly revolves around the geopolitics of energy security, not all concerns raised vis-à-vis North Stream, Ukraine and Russia are of a geopolitical or conflict nature. Aside from the financial health issues the conduit deals may have, and the catalyst for greater EU energy co-operation the war in Ukraine has been, there are also other predicaments: environmental and legal troubles.

Thus, putting the cases of Ukraine and NATO aside and returning to North Stream, I would next like to focus on the environmental reservations and implications of this project. North Stream II is namely set to be laid through a Russian nature reserve, which poses a serious legal hurdle, since it violates both Russian laws as well as flouts the 1992 Helsinki Conventions and the 1971 Ramsar Convention – both protecting the natural environment (Gramer, 10 May 2017). Notwithstanding pressure from the United States, the Central and Eastern European countries (CEE) as well as parties, organisations and groups opposing the project (in both Europe and Russia) demanding its cessation; it is chiefly up the European Union to have research conducted and duly subject the project to scrutiny after which it can reach a decision in regard to continuation (c.f., Gotkowska and Szymański, 12 October 2016). As it stands today, no less than eight Member States (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia) have formally approached the European Commission requesting strict regulatory scrutiny and even cessation of construction and cancellation of the Nord Stream II pipeline project (Sytas, 16 March 2016; Gotev, 2 December 2015; Gotev, 30 November 2015).

Interestingly, Bulgaria, Greece and Slovenia were presented the letter to sign, yet later declined, while Romania initially declined, yet signed afterwards – and Croatia may have signed in secret (Gotev, 30 November 2015; Sytas, 16 March 2016). This peculiar sequence of events is quite illustrative of the current political situation of oil and gas imports from Russia into the EU. We will return to the topic of perceived

divisiveness in Chapter 5. There are several issues pertaining to the North Stream projects that render these politically sensitive issues. First of all, as mentioned above, the pipelines run directly from Russia to Germany, omitting all states along the way (Finland, Estonia, Latvia, Lithuania, Poland and Sweden). They could also diminish the geopolitical status and importance of Ukraine as gas transit state: logically speaking, the more gas is pumped through North Stream I and North Stream II, the less the Northern Lights and Yamal-Europe lines will be operating. In fact, up to 80% of all Russian gas transported to the EU could possibly be rerouted to pass through one of the soon to be four North Stream conduits (De Jong, 11 August 2016). This could have serious consequences for the EU Member States that directly depend on these lines for their gas consumption, which are Poland, the Czech Republic, Romania, Bulgaria and Croatia (please see Map 5 a few pages below of the Odessa-Brody-Płock pipeline by point 6 in this subsection). Worries regarding the omission of states by way of the route of laid pipelines as well as possible supply cuts have grown stronger since the 2006 and 2009 supply cuts Russia imposed on Ukraine (Pop, 2 January 2009). Furthermore, all this comes at a time during which the EU seeks to diversify away from Russian gas and diminish its levels of dependency. Nevertheless, one logical consequence of laying new pipelines is increased longer-term dependency on the supplier state.

**Map 4: The location of the North Stream and North Stream II pipelines**

SOURCE: GAZPROM EXPORT, NORD STREAM AND THE NORD STREAM PIPELINE SCHEME IN: GOTKOWSKA AND SZYMAŃSKI, 12 OCTOBER 2016

This notion is compounded by that of ownership of the conduits: Gazprom is a majority shareholder in both projects: in North Stream it holds 51%, whereas in North Stream II Gazprom owns a 50% share (The Nord Stream Pipeline Project: *Fact sheet*; Erbach 2016). The other 50% is divided per 10% share among E.ON, ENGIE, OMV, Shell, and Wintershall (Erbach 2016). Since we have already seen above that Gazprom is in fact state-owned, these pipeline projects also affect market shares of national gas markets. Russia

may namely use Gazprom to further its policy goals, expand its sphere of influence and consolidate its power base abroad. For example, North Stream II is set to give Gazprom a nearly 50% share of the German national gas market (De Jong, 11 August 2016). This could materialise into a rather worrisome political reality wherein Russian influence is metaphorically pumped into Europe. Mr Vladimirov says this on Gazprom's (read: Russia's) intentions using North Stream: *"(…) North Stream would tap into the very liquid, diversified Western European, North-western European gas market, which is well interlinked and will provide Gazprom with an edge in its competition with Norway for market share. So, I think it's about market share also, North-western Europe. Gazprom doesn't want to be excluded from that and depend only on Germany and Central Europe"* (interview with Mr Vladimirov).

The above seems almost like a Trojan horse being invited into Europe. Especially when we take into consideration that Russian governmental control of Gazprom has grown in the past years: Abramov, Radygin, and Chernova (2017) observe that Russia owned 38,37% of Gazprom's market shares by late 2014 (Abramov, Radygin, and Chernova 2017, p.5). As we have seen, this number has risen to the point that the Russian government is now the majority share- and stakeholder of the company (Gazprom website: *Shares*). I could also write about Rosneft and Transneft, and the schemes set up that are to make governmental influence seem less apparent, such as anonymous shareholders and intricate connections between companies as described in the article by Abramov, Radygin, and Chernova (2017), but the core point has been made. For a closing remark in this subsection, and to somewhat temper the rather strong facts and statements made above, I should like to draw attention to the fact that the competition authority of the European Commission has been conducting a thorough formal investigation into Gazprom regarding the state-owned company's alleged *"(…) abuse of its dominant market position in Central and Eastern Europe"* (De Jong, 11 August 2016). We will look more closely at national debates regarding energy dependency on Russia in Chapter 5.

Finally, for purposes of clarity, a brief note on the Opal pipeline is in order: this concerns pipeline number 3 on the map and connects to North Stream as its downstream pipeline. A 2017 EU report warns about the *"(…) still-unresolved question of the Opal"* line (Sartori and Colantoni, 20 March 2017, p.2). Seeing, however, as the Opal pipeline does not lead from a third state into Europe, it is not discussed here. That being said, the issues regarding the Opal pipeline are looked at more detailedly in subsection 5.3.5.

#### *3.3.4.e. Pipelines in the Southern Gas Corridor*

Turkish Stream is a twin pipeline set currently under construction. It is part of the so-called ''Southern Gas Corridor'' together, amongst others, with South Stream and the South Caucasus Pipeline (SCP). The SCP line transports gas across Azerbaijan and Georgia (currently in place and up for expansion with a twin conduit) (BP: *The Southern Gas Corridor*). Other pipelines in the Southern Gas Corridor are the Trans Anatolian Pipeline (TANAP) flowing across Turkey, The Trans-Adriatic Pipeline (TAP) (which is under construction and will be laid through Greece and Albania to Italy), the cancelled Nabucco pipeline (which was to bypass Russia), Blue Stream (serving Turkey Russian gas via a conduit under the Black Sea) as well as the cancelled pipeline project of South Stream (BP: *The Southern Gas Corridor*). The cost estimate of the Trans-Adriatic Pipeline has been reduced by 25%, which enhances the chances of EU diversification towards other suppliers than Russia and *"(…) diminishes fears about Russian competition in the exploitation of Central Asia and Eastern Mediterranean gas resources"* (Sartori and Colantoni, 20 March 2017, p.2).

Another thing, before we get into detail about the Southern Gas Corridor, regards the unmentioned pipelines in Southern Europe. For instance, there is the Trans-Saharan gas pipeline, which spans from Nigeria in West-Africa via Algeria in North Africa, to Europe and is briefly mentioned in subsection 4.2.4. Little attention is given to such diversification efforts away from Russia, in spite of the fact that the EU searches for these – notably in the Caspian Sea Basin, the North African states of Algeria and Libya, as well as in Nigeria (Proedrou 2007, p.343). I would have very much enjoyed to have included discussions on pipelines from countries such as Algeria (which has the tenth largest gas reserves in the world), Libya, and Nigeria (holding the ninth largest gas reserves) (Duddu, 11 November 2013). Indeed I would have enjoyed exploring diversification plans towards Iran (which holds the second largest gas reserves) and Iraq, Saudi Arabia (which has the sixth largest gas reserves) and Qatar (owning the world's third largest gas reserves), and future LNG possibilities (Duddu, 11 November 2013). But I have no other choice but to limit myself in this thesis, which finds its focus on Russia. By including all geopolitical matters and pipeline considerations of each particular country, I could easily have added another chapter to this research. But I am reminded that, despite my best intentions to give accurate portrayals and strengthen my main argument, this is a Master thesis – not a PhD thesis. So let us now return to the topic at hand: a discussion of the pipelines in the Southern Gas Corridor.

Baran (2007) elucidates why Nabucco was already failing before its cancellation: lack of unison, an uncertain stance and little cohesiveness caused disarray on the European side, while Russia was steadfast and could make concrete promises (Baran 2007, p.139-140). This lead to the backing of the Russian-supported Blue Stream pipeline over the EU-backed Nabucco project by then Hungarian Prime Minister Gyurcsány (Baran 2007, p.140). For purposes of clarification: the South Stream project was cancelled on account of lack of compliance with EU law. In fact, *"(…) South Stream had been cancelled due to the combined failure of the Bulgarian government to provide assurances that the pipelines could be laid; and the European Commission to provide assurances that gas would be allowed to flow through them"* (Stern, Pirani, and Yafimava 2015, p.5). Mr Vladimirov adds to this: *"I don't think South Stream is going to happen – ever. Because South Stream doesn't market the gas to a major demand centre. And they intern basically no clients for South Stream gas at the moment, or very little."*

Meanwhile, Turkish Stream is scheduled for completion by the end of 2019 and the parallel conduits will each be transporting 15,75 bcm (Gotev, 23 May 2017). Yet its construction is not without controversy. According to EU watchdog EUObserver: *"Turkish Stream had earlier faced European Commission criticism because it would force EU states, such as Greece, to build new infrastructure to connect to Turkey, while abandoning existing transit pipelines to Ukraine. (…) Bulgaria has also complained that if Turkish Stream was built it would make a mockery of its loss of South Stream in order to comply with EU law"* (Rettman, 31 August 2016). I asked Mr Vladimirov for his take on Turkish Stream and the other pipeline projects coming into Europe from regional states other than Russia. Interviewer: *"[w]hat about those pipelines coming from Azerbaijan? For example, Turkish Stream? Do you see any viability in that?"* Mr Vladimirov: *"Turkish Stream is even less viable. Turkish Stream is possible only if it is just one line: one pipeline of sixteen bcm per year – sixteen billion cubic metres per year. That is going to run parallel to the existing Blue Stream line, because Turkey is consuming a lot of gas and is going to continue increasing its gas consumption. Currently, Blue Stream won, so Blue Stream is operating at full capacity. And the Trans-Balkan line – it passes through Bulgaria – is also almost operating at full capacity. If Turkey wants to continue buying more quantity, more, larger quantities of gas from Russia in the future – and not*

*replace that with Azeri and Iranian gas – it would need to increase that capacity; that import capacity. And the best way is to build one pipeline under the Black Sea, parallel to Blue Stream, so this is the only scenario that I see Turkish Stream happening. Having said that, Turkey is not willing to put all its eggs in one basket and continue to rely for over fifty percent of its natural gas consumption on Russia. So, as you know, it has moved aggressively on constructing the tunnel pipeline, getting Azeri gas: it's going to get six bcm of Azeri gas. It is looking to even get gas from Turkmenistan via Iran. It wants to increase imports of LNG, because it has a lot of underutilised LNG capacity; a lot of options are there."* As Mr Vladimirov tells us, not only the European Union is trying to diversify away from Russia; so is Turkey.

The last pipeline briefly worth mentioning is the Baku-Tbilisi-Ceyhan, or BTC line. This is an oil pipeline running from the Caspian Sea to Europe via Azerbaijan, Georgia and Turkey. Its geopolitical significance is found in the fact that the BTC line bypasses Russia and allows for Caucasian oil to be transported directly to Europe, thus weakening Russia's importance as provider and transit country (c.f.; German 2009, p.351). Considering that Russia cannot control this pipeline, nor gain transit fee income from it, German (2009) aptly concludes: *"[a]lthough the BTC only transports 1% of total global oil supplies, it nevertheless makes an important contribution to Western energy security by boosting diversity of supply"* (German 2009, p.351). In the end, we see that it is all political: countries want to import from states they trust – if possible. The route decided on for a pipeline is not arbitrary either: it does not just take into account natural barriers, but is also a strong geopolitical statement. Mr Maciej Kowalski reminds us of the political undertones using the example of the cancelled South Stream pipeline, saying: *"[t]hey were supposed to be transporting Russian gas through Turkey, basically to bypass Ukraine and Poland. It's just one way of controlling the neighbouring states by Russia."* He also says the following about whether it would be a good idea to construct conduits between Europe and regional countries to its east and south: *"[s]ure, yeah, why not? I mean, unless for some political reasons we won't want to support the local governments or whatever, why not? I think it's safe and I think it is worthwhile to do it."* All in all, the EU is enthusiastic about the Southern Gas Corridor, hailing it as being of high importance to European energy diversification efforts, as can be understood from the rhetoric by Energy Commissioner Miguel Arias Cañete, who said: *"[a] key major project for our diversification efforts is the Southern Gas Corridor. We already have working Northern and Eastern Gas Corridors, and it remains a major priority for us to bring gas from the Caspian region directly to Europe. It is a measure of the success of all involved that the first gas from Azerbaijan will be delivered to Turkey this summer already, and that it should arrive in Europe as of 2020"* (Speech by Commissioner Miguel Arias Cañete on 12 April 2018, p.2).

Now we have covered the topics of nearby diversification options in possibly turbulent socio-political environments such as North Africa, Turkey, as well as the Caucasian states to a lesser extent in theory, I moved on to mention diversification possibilities that are arguably more stable an investment, yet physically farther away, such as the GCC (Gulf Cooperation Council) states – spearheaded by Saudi Arabia and Qatar. Interviewer: *"[j]ust taking into account geography: geographically speaking, they're* [North African states] *much close to us than Qatar or Saudi for example, so is it a better investment?"* Mr Kowalski: *"[y[ou'd have to ask someone from downstream. (…) Maybe it's safer: Qatar is safer and it's a safer investment to buy energy from there to build one* [a pipeline] *from Libya or Algiers or anywhere else."* I also asked Mc McCown for his opinion about Middle Eastern – specifically Saudi Arabian oil production. Interviewer: *"[w]hat do you think Saudi Arabia will do?"* Mr McCown: *"I think they'll keep producing.*

*They… you know, a lot of these countries – Russia, Saudi Arabia, Qatar, some of the other ones – have, you know, they depend on the oil to meet their national budgets. And they assume – in Iran in particular, assumes a certain dollar value per barrel, and if they're not getting that dollar value, they either, you know, don't get the money or you make up for some of the shortfall and your money by overproducing. It seems kind of intuitive, because if you would cut production,* [the] *price would go up; but OPEC has a long history – and Saudi Arabia in particular – of not paying any attention to their quotas. And they keep the tap wide open. And I think they will continue to do that. And frankly, they have enough money too that they can, they can produce, you know, the oil at a very cheap price for a long period of time if they need to."*

To compare, here is a question to the Danish Ambassador on the near future of the international oil and gas industry and trade. Interviewer: *"[l]et's continue to expand the topic globally for a moment: Saudi Arabia and OPEC have committed production levels and oil prices to stay lower than some, notably Russia, would like. What do you think do the next twelve months look like for the oil industry with Iranian oil most probably also coming to the market, increased production and lower prices? Are you optimistic or pessimistic about what is to come in the next year?"* His Excellency replied: *"[w]ell, you can discuss this from many angles: you could say when we have low fossil fuel prices, the renewables are challenged. Of course the higher the prices for fossil fuels, the more relevant renewables become, like a B1 element of it. In Denmark, we are producers of fossil fuels, we are oil and gas producers also from the North Sea – so we have a duel impact of this in Denmark. Lower oil prices lowers our selling price for our oil also. And the state budget's income from oil is decreasing rapidly right now. So that has a negative impact that the prices are low, and it has a negative impact on, sort of, the viability of renewables. On the other side, fossil fuels still constitute the major input in energy usage of our industries and our consumers. So lower prices benefit the economy in other ways, and I think the bottom line of the benefits and the threats of lower oil prices is on the benefit side. So lower energy prices is good for our countries.*

*Saudi Arabia and OPEC, well thus far,* [it] *seems like Saudi Arabia has been playing their cards,* [it] *seems like guided by sort of the US shale gas production. This is where there have been, sort of, the benchmark to some extent. And not really what Russia thinks of us. And Russian loss on energy exports has been sort of about just a side-effect of Saudi Arabia and OPEC's way of addressing the US energy revolution, you could say. So interesting. I don't know whether that would change… I think that could change if the US energy market changes: if they run out of luck or out of cash or prices go dramatically up, things could of course change. But for now, my best guess – which is not very scientific – would be that the oil energy price will continue to be low. I do not see major, sort of, price heights coming up, and if anything, reintroducing Iran as a major player is adding quite a few million barrels a day to the market. And when you look at the market and the price mechanisms, it's a marginal barrel that influences the supplies. So by adding a couple of million barrels, or even more, from Iran, I don't know what their production is today. Two is, and it could maybe go to five. It is one of the top three to five resources of oil and gas in the world, so they could put many more barrels on the market and they'll be a legit partner for everyone – also allowing them to be part of the market. So I think that would definitely add to the supply and thus lower prices, and that the Iran deal is passed partly also creating stability. It's a positive deal. So the stability element is also part of lowering prices; every time you have a war, then you see prices going up, so then this is the opposite. And the other element would be that, in terms of some of the fossil fuel resources available in Central Asia and in the Caucasus; they are landlocked to some extent. Between not being sellable through Iran because of sanctions, and Russia on the other side. So quite a few transport routes*

*become interesting through Iran if the deal persists. So it's not only availability on Iranian oil and gas; it's also resources easier accessible from Central Asia, Caspian region through Iran. So a new type of supply routes might soon become available and new resources will be cheaper available for the market, you could say."*

Interviewer: *"[s]o, in connection with Turkey's stream, is that why?"*

His Excellency: *"[w]ell, if you look at the map, Iran is kind of a gawk – you have Iran, if you go further to the east, you have a lot of trouble with Pakistan, Afghanistan and so on, and who wants to put a pipe there? But Iran is a fairly stable country in that region, and once the international pressure and sanctions are lifted, Iran becomes an interesting opportunity for putting new pipes or using existing infrastructure already available now in Iran. So instead of all this talk about piping through – well the pipe from Baku goes through, of course… So, actually, this route could become interesting and I think it's shorter and most likely cheaper and maybe even be more stable, like going through… like going* [unintelligible] *and the troubles of going through a mountainous area of north-eastern Turkey and so on. Or even in Russia, or shipping over the Black Sea. So, it's not only* [the] *supply from Iran, it's maybe also access to supply from other countries that would be cheaper and easier through new piping in Iran."* We can conclude from Mr McCown's words that he thinks the Middle Eastern states will carry on with their regular production levels in the near future – which, based on history since the oil crises, is very plausible. Ambassador Hommel meanwhile talked about Iran, an oil producer which is not a member of OPEC. He sees opportunities in possible future European imports of Iranian fossil fuel products, based on the relative stability of this country. Thus, we can take the variable of potentially unstable oil production in the Middle East (in spite of diplomatic tensions and the war in Yemen) off the table. The last serious opportunity left to explore that could be of interest to the European Union in its quest for greater supply diversification is that of the gas fields off the coasts of Cyprus and Israel. This geopolitical situation is more complex and warrants its own subsection, which is found just below as subsection 3.3.5.

#### *3.3.4.f. The Odessa-Brody or Odessa-Brody-Płock pipeline: a chance to diminish Russian dependence?*

In this subsection, I have said to limit myself to introducing and describing solely the pipelines connecting Russia to one or more European states. However, I would like to add to this one pipeline project that – if successful – might provide a different perspective: that of decreased dependence on Russia. This concerns the Odessa-Brody pipeline (both Odessa and Brody are Ukrainian cities), with an extension option to Płock in Poland. This conduit, constructed in 2001 and set to transport Azeri gas via the Black Sea to Ukraine, was but rarely used (Fandrich, 19 July 2016). I interviewed petrochemical expert Mr Maciej Kowalski in 2015, who made a remark regarding the Odessa-Brody line. His view at the time regarding the conduit's viability was rather pessimistic: *"[t]here was a big project that lurks around: it was called Płock-Odessa-Brody project. It was supposed to be a very big pipeline placed on the bottom of the Black Sea that would be transporting the gas from Azerbaijan to Ukraine and to Poland. That was a big project that would really decrease Poland's and Ukraine's dependence on Russian gas and that would interconnect the two countries. But instead, for political reasons – and for financial reasons also – it's stalled. They calculated, it does not make financial sense right now to build that."* Nevertheless, the pipeline may be resuscitated in the near future by Azeri President Mr Ilkham Aliyev and Ukrainian President Mr Petro Poroshenko who

met and agreed on their joint wish to revitalise it (Fandrich, 19 July 2016). At the time of writing in late 2017, there has not been new information given concerning the current situation or any possible progress on the pipeline.

**Map 5: Route of the Odessa-Brody-Płock pipeline with extensions to Gdańsk and Wilhelmshaven**

SOURCE: MARYLA, BLOGMEDIA, 21 AUGUST 2013

### 3.3.5. Energy Triangles at odds: considering the geopolitics of two competing trilateral energy blocks

As noted at the end of subsection 3.3.4, one diversification option left unexplored is that of the gas bubbles underneath the Mediterranean Sea in the territorial waters of Cyprus, Greece, and Israel. Since the geopolitics of the situation require more attention, I have decided to make a mini-case study out of it and see what conclusions can be drawn from this example that are of interest to the EU-Russia case. First, I will describe the situation, to then concisely discuss the positions of, and ramifications for each involved state of the opposing blocks of the Energy Triangle. This is done with the help of five articles by social scientists, written between 2012 and 2016.

Three states have since the gas discoveries in the Mediterranean Sea basin – and to some extent even before – formed a trilateral alliance called the Energy Triangle, partly stirred by their common perceptions of Turkey as a security threat coupled with energy-related interests (Tziarras 2016, p.407). According to George Stavri, an energy analyst and researcher, the Energy Triangle wishes to lay a joint pipeline from

Israel to the European mainland via Greece, thus lowering the energy dependency of Europe on Turkey and Russia (Stavri 2012, p.4-5). Now, the Energy Triangle is a so-called flexible and informal quasi-alliance: it is built on shallow ad-hoc convenience borne out of individual and collective incentives: it does not create deep or long-term military commitments and can be disbanded at any time without damaging any political relations involved (Tziarras 2016, p.408-410, 417-418, 420-421). On the one hand, this means that geopolitical leverage on Turkey is achieved in the short term due to the overweight of the three partnering states, while the flexible nature of the regime allows an opening in case political relations with Turkey warm up again, particularly preventing Israel from becoming too anchored diplomatically (Tziarras 2016, p.411, 420). There are in fact two key motivations for the foundation of this regional collaborative scheme: firstly, the worsening of Turkish-Israeli relations after the 2009 Gaza war and the 2011 Mavi Marmara incident, and secondly, the discovery of fossil fuels in the Mediterranean Sea basin by both Cyprus and Israel (Tziarras 2016, p.413, 418; Stavri 2012, p.4). Tziarras (2016) therefore concludes that the shared perception of Turkey posing a security threat, in part also having to do with energy security, has led to the quasi-alliance – this may not have materialised had Turkish-Israeli diplomatic relations not been deteriorating since the rise to power of Erdoğan's AK party (Tziarras 2016, p.408, 411-413). What is more, the early foundations of the partnership between Greece and Israel were laid in 2009 with a military covenant, followed by two security co-operation agreements in 2011 and 2015 respectively (Tziarras 2016, p.417). Meanwhile, Cyprus and Israel agreed on a military and defence pact in 2012 (Tziarras 2016, p.417).

#### *3.3.5.a. Cyprus*

Cyprus (Republic of Cyprus, or RoC) initiated mineral exploration in its EEZ (Exclusive Economic Zone) in 2011 (Tziarras 2016, p.407). Cyprus is best off in the eastern Mediterranean energy equation: the gas bubble on its territory in block 12 of the Aphrodite gas field is estimated to hold 142-227 bcm of natural gas which could earn Cyprus a revenue of €30-€100 billion (this financial estimate only takes block 12 of the field into account) (Proedrou 2012, p.20). To see the locations of the discovered gas fields in the eastern Mediterranean, please see Map 6 below. The RoC now has the opportunity to become a regional gas hub and supply mainland EU and the Balkans in the near future (Proedrou 2012, p.20). Yet Turkey's perceived threatening behaviour towards the RoC combined with the former's geographical proximity and geopolitical overweight have made Cyprus wary – as did the illicit exploration efforts by Turkey off the coast of Northern Cyprus and the fact that Turkey sent a flotilla into the RoC's exploratory area (Tziarras 2016, p.412-413; 415; Stavri 2012, p.5). Tziarras (2016) adds to this that it was to ensure the security of Cyprus' gas exploration and extraction sites that the state formed a military co-operation pact in the first place (Tziarras 2016, p.417). Thus, to engage in a partnership with two larger states (Greece and Israel) has helped Cyprus gain relative power and security, while the fuel discoveries have given hope to its faltering economy (Tziarras 2016, p.415).

Stavri (2012) reminds his reader of the close connection between Cyprus and Russia (Stavri 2012, p.1; 7). He writes that Cyprus is Russia's closest ally in the European Union, because of former Communist President Christofias, who was succeeded by current centre-right President Anastasiades (Stavri 2012, p.4). Whether the Energy Triangle partnership change affected the relation with Russia is unproven. What

is sure, however, is that Russia lent Cyprus 2.5 billion euros in 2011 in order to prevent a bailout (Stavri 2012, p.3). This is certainly comes across as Russia seeking to gain long-term influence into an EU country.

#### *3.3.5.b. Greece*

Turkey has violated Greek maritime and airspace on several occasions (Tziarras 2016, p.413). Greece has subsequently sought rapprochement with Israel on the issue in an effort to stand stronger against Turkey (Proedrou 2012, p.22-23). The two states have thenceforth created a defence pact – precisely at the time when Israeli-Turkish relations have cooled down (Proedrou 2012, p.22-23). This has effectively led to *"(…) the creation of two rival axis: the Greek-Greek Cypriot-Israeli vs. the Turkish-Turkish Cypriot"* (Dokos 2011 in: Proedrou 2012, p.23).

#### *3.3.5.c. Israel*

Ever since a gas bubble has also been discovered on Israeli offshore territory, Proedrou (2012) deems it possible that Cyprus and Israel may construct shared (or even multiparty) infrastructure lines to Europe, as mentioned above (Proedrou 2012, p.20). Israel's other main reason to engage itself in the Energy Triangle, is because it feels threatened by Turkey's foreign policy stances (regarding the West Bank, Gaza, and several other issues), and is said to seem reluctant to allow Turkish involvement in the Energy Triangle's gas business in Cyprus (Tziarras 2016, p.413; Stavri 2012, p.10).

#### *3.3.5.d. Turkey*

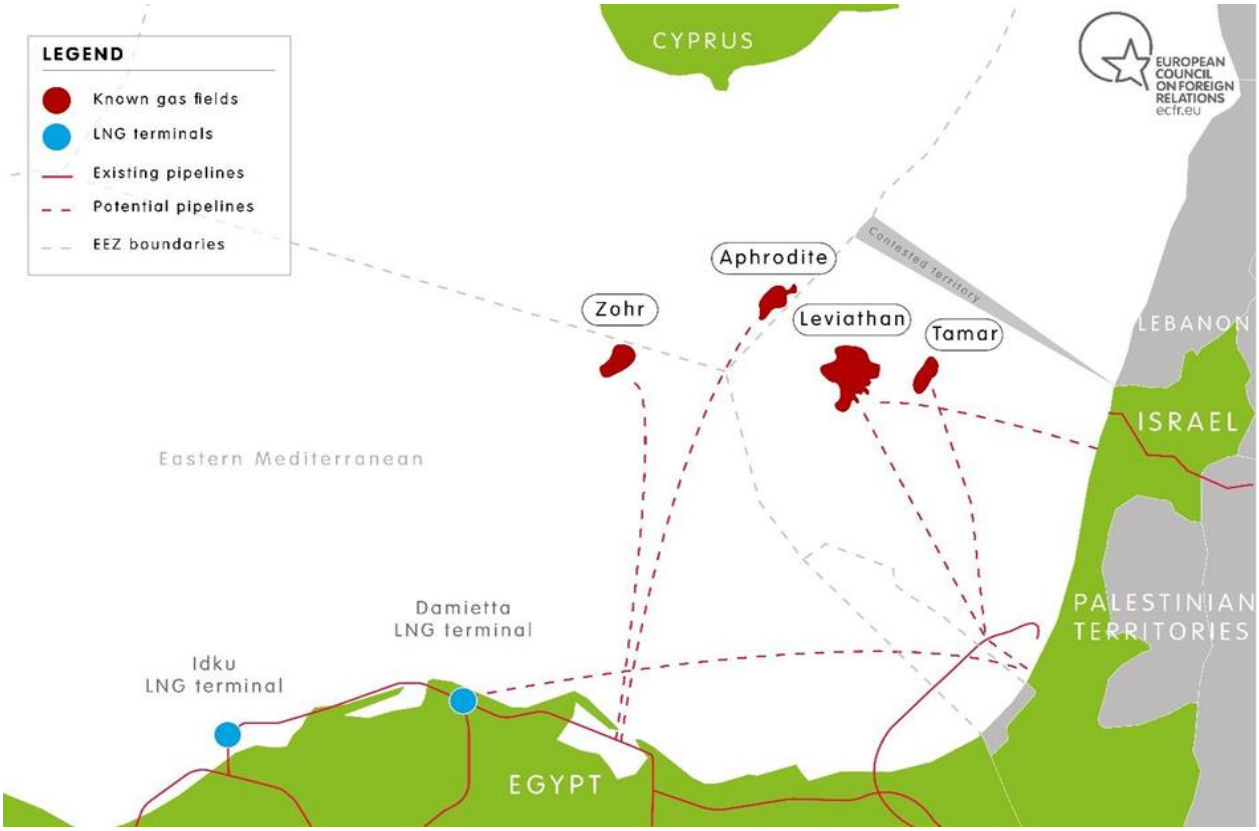
Turkey, for its part, stands to lose in this situation, primarily because the gas bubble found is not in Northern (Turkish) Cypriot waters, but in (Greek) Cyprus' EEZ. This has a few negative repercussions for Turkey: firstly, Turkey's importance as a regional hub for Caucasian, Russian and Turkish gas is undermined as European dependence on Turkey is effectively diminished in light of the forecast of available Cypriot gas (c.f.; Proedrou 2012, p.20). The case regarding Turkey's lessening strategic importance is strengthened by the fact that Cyprus does not need to lay pipes through Turkish territory in order to reach mainland Europe (Proedrou 2012, p.20). Secondly, Turkey also loses out because Northern Cyprus – its patron state being Turkey – does not necessarily stand to gain financially from the increased revenue in Greek Cyprus (Proedrou 2012, p.20). Thirdly, since Turkey's own Nabucco pipeline was cancelled, it now has to rely solely on South Stream's perpetual success in order to keep a seat at the regional gas table (c.f.; Proedrou 2012, p.24).

In light of the above arguments, and to offset the joint Energy Triangle powers, it is not surprising that Turkey has 'armed' itself with alliances of its own with Iran and Russia – despite the three having been long-standing collaborative competitors (c.f.; Joobani and Mousavipour 2015, p.141). Christie (2009) notes that *"[i]n terms of external energy policy, it is remarkable that Gazprom, which has the monopoly right to export gas out of the Russian Federation, the country that has the world's largest gas reserves, is so keen to develop ties with virtually every other supplier of gas to Europe. Indeed, Gazprom has expressed interest in strategic partnering with Algeria, Libya, Nigeria, Iran, Qatar, Azerbaijan and of course the Central Asian states"* (Christie 2009, p.275). To be fair, the co-operative partnership between Russia and Turkey had already started in the late Cold War era when the two states agreed to collaborate on economic and energy issues (Flanagan 2013, p.164). This is not just in Turkey's favour, of course: Russia sees the economic and energy partnership with Turkey, a well-integrated regional leader, as a strategic escape from Western sanctions (Joobani and Mousavipour 2015, p.147). Seeing as two-thirds of Turkish

energy comes from Russia, Moscow deems the partnership a good opportunity to keep its economic power strong, and at the same time use Turkey as an energy hub for its South Stream gas (Joobani and Mousavipour 2015, p.147). Even if something were to happen to North Stream, or if relations between Russia and the EU were to deteriorate further and the unlikely scenario the EU would cease its gas deals with Russia were to materialise, the Russo-Turkish alliance would stand and Russian gas could still flow to Europe – at least to the non-EU Balkan countries. From the Russian perspective, it is, after all, the worsening of the relations between the EU and Russia since the annexation of Crimea and the war in Ukraine that has inspired stronger ties with Turkey (Joobani and Mousavipour 2015, p.147).

Interestingly, Russia denounced Turkey's plans to explore natural gas deposits in the Mediterranean off the coast of Northern Cyprus aided by the Turkish navy and air force (Stravri 2012, p.4). Mr Aleksandr Lukashevich, the then chief Russian Foreign Ministry spokesperson warned Ankara, saying that these acts: *"(…) may exacerbate the situation on the territory of Cyprus"*, after which Russia sent a flotilla that laid anchor in Cyprus (Stravri 2012, p.4; Socor 2012). Through observation and logic, I would explain this as Russian loyalty to its friendship with Cyprus, although I cannot prove this – and it does not matter in the greater scheme of the research.

**Map 6: Gas fields off the coasts of Cyprus, Egypt, and Israel**




SOURCE: BACONI, EUROPEAN COUNCIL ON FOREIGN RELATIONS (ECFR), 21 APRIL 2017

Turkey has, for its part, defended the partnership with Russia, as Turkish President (then Prime Minister) Erdoğan has said: *"[t]he US is our ally but Russia is our strategic neighbour. We buy two thirds of our energy from Russia. It is my largest trade partner. (…) Nobody should expect us to ignore those. Our allies should show understanding"* (Joobani and Mousavipour 2015, p.145). When not considering the European

Union as one entity, this is correct. Yet, it is worth noting that Turkey's first and foremost trade partner is the EU as a bloc (Flanagan 2013, p.167). Turkey is seen to somewhat diversify away from Russian gas, as back in 2013, as much as 80% of Turkish energy imports came from Russia (Flanagan 2013, p.167). The same is true for its oil purchases from the same supplier state, which fell from 40% in 2009 to 12% in 2011 due to Turkish diversification efforts (Flanagan 2013, p.167).

#### *3.3.5.e. European Union*

The European Union continues its search for diversification on other oil and gas markets than Russia, which includes co-operation with Turkey. Bilgin (2009) notes that: *"[t]he EU, Arab-Mashreq countries, Iraq and Turkey agreed on Monday, the 5th of May 2008, that additional gas pipelines to bring Egyptian and Iraqi gas to EU through Turkey would deeply contribute to regional and European energy supply securities"* (Bilgin 2009, p.4483). Collaboration with Turkey is not problematic from the perspective of the wish to lessen energy dependence on Russia. Be that as it may, this does not solve the issues between Greece and Cyprus on one side, and Turkey on the other. The prospect and future possibility of purchasing Cypriot gas would in turn also benefit the EU, as it would lessen Union dependency on non-EU suppliers like Russia (c.f.; Proedrou 2012, p.20). The EU would have greater diversification, a lower dependence on Russia, and could also better remedy Cyprus' isolation from the mainland grid in the process (Proedrou 2012, p.22-23). What will become of the standoff in the Mediterranean Sea Basin is as of yet unclear. Turkey remains a vital energy partner to European states despite an apparent mutual lack of trust: business is still business, after all – as it is with Russia.

#### *3.3.5.f. Conclusion*

Before drawing conclusions, I would like to interject a statement by Mr Kowalski, whom I asked the following question: *"[t]here are oil fields in the Mediterranean: off the coast of Cyprus and Israel, I've read.*[7] *Can we* [the European Union] *do something with that?"* Maciej Kowalski replied: *"[i]t's really a policy question that I think – I think we shouldn't be asking a question like that. Should we do something about it? It's the same as we had with shales: 'oh, should Poland invest in shales?' No-one asked Poland to invest in shales. People were just asking for Poland to allow people to invest in shales. And same here; the question should be: should we allow investment, in for example, oil and gas fields near Cyprus?"* Interviewer: *"[w]hat do you mean 'should we allow it'?"* Mr Kowalski answered: *"[s]hould we make the environmental regulations and other regulations easy enough or the tax burden small enough for these investments to be worthwhile? And the answer to that question is persistently, 'yes'. To virtually any investment. And no-one is asking us to put up the money. Poland, for example: Poland was being asked to allow it. And of course to regulate it, to check if it's done safely, and we have – or the oil and gas industry has a huge amount of regulations and safety procedures, and anything else you can imagine to make sure this work is connected safely. All they needed is a go-ahead, green light, and some kind of support from the government in the form of 'we won't be tripping you every time we have a chance'."*

We have seen that three states have created an ad-hoc alliance to collectively obtain a stronger stance against the perceived aggressive behaviour exhibited by Turkey. To some extent, we can draw parallels

[7] Here, I meant to say 'gas fields', but misspoke. For the sake of honesty, I did not change this when transcribing the interview.

with the EU-Russia case: it could be argued that Russia has stimulated EU energy integration. When looking at Turkey, both Proedrou (2012) and Tziarras (2016) warn of the dangers of excluding this country from the Energy Triangle: Tziarras (2016) specifically argues that this would create geopolitical polarisation and deepen the regional political divide (Tziarras 2016, p.410). Proedrou (2012) adds to this that if Turkey is isolated by the Cypriot-Greek-Israeli Energy Triangle and the situation becomes a zero-sum game, this could increase tensions in the Near East as well as cause friction in NATO and during possible continued EU-Turkish accession negotiations (Proedrou 2012, p.26). This would unquestionably also further sour the diplomatic relations between the EU and Turkey – weak as they are at this time.

To ward off a possible deepening political divide in the eastern Mediterranean, Proedrou (2012) argues in favour of an ad-hoc mediation scheme by the EU, seeing as the Union is an internationally accepted normative power: he argues arbitration would render the *"Turkey-vs-Energy Triangle"* conundrum a positive-sum game Proedrou 2012, p.26). Although hypothetically possible, it seems unlikely that Turkey would accept the EU in the role of neutral mediator at this point. The reasons being the poor stance of current bilateral relations, and the fact that two of the EU's Member States are part and parcel of the opposing party. Proedrou (2012) does not elaborate on exactly how the seemingly zero-sum game would be transformed into a positive-sum game. Although a direct standoff or conflict seems unlikely to materialise due to common interests (NATO and energy trades) and mutual trade benefits, tensions are growing nonetheless. This remains true in early 2018, as reported by the Dutch national news agency (NOS: *Zoektocht naar aardgas leidt tot nieuwe spanningen Cyprus en Turkije*, 10 February 2018).[8] The above is confirmed by Tziarras (2016), who writes: *"(…) Turkey also threatened that it would freeze its relations with the European Union and the negotiations for the resolution of the Cyprus problem when the RoC* [Republic of Cyprus] *would assume the presidency of the Council of the EU – and so it did"* (Burch 2011 in: Tziarras 2016, p.415). This severely weakens Proedrou's 2012 argument regarding the possible mediation role of the EU and his predictions of a positive ending to the standoff. Meanwhile, Stavri (2012) concludes that the Cypriot gas discoveries have opened a unique window of opportunity to resolve the Cypriot question dividing the north and the south (Stavri 2012, p.10). If the gas issue were to be resolved, it could hypothetically cause an overflow into other diplomatic discussions, yet this is not at all a given.

This mini-case study puts the EU's energy relationship with Russia into perspective: firstly, it shows that states which feel threatened by a regional powerhouse can resort to stronger co-operation and regional integration. As remarked above, in this light, we can also argue that Russia's stance towards EU energy policies has pushed EU energy integration forward and has given fresh impetus to the Energy Union. The second thing we have seen is that when countries are cut off or isolated by a group of collaborating states, they can act threatening and possibly even dangerous – or at least be perceived as such. It is no secret that the Russian government feels cornered by EU energy integration and diversification. This could be argued to be one of the main reasons why Russia strongly pushed for the North Stream projects the way it did; to keep European dependence high and to divide EU states between those favourable towards, and against North Stream. Thirdly, the mini-case study also demonstrates that, since all countries need energy, this good and the ability to provide it can indeed prove to be a uniting force. That being said, whether this

[8] The title of this article, *"Zoektocht naar aardgas leidt tot nieuwe spanningen Cyprus en Turkije"* translates as: *"Search for natural gas leads to new tensions Cyprus and Turkey".*

encouraging sentiment rings true across allied lines, is not a given. We have seen that as the situation stands at the time of writing, the gas discoveries in the eastern Mediterranean have but rendered the regional geopolitical situation more complex. Therefore, Proedrou (2012) and Tziarras (2016) agree that energy can play a unifying role in international relations, provided that, prior to fuel discovery and exploration, relations were at least somewhat warm and amiable (Tziarras 2016, p.412). Fourthly, we take note of the great level of pragmatism in the diplomatic partnerships wherein Russia plays a role. Even though Russia and Turkey compete and have their differences – Iran included, this does not deter them from forming ad-hoc strategic alliances on matters of low and sometimes even high politics wherein both or all stand to gain. This is certainly comparable with the logic behind the Energy Triangle partners. The shared interests regarding regional matters are sufficient to form a partnership, despite possible mutual grievances (Joobani and Mousavipour 2015, p.142-143; 148). While the EU will co-operate to a lesser or greater extent with many regimes that hold very different norms and values (e.g. Russia, Saudi Arabia, and China), the fact of the matter remains that the EU's trade and collaborative scheme is built on the premise of soft power norm exportation. This means that the Union somewhat rigidly subjects trade partners to its normative regime – though exceptions to this are duly noted. This strategy is easier to defend without receiving international criticism when the trade regime is not built on norm exportation and does not make claims about its superior democratic and human rights standing.

This is a key difference with regards to energy and trade between the cooperation of Russia and Turkey (and Iran) on the one hand, and the EU on the other. The loose ad-hoc formation of partnerships in one area despite continuing strive and competition in another, namely proves that an actual level playing field wherein each state abides by the same rules and has the same, or at least an equal chance of success does not exist in energy diplomacy or in the wider realm of international relations. For the purpose of convenience and in search of greater regional security and consolidation of power, states tend to search for ad-hoc alliances in certain areas of expertise wherein they need each other and stand to benefit more from collaboration than from competition. The notion that they do not see eye to eye with said ally on other topics effectively becomes insignificant. Flanagan (2013) aptly describes this diplomatic pragmatism as follows: *"[t]hese long-time rivals have been using bilateral dialogue, economic cooperation, and energy ties to manage divergent interests and enduring mutual suspicions, even as they engage in competition of baring intensities for markets as well as influence and pursue very different regional political agendas"*[9] (Flanagan 2013, p.165).

The mini-case study of the Energy Triangle serves as a strong case in point of the notion that international relations and diplomacy are not conducted based on facts, but on policy goals and preferences – that may shift depending on the development of a situation. Mr Kowalski's quotes confirm this from a technical and economic perspective: they show that laying pipelines is much more a political decision than it is based purely on logic or economic interest. Proving the validity of the claim perception rather than factual analysis is the decisive factor in policy-making uncovers a reality wherein, as we can see, coloured perception may lead to sub-optimal policy outcomes and mutual strive between states. Intra-EU ties as well as regional relations are not impervious to this, and may thus be subjected to political

[9] The 'long-term rivals' to which Flanagan (2013) is referring in his quote are Iran, Russia, and Turkey.

games such as being played apart and undermined by foreign states exercising power through a relationship of energy dependence.

### 3.3.6. Conclusion

To summarise this sub-chapter, we have seen that European dependency on the former Soviet Union grew because it presented an excellent business opportunity to suffering Western-European steel industries. In need of Western high-end technology and capital, the Soviets tied their economic fate to the success or downfall of the West-European economies by engaging in pipeline projects and selling oil at a reduced cost. The sub-chapter showed that the path of energy dependence on Russia followed by the Central and Eastern European states was quite different than that of the Western states. Owing to the fact that the then Soviet satellites had no possibility to opt out of Russian oil and gas, nor the freedom to trade with Russia on equal footing. The absence of a level playing field for Eastern European countries as existed between Soviet Russia and its Western trade partners, has exacerbated the now rather large differences between the levels of energy dependence across the EU.

From the above data given in this chapter so far, we can conclude that despite criticism and worry, most attempts to diversify from a perceived assertive supplier such as Russia, have been unsuccessful as of yet. That being noted, the pipelines laid during the Cold War are not the topic of sensitive and controversial discussion anymore: they have been accepted as a fact of life and are uncontested. The planning and construction of newer pipelines, on the other hand, seems to sow irregularity of policy interests among EU Member States. We see that several pipeline projects have namely either been cancelled, abandoned or remain unfinished for a variety of (mostly political) reasons. All pipelines under construction considered, the existing disagreement is particularly apparent in the North Stream projects. Due to security, geopolitical and environmental concerns, amongst others, energy dependency on Russia and its political ramifications have thusly become a heated debate in EU-wide and national energy politics. From this we can distil that discord and disparity exist between the affected supplier states, transit states and importing states – as well as between EU states themselves. This last matter is evident from the fact that the North Stream projects are under construction despite formal complaints as well as the fact that some MS even signed a protest letter to halt the enterprise. What exactly the situation is regarding the politics under energy dependency on the EU and national levels (using the examples of two Member States), will be the main theme of Chapter 5.

The mini-case study that focusses on the Eastern Mediterranean is a testament to how important perception is: the trust and distrust of foreign states, the regional geopolitics, the collaboration and joint mining efforts, and the (energy) security aspects, show us once again that policy is based more on the coloured perception of facts and on the views towards a foreign government, than it is on actual hard facts. Yet before diving further into the matter of perception – whereof a small taste has already been presented in subsection 3.3.5 – it is necessary to first find out what those facts are. This is necessary to be able to form an informed opinion on the actual hard figures regarding the current state of EU energy dependence and see where the Union factually stands in this situation. The next sub-chapter thus presents and analyses the factual data concerning past and current EU energy dependency on Russia.

## 3.4. Hard statistics: how dependent are the EU and its Member States on Russian fuels? Between facts and fears

### 3.4.1. Introduction

In the final sub-chapter (not counting the chapter conclusion) of this research question, we turn to look at the facts surrounding EU dependence on Russian fuels – most importantly oil and gas. I will first look at the current levels of energy dependency of the European Union on the Russian Federation in subsection 3.4.2. This subsection also allows to demonstrate Skinner's equation used to calculate import dependency in the field of energy. After this, it is interesting to take into consideration the views of the majority of the interviewed experts on the matter of EU energy dependency and its consequences. They provide key insights based on their areas of expertise. Naturally, their views are subjective, which forms an intriguing contrast with which one can measure and qualify the facts stated in the first subsection (not counting the introduction). In subsection 3.4.4, I use the energy import data gained from Eurostat and compute it applying Skinner's formula to subsequently analyse it and draw conclusions, to end, of course, with the conclusions of this sub-chapter and of Chapter 3 as a whole.

### 3.4.2. Current energy dependency levels of EU Member States on the Russian Fed.

Today, the EU imports 53% of the energy it consumes in total, with dependency per source varying greatly. Sources and statistics of the European Commission and an EU report on energy and climate policy which echoes the International Energy Agency's (IEA) projections indicate growing EU energy dependency. The combined figures regarding energy imports per source denote 80% oil dependency rates today, growing to 90% in 2035, 66% today to 80% in 2035 for gas, as well as 42% current dependency on solid fuels and 40% contemporary dependency rates on nuclear fuel (European Commission press release: *Gas stress test: Cooperation is key to cope with supply interruption*, 16 October 2014, p.2; European Commission memo: *Q&A on Gas Stress Tests*, 16 October 2014; *EU policy framework for climate and energy in the period from 2020 to 2030*). Moreover, the joint import bill for oil and gas alone having risen from €180 billion on average between 1990 and 2011 to €400 billion (which represents around 3,1% of the GDP of the entire EU) (Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: *A policy framework for climate and energy in the period from 2020 to 2030*, 2014). This seems quite high, yet the question of interest to this research is how much of this concerns dependency on the Russian Federation.

Mr Vladimirov, the energy security analyst at the Center for the Study of Democracy in Bulgaria, says the following on the level of EU oil dependence on Russia: *"[s]o, since it is still largely dependent on the imports of crude oil and natural gas from a single source or from very few sources, including unpredictable political and business partners, like Russia. This is especially the case from natural gas and crude oil, where the European Union depends at around thirty percent for its oil: for its needs – for its consumption"* (interview with Mr Vladimirov). So what is the total percentage of oil imports from Russia into the EU? If total oil imports are 80% (this is 100% of imports) and of this, 30% emanates from Russia, then this means that Russian oil exports to the EU amount to 24%, because 0,8 x 0,3 = 0,24. Despite the fact that overall oil dependence is on the rise, the knowledge that only 24% of this is imported from Russia, is perhaps a comforting thought to those who might worry about dependency on this supplier. While total import dependency in the EU is estimated to increase as European sources diminish and production drops,

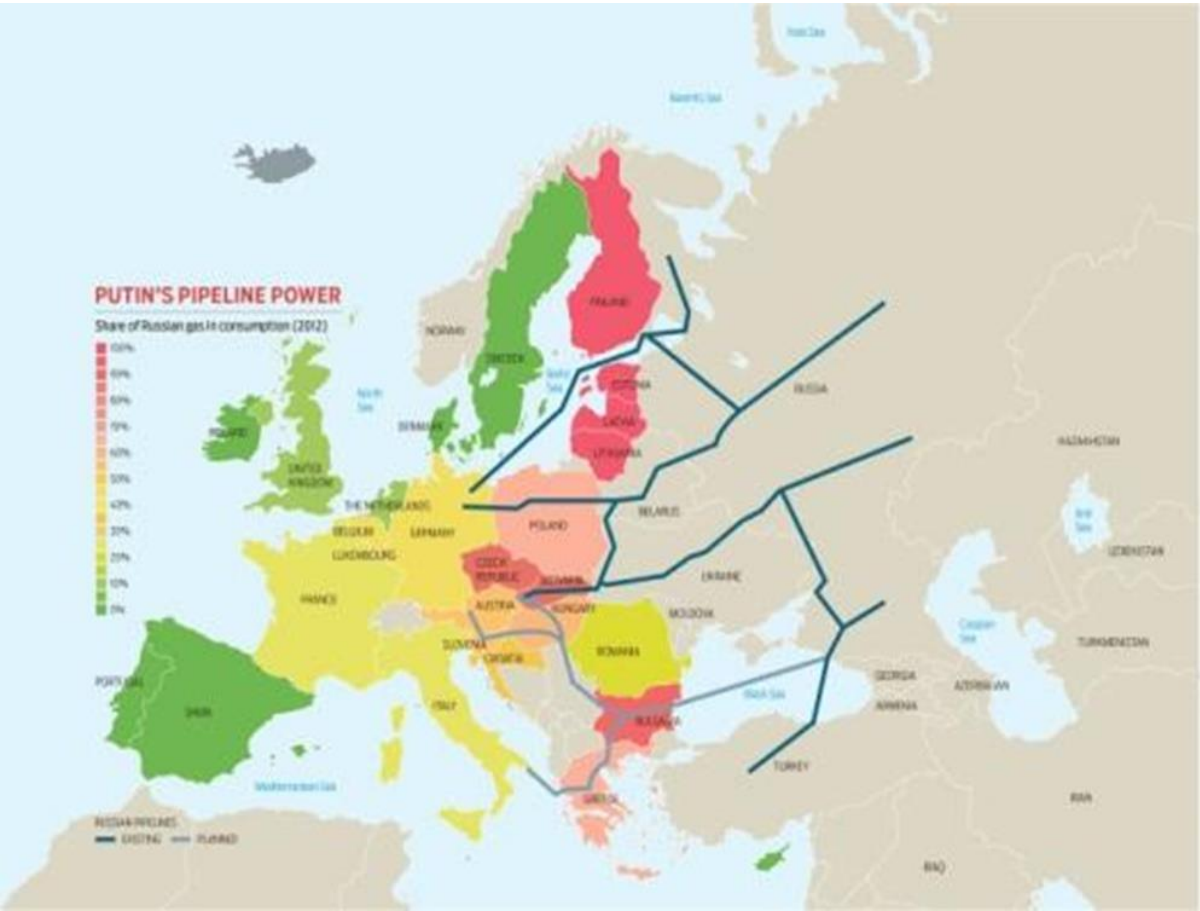
it is interesting to note that around half of the EU's primary energy consumption (48%) is used for space and water heating (Erbach 2016; European Commission press release: Gas stress test: Cooperation is key to cope with supply interruption, 16 October 2014, p.2). When looking into which states supply the EU states with what amount of energy, we see that Erbach found the following in 2016: *"[t]he main suppliers were Russia (39%), Norway (30%), Algeria (13%), and Qatar (7%). In 2014, 33 bcm of Russian gas was delivered via Nord Stream and 31 bcm via the Ukraine/Slovakia route"* (by which the Northern Lights and Yamal-Europe lines are meant) (Erbach 2016).

Seeing as Norway is quite close to Russia with regards to exporting to the EU, one could wonder if, by now, Norway might have become the Union's main supplier. At the time of writing, however, official online EU documents claim that Russia still ranks as the top supplier. Despite Norway being *"(…) the world's third largest exporter of oil and gas after Saudi Arabia and Russia"*, and the fact that 31% of the Union's imports of natural gas as well as 11% of its crude oil came from Norway in 2012, Russia already provided the EU with 39% of its natural gas imports in 2013 (website of the European Commission, Energy, Topics, Imports and secure supplies: *Supplier countries*). This could signify that Russia's exports to the EU have remained the same, while Norway's have dropped ever so slightly – yet this could also be owing to a different way in rounding off the export and import data. In any case, Russia was still the EU's chief supplier state throughout 2017, also confirmed by this tweet sent by the Commission, which read: *"Russia remains in 2017 the largest supplier of natural gas and petroleum oils to the EU, ahead of Norway"*[10] (Eurostat: *EU imports of energy products – recent developments*). Standing in close connection to such high imports, is dependency; a boost to which is given by the fact that some European energy producers and exporters have become energy importers in recent decades. One example of this is the United Kingdom, which was an exporter of hydrocarbon fuels in 1980, yet had become an importer by 2010 due to declining production (European Parliament, DG for External Policies 2016, p.47).

Before presenting the exact data based on EU statistics, I would first like to roughly demonstrate the levels of energy dependency in the Union on Russia with a map portraying the share of Russian imports in national energy mixes (see Map 7 on the next page). This map indicates which EU Member States import which amounts of Russian gas as percentages of their national consumption – meaning a more absolute number rather than offsetting the figure in a relative way as a percentage of total gas imports. Before getting into it, a side note on this map is in order, because by portraying this map, it seems Skinner's equation loses its necessity somewhat. Skinner's formula however remains more befitting this research than the map alone. Firstly, because it is more precise as it allows the calculation of dependency up the exact percentage, whereas Map 7 only roughly demonstrates dependency by tiers of ten percent. Secondly, using Skinner's measurement, I can confidently stand by the data as accurate, having performed the calculations myself, whereas the quantification Mr Oroschakoff used to obtain his figures cannot be objectively verified and scrutinised. Thirdly and finally, Map 7 is a snapshot in history, whereas Skinner allows for the portrayal of dependency development over time and as such paints a more complete picture of the situation. This naturally begs the question why to include this map altogether; the answer is that it serves as a clear visual aid. When looking at all the lines in the graphs below, they can seem a little overwhelming, possibly making it more difficult to quickly see how dependent each country is.

[10] For a direct link to the tweet in question, please visit the web address following this link.

**Map 7: Share of Russian imports in national energy mixes**




SOURCE: OROSCHAKOFF, 25 JUNE 2015 IN: POLITICO – PUTIN TRIGGERS EU ENERGY RETHINK

Map 7 as such serves an overview of the situation and allows to quickly see where countries stand concerning their respective level of dependence in the larger context of the rest of the EU. Turning to it, we see that the brighter the shade of green, the smaller the dependency level and the darker the shade of red, the stronger the dependency – with yellowish coloured countries in the middle. As Map 7 reveals, Finland, the Baltic countries, Bulgaria and to a lesser extent the Visegrad Four (Czech Republic, Hungary, Poland and Slovakia) experience the deepest levels of dependency on Russian gas, while states farther away in West and South-West Europe note lower to negligible levels of dependency. These data are not exact, as the colour coding has been done per tenth percentile. To present the exact figures, I first compiled all relevant statistics from Eurostat, the statistics bureau of the EU.[11] Then, using Skinner's mathematical formula $\frac{net\ imports}{products\ supplied} x\ 100\%$ to calculate import dependency, I crunched the numbers and analysed the levels of dependency of each individual EU Member State from 1990 onwards (Skinner 1995, p.ii).[12] The reasons for selecting 1990 as a starting point were as follows: firstly, the Soviet Union no longer existed in Europe after the collapse of the Berlin Wall and as such, these data are taken from independent countries. Secondly, a too long or too short timespan would not yield clear results, while

[11] For the raw data from Eurostat utilised to create these graphs, please see the appendices to the thesis below.
[12] For more information on Skinner's import dependency equation, please see sub-chapter 2.2 on methodology.

fifteen years (1990-2014) seemed a reasonable length of time to show the progression of fossil fuel dependency levels on Russia. The graph on the page after next represents gas dependency, the second oil dependency, and the third coal dependency. As noted above, coal is of lesser importance, yet to be as inclusive as possible, I have computed the data for coal in the same manner.

### 3.4.3. Experts' views on combating the EU's energy dependence on Russia through renewables

In this subsection, I give the floor to our earlier introduced experts and ask them about their takes on whether, and if so how and to what extent, renewable energy (and nuclear power) could provide a viable opportunity to lessen European levels of energy dependence on Russia. Since renewables are taken increasingly more seriously as formidable and trustworthy fuel types, and given the fact that fossil fuels are finite, it is but logical to include research on the possibilities they present. Yet statistical data, policy, and theories are only one side of this; the practical input comes from the views of professionals in various fields who perceive the importance and value of renewable energy differently. I will first ask then Danish Ambassador to Poland Mr Steen Hommel, who looks at the matter from a political point of view, then renewable expert Professor Adaramola, who has a more scientific take on this issue, and finally fossil fuel expert Mr Kowalski, who briefly shares with us his statement on nuclear energy.

Thus, let us turn to the question regarding alternative fuels to oil and gas I posed His Excellency Mr Steen Hommel, the Danish Ambassador to Poland: *"[t]o what extent do you think renewable energy and nuclear energy sources can help decrease European dependence on Russian gas and oil – and heighten energy security?"* The Ambassador replied: *"I would say: obviously, if we had more energy internally, we would need less from our side. The risk of such a banal conclusion is that we go reptile* [use fossil fuels] *and say we produce a lot of whatever is available energy. It has still to be a – within a long-term consistent approach. Having all the other elements already discussed in this. So, but in this concept: definitely renewable energy managed in the right way can be cheap, competitive, and definitely clean. And definitely* [an] *indigenous resource. Nuclear power, I still believe we need to import the raw material for nuclear power. But of course, as part of the internal supply, yes, part of this. But it's how we manage it. So if these… the power plant in the north of Poland… (…) the nuclear power plant somewhere between 2025 and 2029 – now they're quarrelling a bit when it will start. I didn't see the calculation. I know it's a huge investment. And personally, I would allow myself to wonder whether this is from a commercial point of view, viable. Or whether there are other options. But in this way, also saying that if Poland so decides, and delivers energy to the grid based on a cost analysis and so on; fine, that will be part of the contribution. And if the grid is well-connected to other countries, other countries could benefit from this. And in having renewables – they benefit a lot from a big grid, because of the bigger grid being more agile. But you still need some base loads and nuclear power is good for base loads. They cannot be turned on and off easily, but... so, they are part of the base load and they could be part of the base load of Europe."*

Unsurprisingly, given the Danish stance on renewables, the Ambassador sees an important role for green energy in Europe in the near future. He however does make a few observations that ought to be taken into account: for renewable energy to become a key resource able to, to a certain extent, diminish EU energy dependence on Russia, the EU must be well inter-connected. The estimated investments are gargantuan in size and will need to take place over an extended period of time (decades), meaning that successive cabinets across the EU will have to stay on course politically to render this energy

revolution a reality adapting their grids to each other's as well as to new resources. This is course not even speaking of sufficient levels of energy generation, storage and transportation capacity needed. As such, the Ambassador speaks of what he calls 'base loads' – presumably energy types used to offset or bridge the gap between the amount of green energy provided and the total amount of energy needed.

Next, let us look at whether renewable energy expert of the Norwegian University of Life Sciences (NMBU) finds the endeavour of a trans-European renewable energy grid to be feasible. Interviewer*: "[t]o what extent is it feasible to transport renewable energy over long distances – and long distance being, for example, from Spain to Sweden?"* Professor Adaramola answered: *"[w]hat is possible is more like developing the infrastructure. So, when the infrastructure is in place; that is not difficult to do."* Interviewer: *"[s]o, is the infrastructure in place?"* Professor Adaramola: *"[w]ell, I'm not sure… but like I told you yesterday: Norway now has cable lines between… with UK, with Germany, with Sweden, with Netherlands. So with that, so they're already planning, which is maybe manage to increase the capacity of those lines. But I know, I mean, in those regions it's in place. And I also know that some factors* [unintelligible] *or so in place. So maybe they manage to reinforce the lines, increase the lines. I mean, there is Portugal and Spain: they have* [a] *connection, and France and Germany have connections, so it's more like coupling; increase the capacity of those lines.* [Unintelligible] *(…) between countries." Interviewer: "[o]k, when we talk about economic viability, do you think there is good economic viability to transport with regards to the possible losses of energy by transporting?"* Professor Adaramola: *"[a]nyway, in everything we do, we have to make a compromise. I mean one the… like I say: one of the issues with Europe: they want energy security. So, there could be losses along the way. But when you look at the overall goal, I think the losses can be managed. Even with other transmission systems they have losses. Probably some… twenty, maybe later, ten percent. So those losses, you have to take it away. There will be always losses when you transmit electricity."* Interviewer: *"[t]en percent?"* Professor Adaramola: *"[l]ike that, ten percent. Yeah, so the actual number, I'm not sure* [about] *the actual number, but currently, it's ten percent in Europe."* Interviewer: *"and that (those losses) cannot be changed, that cannot be…?"* Professor Adaramola: *"[y]ou can only reduce it, but it can't be zero. As long as you transmit, there will be losses."* Interviewer: *"[s]o is it still economically viable to transport this energy if there's a ten percent loss?"* Professor Adaramola: *"[y]eah, it's still. And viable means the case* [unintelligible]*."*[13] Interviewer: *"[t]hat is, like, you know, it can be defended politically."* Professor Adaramola: *"[y]eah, but everybody knows that: you produce, you lose, you transport – so everybody knows that's progress. So it's not something that is even, but viable means: the customer will have to pay. (…) Then, probably, the states have to subsidise that. And to what extent? For how long? Well if, on the general level, it's viable."*

The statements by Mr Hommel and Professor Adaramola sound promising. Nevertheless, one cannot think but wonder: is the solution to employ ever-greater amounts of green energy in the European energy mixes perhaps too good to be true – or is it truly the miracle fix it is purported to be? Will it really help curb energy dependency levels on foreign suppliers? It is important to remain objective and sceptical. Therefore, to find out whether there are downsides to using increasing amounts of renewables, I asked Professor Adaramola the following: *"[a]re there any drawbacks to maximising the use of renewables in the European Union, would you say?"* Professor Adaramola said: *"[a]h well, I mean, one would actually have to look into this. Now I go back to this oil and gas issue now: the price is down, and most oil companies*

[13] Professor Adaramola was asking what exactly I meant with the term 'viable' in this context.

*are laying off people. So the same thing: if they are busy to achieve, maybe eighty percent,* [a] *hundred percent renewable energy, it's not managed properly. They also create economic problems. So the guild's worst companies have to live off people. So then that's one of the problems: if it's not managed properly, then there could be economic consequences of that. So, the judicial implications have to be considered. So people lose their jobs, the government has to take care of them. So… and again, when people are losing their job, they – which means their income,* [the] *revenue from people will be reduced, so people will feel restless, and instead people will still depend on government. So they need to manage that, there should be more like a gladder transition. I mean it's gladder now, but it should be looking into more, deeper what could be the function's complication … and then, the people, the jobs, the companies, or the nuclear power plants that are closing down is that alternative to the employee, by building that? So, how do we take care of those people? Do we need to retrain them? And what will we do with training? Those are some of the challenges that need to be addressed. And likewise, too, if we look at the coal industries, so if you close down the coal plants; the workers there, they have been there for many years. How do you handle that?"* Interviewer: *"[w]ell, this is interesting, because I was just wondering: can't these people who are fired find a job in the renewable sector?"* Professor Adaramola: *"[s]ometimes it's not so easy."* Interviewer: *"because they have a certain education?"* Professor Adaramola: *"[y]eah, they have – so they need to be retrained. (…) And some of these people have been doing business for ten years, twenty years, or more than that; it's difficult to go back to retrain them. So that is a challenge that needs to be managed properly."*

When taking into account possible risks of renewable energy, Mr Vladimirov also weighs in, arguing the following: *"[a]lso, the investment in renewable energy has been paying off. I've seen many countries in the EU: the share of renewable energy and electricity, construction of electricity supply is already around twenty percent and it's increasing constantly; in some cases very dramatically. In Germany, I have seen cases last year where the whole day was supplied only by renewable energy. This has created imbalances in the energy system, because we know renewable energy is intermittent fuel, meaning that it's not a fuel, it's a middle supplier, because, you know, the sun is not shining all the time and the wind is not blowing all the time. And you need traditional fossil fuel capacity to compensate for these periods of time. But since the renewable energy, capacity has been subsidised directly by the government with high feed-in tariffs, and fixed mandatory purchases of energy from a number of countries.*[14] *And this is being changed right now: this is being reformed, but still the damage was done and there is no overcapacity of renewable energy in many parts in the world – in many parts of Europe."* Finally, I asked Mr Kowalski for a brief statement on the matter of nuclear energy and whether it will remain a viable energy source in the future, saying: *"[w]hat about nuclear energy?"*[15] Mr Kowalski: *"[a]gain, very good, as good energy as any*

[14] Feed-in tariffs are energy tariffs that offer a lower KWh price for renewably generated energy, so as to encourage their use. This lower price is accomplished by agreeing on long-term energy contracts with renewable energy companies. A formal definition is given by Couture et al. (2010): *"[f]eed-in tariffs (FITs) are the most widely used policy in the world for accelerating renewable energy (RE) deployment, accounting for a greater share of RE development than either tax incentives or renewable portfolio standard (RPS) policies (REN21 2009)"* (Couture et al. 2010, p.v).

[15] From the sec formulation of the question, the question seems rather vague and does not necessarily pertain to Mr Kowalski's take on the future of nuclear energy. However, when looked at the context of the conversation in full, this does become clear. For more information, please consult the audio recording of the interview with this expert.

*other. If you can do it safely – great. Any technology has its risks, and its own benefits. And I think… anyway, it should be allowed a shot."*

In sum, according to Professor Adaramola, there are no actual drawbacks to maximising the amount of renewable energy in a power mix per se; there is only the issue of hypothetical mismanagement. The main problem the professor sees in upping the levels of renewable energy above the utilised amounts of classic fossil fuel, is re-education. According to this expert, it takes years of retraining people who are used to working in the fossil fuel industries to start working in the renewable energy sector (interview with Professor Adaramola). From this perspective, Ambassador Hommel might have been a tad overly optimistic, perhaps. As we will see both briefly hinted towards in the conclusion and recapitulation of sub-chapter 4.2 in subsection 4.2.6, and in subsection 4.3.3, Mr Hommel argues that such a professional transition would go rather smoothly. Professor Adaramola seems to paint a realistic picture of the money, time, hard work, and – this goes without saying – the prospects of the assumedly negative stance towards the choice between forced re-education into a different sector and joblessness. Mr Vladimirov, for his part, takes into consideration both the upsides and the downsides he sees to the increase of renewables into the energy mix. He argues that fossil fuels will always be required at least as backup fuels to jump in whenever renewable energy yields too little. This seems very plausible until heavy-duty batteries and other energy storage equipment become available for the market. Base load energy types such as nuclear could thus function as a stepping stone towards a green economy during the process of diversifying away from fossil fuel types, as Mr Kowalski mentioned. In the case study conducted in Chapter 5. we will see that Germany is doing precisely this.

### 3.4.4. Explanation of computed statistical data: key information behind the numbers

Before drawing conclusions from the data, it is important to explain how I have obtained all utilised information. The graphs which I have made are based on figures acquired from Eurostat, the EU's statistics bureau. To understand how I retrieved these data, it is vital to know the numerical keys which have been applied. These keys differ per energy resource (coal, gas, and oil), as well as per category (imports, exports, and consumption). As such, there are nine numerical keys in total used in the research's graphs. Let us take a closer look at one such key and follow the data: 'nrg_132a' is the numerical key for so-called *solid fuels*, which concretely means coal. If one visits the Eurostat website and enters nrg_132a, one obtains raw statistics on coal that need to be refined. Such refining is done by setting the parameters in such a way that later allow me to calculate each EU Member State's dependency rate on Russia regarding coal throughout time. The time period I use is 1990-2016, which is the same in all nine data groups. I start the analysis in the year 1990, because this was the first year after the Iron Curtain was lifted and Germany was reunified. The most recently available data at the time of writing date from 2016. These figures were added to Eurostat on 31 May 2018 and were retrieved by me on 19 October 2018. The countries selected are exclusively EU Member States, although I have also taken into account the EU- and Eurozone averages for purposes of clarity and completeness. The 'partner country' parameter is Russia, both in regard to imports from, as well as exports to this state. This is because one cannot calculate dependency rates when comparing imports from Russia to the EU with exports to any country from the EU; this would be comparing apples and oranges. No other partner countries concerning trade in oil, gas, or coal were therefore taken into consideration. Next, where coal is concerned, the unit wherein the dependence rates are expressed, is thousands of tonnes.

A few things change per table of statistics: firstly, as said, the numerical keys differ. The Excel sheets that form the appendix of the thesis show precisely which numerical keys and parameters are used to obtain which data, so that my research is verifiable and reproducible. Secondly, the units utilised to express energy are dissimilar too, for obvious reasons: coal and oil are both expressed in thousands of tonnes, while natural gas is measured is in the gross caloric value of terajoules. Lastly, one notices that the y-axis whereon the dependency rates are expressed in percentages is higher or lower depending on the Member States' levels of dependence. For oil, the graph only goes to 110%, while for coal and gas, this is 140%. This is owing to the fact that the highest value in the oil graph is significantly lower than the maximum measured values in the gas and coal graphs.

A crucial point regarding the statistics needs to be brought to attention here: a few countries have not disclosed either their export-, import-, or consumption data on Eurostat of each investigated year. Where some are concerned, this could be due to the fact that they only became EU Member States in 2004, for example. Alternatively, it could be that these states do not wish to disclose this information for other reasons. Be the reasons as they may, one will find a colon (:) as the given value for some countries' statistics in certain years for a specific fuel type. Due to missing key variables, I could not analyse all statistical data for all EU countries. At first, I decided to enter the number 0 for any value that was not listed (where a colon appeared instead). This is certainly reasonable in the case of hypothetical European energy exports to Russia: such exports are namely virtually negligible.[16] I could not find any serious evidence that EU states export coal, gas and oil to Russia in sizeable quantities; notwithstanding having taken reverse flow initiatives into due consideration. It is indeed highly plausible that a country like Poland never exported oil to Russia between 1990 and 2003 (for which years no information is disclosed), but I can simply not prove this based on the Eurostat data. Although assuming that any colon rather than a numerical value amounts to 0 could work regarding EU energy exports to Russia, the same cannot be said for the missing values in the import- and consumption datasets. It would be unscientific to baselessly assume that Italy, which does not show any data concerning oil imports from Russia until 1993, yet suddenly jumps to 12.882 tonnes of crude oil imports in 1993, did not in fact import any oil from this supplier state prior to that year. With some variables missing, I am unfortunately unable to apply Skinner's (1995) equation of energy dependence in full. In the end, I have therefore opted to resolve the issue by listing '#N/A' in the datasets wherever a colon appeared. This allows me to unequivocally say that I have based myself solely on hard statistical evidence.

Nevertheless, this means that those years wherein a country's import-, export-, or consumption value has not been publicised, have not been included in the corresponding dependency graph. This in turn results in the peculiar reality where some countries' graph lines do not start in 1990, but in another year – for example in 2004. It could also be that certain countries are missing altogether from a graph, or are just one or more seemingly random dots that remain unconnected by a line. This holds particularly true for Cyprus and Malta, which more than often do not disclose all data, rendering me unable to compute their metadata into dependency graphs by use of Skinner's (1995) equation. Taking into

[16] Only in the year 1990 have I found two instances of gas exports from a European country to Russia: Latvia exported 5.655 terajoules to this state, while Lithuania 6.780 terajoules. Here, I should note that Lithuania declared independence from the SU on 11 March 1990, which was only recognised the next year. The same goes for Latvia, which became independent from the USSR on 21 August 1991. As such, the circumstances wherein the 1990 gas exports took place may have been somewhat questionable.

consideration the geographical locations of Cyprus and Malta as island states, one may safely assume that they are not connected to the mainland oil- and gas grid, and therefore remain independent from Russian energy sources. Still, again, this is an assumption and should not be treated as a fact. For instance, a bidirectional electricity interconnector between Malta and Sicily, Italy was installed in 2015 (Enemalta website: *Malta – Italy Interconnector*). Yet this concerns electricity, not oil or gas. Conversely, both Cyprus and Malta are dependent on foreign energy for over 90%, more than 80% of which being oil imports (European Commission: *From where do we import energy and how dependent are we?*)

A small final remark on countries, which, having reviewed and computed the data to a feasible extent, factually prove not to be dependent on Russia at all. Logically speaking, these are EU states that are geographically (too) distant from Russia to have developed a dependent relationship on this supplier country regarding any fuel type over the years. Since there are a few such states, the graphs have become somewhat layered along the x-axis. This means that not all countries are clearly discernible therein. Where gas is concerned, Denmark, Ireland, Spain, Sweden and the United Kingdom all perpetually follow the 0% dependency line. It is plausible that Portugal also belongs in this list, because it shows no dependence whatsoever from 1997 onwards. This remains an assumption, because the country has not listed enough data to calculate its energy dependency levels prior to that year. Next, when looking at oil, we see that only Ireland has never had any level of dependence on Russia – at least not between 1990 and 2016. Lastly, regarding coal, I cannot state in full confidence that any Member States has remained fully independent from the Russian supply. Cyprus shows 0% dependence on Russian coal between 2014 and 2015, but has not disclosed all metadata required to calculate its dependency statistics from 1990 till 2003, nor in the year 2016. Malta, for its part, has not made public enough metadata concerning possible coal imports from Russia to compute the data for any year whatsoever. Perhaps also of interest to the observant reader: Poland shows two consecutive years of negative coal dependency levels on Russia – in 1994 and 1995. This signifies that Russia was dependent on Polish coal for this brief period of time, which only proves that it is good not to assume a value of 0 for any hypothetical energy exports from the EU to Russia.

### 3.4.5. Computation of – and conclusions drawn from – the analysed Eurostat data

The following research conclusions can be drawn from the presented statistical evidence: firstly, with regards to all graphs, we see that the Eurozone country average is very much in line with the EU-28 average. Secondly, concerning gas dependence and following from Graph 4: the total percentage of gas imports into the EU was 70,4% in 2016, demonstrating that EU countries only provided in their own combined consumption needs for 29,6%.[17] Trade between EU countries is namely not counted as import, because of the free movement of goods within the Union. This inadvertently means that the EU relies heavily on gas imports from third states, which is in and of itself not a bad thing, but could be potentially risky. Now, when looking at the aggregate amount of gas imports from Russia into the EU – percentagewise – we see that it totalled up to 33,0% in 2016 (see Graph 4). This implies that relative gas dependence on Russia does not seem extremely high at first glance. Yet if we subtract the Russian contribution of 33,0% from the total import percentage of 70,4%, we conclude that in 2016 nearly half of

[17] At the end of this subsection, I explain what Graph 4 represents in greater detail.

the EU's gas imports originated in the Russian Federation (46,9% to be exact), as Graph 5 elucidates.[18] This, of course, is merely the EU average, which means that half of the MS do not have such elevated dependence levels – but also that the other half does. Perhaps this explains the context of contradictory national stances in the European Union regarding energy imports from Russia. There is worried and occasionally even fearful rhetoric displayed on the topic of (growing) EU energy dependency in some states, while others actively work to deepen energy ties with Russia.[19] Looking at individual countries in Graph 1, it is noted that Bulgaria, Czech Republic, Estonia, Finland, Latvia, and Slovakia all rank among the highest levels of dependency. Hereof, Latvia is the most volatile in its sharp drops and rises of dependence on Russian gas. Lithuania was highly dependent (around and at times surpassing 100%) up until 2014, but decided to abruptly strongly curtail its gas dependence on our supplier state from 2015 onwards, dipping just below 40% dependence in 2016.

All of the abovementioned states in the top tier of gas dependence seemingly go beyond 100% dependency except Estonia and Finland, which retain steady 100% dependency rates. This is a policy change in comparison with the mentioned case of unstable Finnish dependency rates during the late days of the Cold War (see subsection 3.3.3). Bulgaria, Czech Republic, Latvia, and Slovakia all tend to import more than their needs to subsequently sell the surplus to other (EU) states and/or to increase reserves. Increasing reserves when already fully dependent shows up on the graph as >100% levels of dependence. This also explains why countries like Lithuania and Latvia have highly volatile dependency rates: after a year during which such a state has beefed up its reserves, it will import less from Russia the following year, subsequently showing a drop in dependence as it taps into the reserves from the year before. The year after this, it will import more once again as its reserves have largely been depleted and so on and so forth. According to my analysis, this modus operandi is only practised by these few states. Following from Map 7, and confirmed by my research, one can conclude that high dependency is clustered within a few Member States, yet less or even hardly prevalent in other regions of the Union.

When looking at the Graph 2, depicting oil dependence on Russia, we can see that overall reliance is steadily rising. Unfortunately, lots of data points are missing, rendering it difficult to make accurate claims about national dependency rates over the years. Even by looking at the available data, we see that only Bulgaria, Finland, Hungary, Poland, and Slovakia are quite highly dependent upon Russian oil. All other EU MS namely stay under the 50% dependency line. Despite the dependency rates of the other EU states remaining lower, we can still detect a trend concerning a rather sharp increase in oil dependence roughly between the years of 1998 and 2005. This effectively already starts with Finland in 1991, which by far experiences the most staggering increase in oil dependence, raking up the EU- and euro area averages along with it. Austria then follows in 1993, and the Netherlands rises from a mere 2,2% oil dependence in 1998 to a 37,2% in 2006, and eventually to 41,6% in 2016. All this has caused a general increase in EU oil dependence noted by the climbing line of average dependence in Graph 2. Some countries have started

[18] This is because 70,4% = 100% of imports, and of that 70,4%, 33,0% is imports from Russia, which means that the Russian share of exports to the EU is 46,9%.

[19] A famous photo exist wherein German Chancellor Angela Merkel, French Prime Minister François Fillon, Dutch Prime Minister Mark Rutte, Russian President Dmitry Medvedev, and European Union Energy Commissioner Guenther Oettinger festively open North Stream I. It seems to me that seeing who was present, and especially also who was not, is a tell-tale sign of how different EU representatives view energy collaboration with Russia.

to slow down the rise in energy dependence or altogether curb their oil imports from Russia in recent years – yet these form the exceptions to the rule. Only Belgium, Greece, Hungary and Poland show downward slopes on their national dependency curvatures since 2013. That being said, Belgium seems to apply a policy of alternating between higher and lower import levels. Overall dependence remains higher than before the trend line increase, in spite of the economic and financial crisis. We see that the average oil dependence in the euro area in 1991 was only 1,3%, while for the EU average this was 3,9% in that same year. Twenty-two years later, in 2013, the euro area was dependent on Russia for 28,1% of its oil imports, while the EU average amounted to 30,5%. This provides for a higher general dependency of the EU-28 and therefore a rising line of average EU oil dependency on the Russian Federation – seemingly rising even faster in absolute terms than dependence on Russian gas. This is certainly an interesting and somewhat unexpected piece of information, taking into account both the more polluting nature of oil as opposed to gas on the one hand, and the EU's strict climate goals and regulations on the other. The reason why the discussion on gas dependence vis-à-vis Russia makes the news more often rather than the dependence on this supplier's oil, is most probably because of the difference between absolute and relative import dependency. As seen in Graph 4, absolute oil dependence on Russia is indeed on the rise, but seen as relative to the increasing amounts of oil imports from other countries keeping pace, Russia is not obtaining an ever stronger influence of the European oil market. The same cannot be stated in relation to gas.

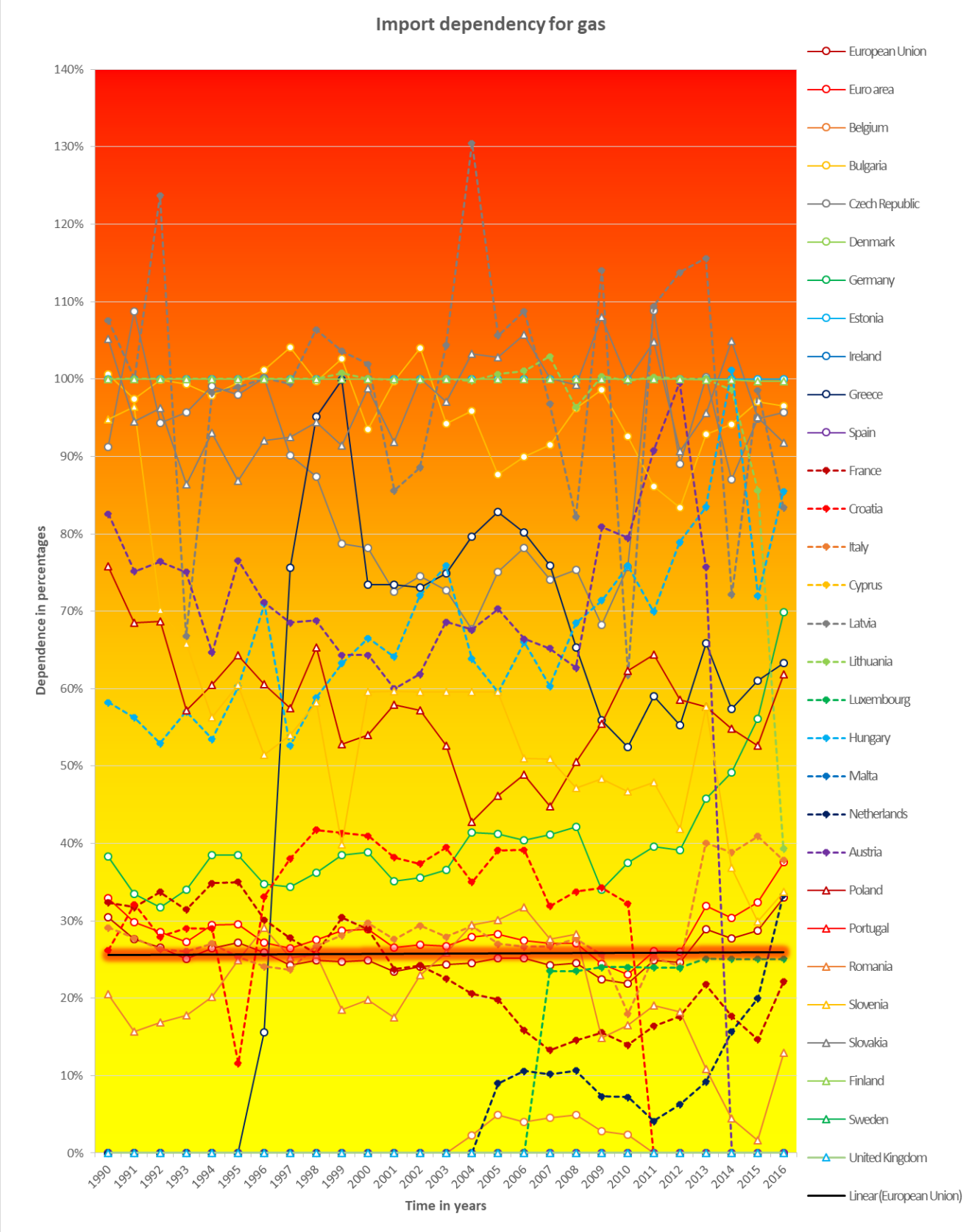
The last fuel type to briefly turn to is coal: most EU countries are hardly dependent upon Russian coal, confirming the reason not to attribute as much prominence to this fossil fuel in the research as to gas and oil. Nevertheless, here too the data have yielded some remarkable research results: Lithuania is highly dependent on Russian coal, leading the dependency graph as the only EU country being over 80% (85,1% to be exact) dependent on coal from this supplier state in 2016. Latvia has also known times of high energy dependence on coal imports from Russia, although it has diminished this in three recent consecutive years (2014-2016) in the graph. Both these Baltic States display erratic patterns of dependence in their coal purchases. While Latvia already imported 70,9% of its coal from Russia in 1990, Lithuania suddenly spiked from 0% in 1991 to 121,9% in 1992. Two less likely dependent newcomers are Croatia and the Netherlands. The former marked 77,3% dependency in 2014 after a very steep increase in coal imports from Russia, while the latter noted dependency rates of 73,6% and 73,7% in 2015 and 2016, respectively.

All things considered, although overall coal dependency on Russia remains meagre, it has slowly but steadily been on the rise in spite of the commonly accepted knowledge regarding its highly pollutant nature. What remains to be seen in the near future is whether international agreements such as the 2015 Paris Climate Accords and EU climate regulations will have effect on states' national energy mixes and policy attitudes towards consumption and imports of coal (and other fuels). A 2016 research conducted by the EU creating scenarios regarding energy usage in the coming decades found that coal will likely remain an important fuel until at least 2020, owing to low coal prices and low $CO_2$ emission fees as compared to the relatively higher gas prices (*EU Reference Scenario 2016 Energy, transport and GHG emissions Trends to 2050* 2016, p.5). The scenario paints the following picture: after 2020, the low $CO_2$ emission prices will be driven up (plausibly so due to climate agreements), at which point gas is to overtake coal as the more popular fuel while coal consumption is set to decline to 15% of the fuel mix in 2030 (*EU Reference Scenario 2016 Energy, transport and GHG emissions Trends to 2050* 2016, p.5).

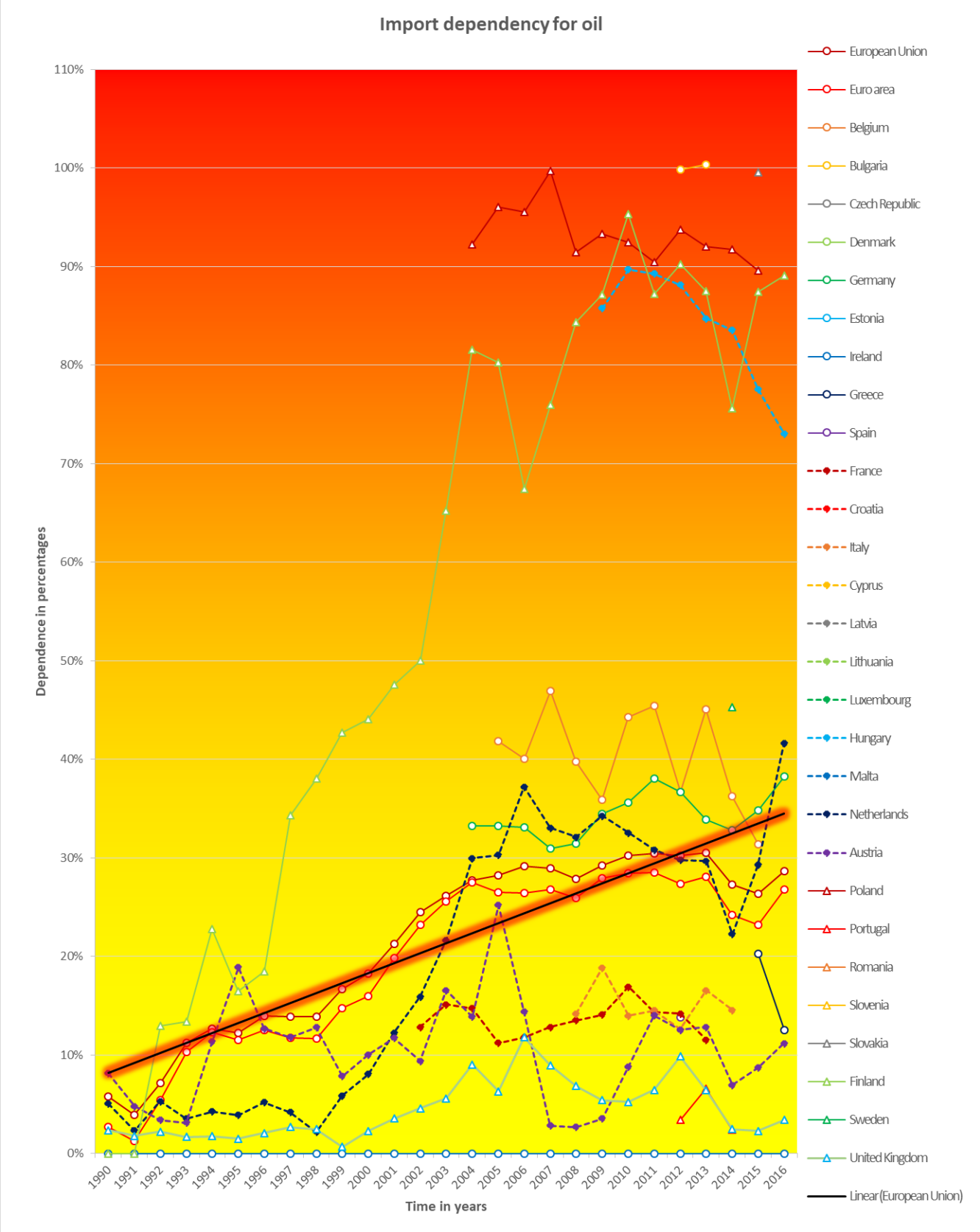
Having considered the first three graphs, we now turn once again to Graph 4 and Graph 5. Graph 4 shows two kinds of dependency levels the EU has regarding the imports of gas, oil and coal. The circles that are coloured in denote total EU energy dependence – on all countries in the world combined. These lines represent 100% of all EU gas, oil and coal imports. The circles that are not coloured in symbolise the EU's energy dependency levels exclusively on Russia. These lines are the same as the 'EU average' lines in Graphs 1-3 above. The closer the lines with the 'full' and 'empty' circles are placed together (with the same colour coding), the stronger the import dependence on Russia. When we look at the blue line for oil, we see that the EU imports rather large quantities of this commodity, but that the Russian share of this remains modest – albeit growing. The yellow lines for gas are found quite close together up till the mid-1990s, which means that EU gas dependency on Russia was very strong. The lines widened over time (meaning that relative dependence on Russia lessened), but in recent years were are starting to see not just absolute but also relative dependence on Russian gas grow again. Overall dependence on coal remains low, but dependence on Russia for this good is increasing as well. Graph 5 displays the differences between EU energy dependence on Russia and on the rest of the world in percentages. It shows us that as the 'empty' and 'full' lines in Graph 4 narrow, dependence on Russia grows as a percentage of the total amount of EU energy dependence. The conclusion to be drawn here is that both absolutely and relative gas dependence on Russia used to be very high, dropped quite a bit, but is increasing once again, while absolute EU dependence on Russian oil and coal are also steadily growing.[20]

[20] Subsection 3.4.5 is continued after Graphs 1, 2, and 3.

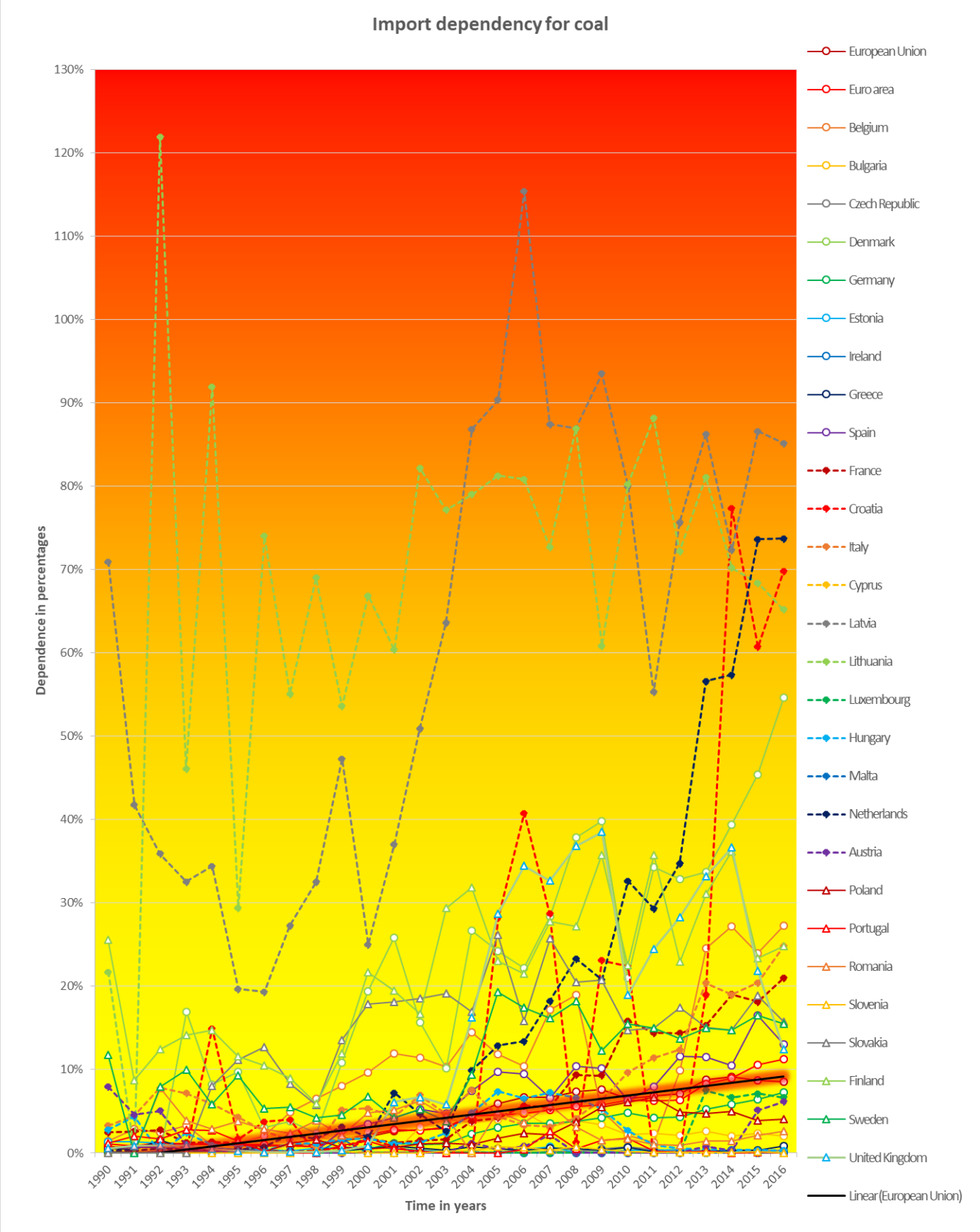
## Graph 1: EU import dependency on Russia for gas



## Graph 2: EU import dependency on Russia for oil

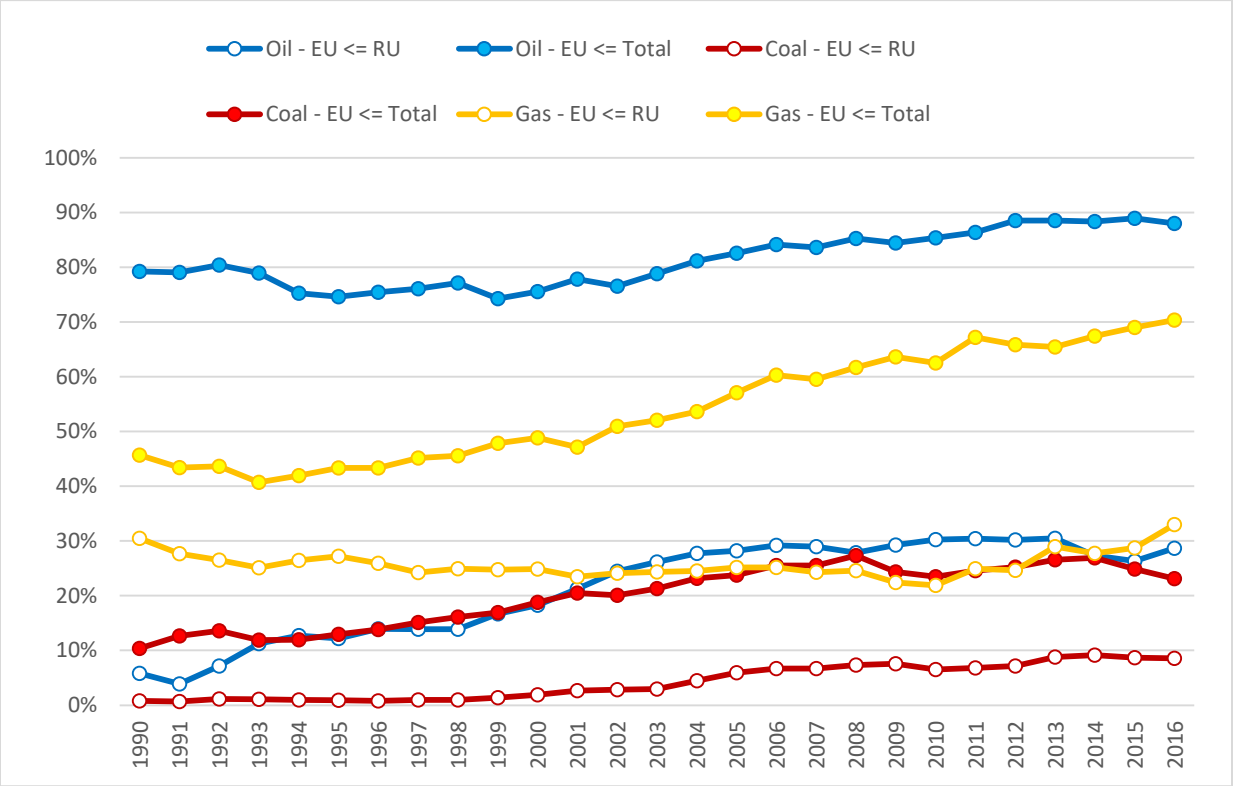


## Graph 3: EU import dependency on Russia for coal



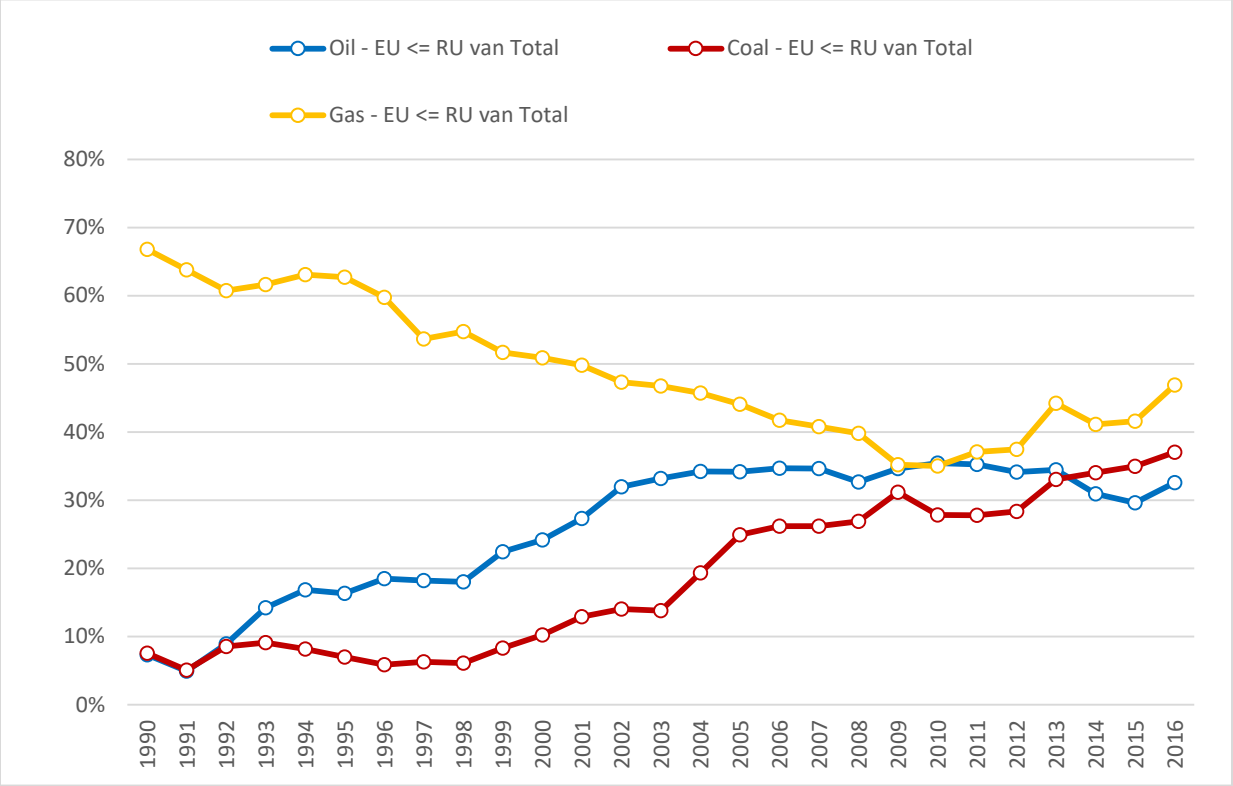
I conclude that though the above computed facts and figures may be intriguing, they oftentimes prove not convincing enough to be the decisive point in policy-making or public debate. This is usually because the power of perception (even if it might be factually incorrect) is stronger. We thus see that actual dependence may not be at threatening levels in the entirety of the European Union, yet that the idea that it is seriously worrisome resonates deep in society, amplified by an overall negative view of Russia.

**Graph 4: Total EU energy dependency on Russia and on the rest of the world (imports + domestic production)**




I would like to end this subsection with two interview questions asked to the Danish Ambassador and to Mr Maciej Kowalski pertaining to Russian influence on EU energy security to see whether their points of view differ or are similar in nature. To start with the question to His Excellency: *"[w]hen looking at the increasingly assertive Russian foreign policy towards the European Union and its impact on European Union energy security, what do you think is the impact of the current European Union energy policy on the EU geostrategic position?"* Mr Hommel said: *"[b]asically, there's no doubt that the way that Russia has been playing the game for the last couple of years... the supply security of Russia is not for sure. And it has highlighted the risk that it could be used as a tool to influence the basic element of energy. So the whole debate about the Energy Union. A lot of the elements made a lot sense without the Russian issue. The Energy Union about energy efficiency, about market makes a lot of sense for a lot of good reasons. The Russian element of all this, of course, highlights the security issue here and that we can… that the monopoly that they have basically on supplying Europe, at least in some countries – could be used as a leverage in other issues. So it has highlighted this issue and I think this will make it more likely that some of the other obvious elements now can be implemented.*

**Graph 5: Percentage of EU energy imports from Russia relative to total EU imports**




*And this is about our geostrategic precision… It's maybe taking it to an advanced level: it's basically saying that 'well, we realise that they have us, they have a grip on* [the] *EU and it can be misused.' And our past expectation that the mutual dependence would keep this in the balance, maybe is not correct. This is about balance, because Russia needs us as much as we need them. And we've been believing that this was enough to ensure it was a pure game of buying and selling energy – but it's not. So, and I guess it will influence us in the way that when we make decisions, looking ahead, for instance on this energy infrastructure – the bigger investments and international connections in the Mediterranean and so on and maybe the Baltic Sea. But if you do a basic financial analysis of rate of return and so on, you might get, most likely, going to result that we should continue dealing with Russia.* [Unintelligible] *But now you introduce the part of the analysis where it says 'well they might not just supply always'; then of course other channels and connections become more evident, and well, investments in expansion of connections over the Mediterranean, Algeria and so on might become a lot more evident, feasible, including and also pipes and connections (Baltic, North Sea). So Norway and UK* [are] *discussing connections right now – Denmark has been part of that connection also or discussing with Baltic pipes and so forth. So simply, by inducing this new insecurity of the Russian connection of course makes other connections more viable, because it's not only about trading."* This last statement is also made by Professor Adaramola, who told me that the interconnectors between Norway and several other regional countries – including Denmark and the United Kingdom – have been completed today.

Next, I asked petrochemical expert Mr Kowalski about his views regarding Polish energy dependency on Russia, via the following question: *"so would you say that that* [current levels of gas

imports from Russia into Poland] *poses a danger, a threat?"* Mr Kowalski: *"to a limited extent, of course. I mean, you can imagine a political scenario that we're going to where some political or other disturbance prohibits us from getting that gas from Russia. However, you can have sixteen billion cubic metres a year that we're using, that's a very small percentage of the actual energy at all that's consumed. Poland is reliant on coal. You find another and it's over 80, over 90%. Or over 80% for sure of the energy we're consuming. So if we were cut off from gas, yeah, it'd be a big problem for companies like* [Mr Kowalski proceeded to name a few companies] *that use significant amounts of gas for the production of fertilisers and whatever else they're producing. And it would kill some households who heat their homes with, preheated with gas, but again 80% is coal, so it'd be bad but I don't think it would break the country. That being said, gas is a cleaner energy source than coal, and shifting to that over time would help the environment, and I think it would be beneficial to Poland overall."*

The gentlemen's answers were very interesting indeed. The Ambassador raised several crucial points in his answer: he signals that Russia is indeed 'playing the game' of politics in energy and that European leaders used to mistakenly think Russia was merely interested in harmless energy trade, but that they know better now. His Excellency sees that Russia can indeed 'misuse' its power and the 'grip' it has on European states, and that the notion of energy interdependence is not a strong enough theoretical basis to keep the EU energy secure on Russia's word and this balance alone in the future. Mr Hommel as such sees an opportunity in trans-European co-operation and the increase of interconnectors – a trend which is already clearly taking place in the EU's norm-setting of interconnectors. Questioning the validity of the notion of energy interdependence for European energy security is indeed interesting. This is in essence an argument to collaborate and be prepared for any scenario, rather than reason all will work out well based on theory. The points Mr Maciej Kowalski raised are also clear: he only sees the situation threatening to a limited extent, does not deem a Russian cut-off will seriously materialise, and if it does, he reminds of the fact that Poland has large amounts of coal which could be used in that unlikely scenario.

#### 3.4.6. Conclusion

This sub-chapter has measured fact against perception. We have seen that not just gas dependence on Russia is high, that oil dependence almost as high, and that coal dependence too is on the rise with regards to this supplier state. The main reason that state- and EU leaders are not as commonly worried about elevated oil and coal dependence as they are about high levels of gas dependence, is in part because of different means of transportation. Oil is transported via tankers, and coal is shipped either by bark, railway, or lorry. Meanwhile, gas crosses borders via pipelines. Pipelines are inflexible and remain in place, whereas a tanker of oil can be ordered from another supplier next time. This keeps the relationship with, and the dependency rates on, one single supplier flexible. Having crunched the numbers, I can present two seemingly opposed – yet actually not mutually exclusive – arguments. On the one hand, the statistics point out that the overall dependence of the EU countries on Russian energy is not alarmingly high. Many MS have meagre to negligible energy dependency levels on Russia as it is, oftentimes due to larger geographical distances. In 2016, average EU energy dependence on Russia was 33,0% for gas, 28,7% for oil, and 8,6% for coal – which does not seem to be all that much. So, does this mean that there is no reason to worry about EU energy dependency on Russia, and that political nervousness it is just a matter of perception? Not entirely, owing to two key reasons. Firstly, some EU countries, notably those in Central

Europe, the CEE region and the Baltics actually do have high rates of energy dependence on Russia. The discrepancy between counties' dependency rates remains considerable, as seen in the compiled graphs. To trivialise this is to jeopardise the energy security of the entire EU. Since the EU is one co-operating bloc of united states, low levels of energy security in one region will affect the entire organisation. This is exactly why endeavours such as North Stream are argued to be insidious in their undermining features under the façade of economical energy for the states involved. The second reason why energy security is indeed at risk, is explained in Graph 4 and Graph 5, which help bring perspective as they reveal EU energy dependence on Russia as a percentage of total EU energy import. In Graph 4, we have seen that 70,4% of total gas consumption in the EU was imported into the EU in 2016 – this being 100% of EU gas imports. Of that 100% of imports, 46,9% emanated from Russia that year, which means that 53,1% was imported from any and all countries excluding Russia (see Graph 5). The same calculations can be done for the other analysed energy resources. Where oil is concerned, such a calculation yields that 37,0% of imports into the EU came from Russia in 2016 (see Graph 5). Regarding coal, it becomes clear that in the year 2016, 32,6% of total EU coal imports originated in Russia. Graph 4 indicates that dependency levels in all three researched energy commodities is on the rise, while Graph 5 specifies that Russia is taking up an ever larger swathe of what the EU imports in terms of energy – particularly concerning gas.

Thus, there is merit not only to the EU rhetoric stating that energy dependency is growing and will continue to in the future, but that the dependency levels on – and imports from – Russia as the primary supplier are increasing as well. This is in spite of the computed data in Graph 1 insinuating that the overall trend line of gas dependency rates remains the same. Meanwhile, both Mr Hommel and Mr Kowalski note Russia to be a threatening force to greater or lesser extent – be this owing to perception, fact or the grey area in between, which is certainly food for thought in light of growing overall energy dependence. In the ensuing two chapters, we will take a closer look at the power of perception in Euro-Russian energy politics. Looking at Graph 4 and Graph 5, the level of EU import dependence on Russia remained mostly stationary until 2009, while import dependence on the rest of the world grew. This prompted a relatively lesser import dependence on Russia. After 2009, however, import dependence on Russia started growing faster than the import dependence on the rest of the world. This is indicated as the upward trend in Graph 5. The growing relative dependency cannot significantly affect the overall trend line in Graph 1, because the upward trend in Graph 5 occurs only quite recently.

## 3.5. Conclusion Chapter 3

In this third chapter of the research, we have seen how the EU initiated its energy cooperation and how this grew into the status quo. A peculiar situation exists wherein despite energy integration being the first co-operative framework erected by the then European Economic Community, this domain is by far not the most integrated policy area of the EU in the present time. Different policy decisions (among many other factors) namely lead to diverse energy mixes. In part, we see this in differing national dependency levels on Russia. This is, however, partly explained by intention, such as policy choices – in favour or against pipeline deals with Russia, for example. It also in part depends on the shared history with Russia (belonging to the former sphere of influence of the USSR, or not), and the geographic location of the country in question. In regard to differing national interests, we have seen that particularly the North Stream projects are the topic of a fair share of controversy: their planning and construction have received quite a lot of criticism from several EU Member States. In spite of the fact that concerned Member States do not wish to block the projects' continuation so as not to fly in the face of Germany's wishes of construction, the project is seen to strain international relations between Member States. This shows us that it is not unusual for national interests to be put before regional or Union-wide goals, which testifies to the argument that the EU is only as strong as the sum of its parts – or in this case, as strong as its Member States desire it to be. This obviously bears consequences for the power the EU can display as a unitary actor in international politics and in energy negotiations with third states.

We have also seen how the energy collaboration with the then Soviet Union was initiated and how the EU's energy dependency grew and still grows every year – a notion that has triggered concern and calls for greater integration. This naturally presents a rather awkward discrepancy between national energy policies putting one's own country before common EU goals on the one hand, and trying to achieve greater energy security by integrating (founding the EU Energy Union and deepening intra-EU energy collaboration) on the other. Interestingly, one of the lead causes of the decline in gas dependence of some EU countries (such as Austria, Croatia, Lithuania, and Slovenia) could well be the continued rhetoric on the hazards of gas dependence and on-going plans to curb this by diversification efforts. This, however, cannot be proven by my research. Aside from rhetoric, the 'green' lobby undoubtedly also plays a role of significance in the changing energy mix. Yet since I cannot quantify this into hard figures and prove these statements, they will not be looked into further in the research. This notion would, however, present an interesting starting point for continued research on the topic of EU energy diversification.

The aforementioned statistical outcomes require three side notes to be made: firstly, although the average dependency is gradually rising, not all Member States experience increasing levels of dependence. Both high- and low dependency levels prevail and have a propensity for being clustered in groups of countries. Those states that are located in close geographical proximity to Russia and share a common Soviet past tend to generally and logically have higher energy dependence rates on this supplier. Meanwhile, the countries that are situated farther away from Russia and were never part of the Soviet Union are less likely to exhibit high levels of perpetuated energy dependence on said supplier state. Secondly, the most recent data originate from 2016, which means that the effect of new pipelines such as North Stream I (and North Stream II, which is under construction at the time of writing) on EU dependency levels cannot be calculated or taken into account. Thirdly and finally, just because gas

dependency on Russia is overall on the rise does not mean that the EU's dependency on gas from other supplier states is in decline per se. Energy dependence on other individual supplier countries could be fluctuating, growing, or declining on a case by case basis, yet finding out the precise details pertaining to this goes beyond the scope of this thesis, whereof the (inter)dependent relationship with Russia lies at its core. Speaking generally about the EU: aside from my analysis of the Eurostat data proving an augmentation in overall energy dependency, future projections paint a somewhat grim picture. A growing gap between increasing European natural gas demand and shrinking domestic EU production is emerging, seeing as conventional natural gas resources in the EU are limited and dwindling. National production throughout the Union is expected to decline steadily in the years to come. Eurostat describes this phenomenon as follows: *"[p]roduction of primary energy in the EU-28 totalled 755 million tonnes of oil equivalent (Mtoe) in 2016* (…)*. This was 1.6 % lower than a year before and continued the generally downward development observed in recent years, with 2010 the main exception as production rebounded following a relatively strong fall in energy production in 2009 that coincided with the global financial and economic crisis. When viewed over a longer period, the production of primary energy in the EU-28 was 14.7 % lower in 2016 than it had been a decade earlier. The general downward development of EU-28 primary energy production may, at least in part, be attributed to supplies of raw materials becoming exhausted and/or producers considering the exploitation of limited resources uneconomical"* (European Commission, Eurostat, *Energy production and imports* 2018, p.1).

The EU is thus forced to increase its natural gas imports in the near future, be it from Russia, from other countries, or from a more balanced combination of suppliers. This answers the research question posed at the beginning of Chapter 3 as to how EU fossil fuel dependency on Russia developed into the situation we see today. Russia namely holds the world's largest gas reserves: 1.688 trillion cubic feet (Tcf) of proven gas reserves, while having produced 20.916 Tcf in 2012 (Hydrocarbons technology website: *The world's biggest natural gas reserves*). This country's geographical location situated near Europe makes it logical to view it as an important fossil fuel supplier. It is with all the above factual knowledge and insights that it becomes easier to put things into perspective. Issues such as the national- and EU-level debates on policy differences regarding energy mixes, energy dependence and attitudes towards a common EU energy policy as well as its state of implementation, are given crucial context thanks to hard statistics and history.

# Chapter 4. Research question 2 – How secure is the European Union today in terms of energy and to what extent has the EU Energy Union been de facto implemented?

## Between legislation and implementation: what's eating the Energy Union?

*"The main risk is not so much that Europe will find itself in a situation with having no gas, but much more that a dependency on a powerful monopolistic supplier would put upward pressure on prices"* – Noe van Hulst, Executive at the International Energy Agency (Proedrou 2007, p.341)

### 4.1. Introduction Chapter 4

In this chapter, we will look at what achievements have already been made pertaining to the creation of an EU energy policy (commonly seen taking shape as the Energy Union) and in which areas such a policy is lacking and why, so as to determine the current level of EU energy security as accurately as possible. As mentioned at the beginning of this introduction, I will do this aided by Baumann's 2008 theoretical framework regarding energy security, to initiate the first sub-chapter with Baumann's internal policy dimension. Now that we know how common EU energy policy was developed over the past decades, it is important we next look into what has practically been established so far. This is important for two reasons: firstly, it helps us to measure the contemporary levels of energy security in the EU, while secondly, it provides the opportunity to offset formal agreements on paper against physical reality on the ground. This is necessary to help answer the main research question. As remarked in Chapter 3, the EU Energy Union has formally been in existence since 2014. What has the EU Energy Union achieved after almost half a decade of existence? I have briefly mentioned the *State of the Energy Union* documents, published in 2015 and 2017 respectively, above in subsection 3.2.4. We will now look at the state of implementation, but before that, I will measure the state of energy security in the EU by applying Baumann's framework. This allows for the factual integration to be analysed and measured based on each of Baumann's four policy dimensions – one sub-chapter per theoretical dimension (sub-chapters 4.2 through 4.5). The chapter will continue with a contemplation of the current state of implementation of the Energy Union in sub-chapter 4.6. The three main documents crucial to this sub-chapter are the first, second and third *State of the Energy Union* published in 2015 and 2017, respectively. The chapter will conclude with in-depth answers of all interviewed experts on various matters and a brief discussion and comparison of their views. For purposes of clarity, below is found once again Baumann's theoretical framework on energy security:

1. The internal policy dimension
    - Infrastructure investments
    - Emergency planning
    - Energy efficiency
    - Fuel mix

2. The economic dimension
    - Energy markets

- International trade
- Technological leadership

3. The geopolitical dimension
   - Transnational networks
   - Energy Charter Treaty
   - Re-nationalisation
   - Soft power
4. The security policy dimension
   - Energy Infrastructure Security
   - Hard power

## 4.2. Implementation of the internal policy dimension

### 4.2.1. Introduction

This sub-chapter will consider the first element of Baumann's theoretical framework, which is the internal policy dimension. This dimension consists of the following subtopics: Infrastructure investments (4.2.2), Emergency planning (4.2.3), Energy efficiency (4.2.4), and Fuel mix (4.2.5). We will begin with infrastructure investments.

### 4.2.2. Infrastructure investments

According to the Innovation and Networks Executive Agency (INEA) of the European Commission, the current EU energy infrastructure is not up to contemporary standards, outdated and cannot serve the EU countries in their future energy demands (European Commission: *CEF Energy*). The EU has therefore made an estimate of the amount of infrastructure investments necessary during the coming years, to upgrade existing conduits, increase the number of interconnectors (the energy linkages between EU states) so as to connect the EU on the so-called 'energy highway', as well as to construct new infrastructure that is capable of transporting renewable energy (European Commission: *CEF Energy*). The require expenditures are estimated to total an amount of €140 billion in electricity investments and no less than €70 billion in gas investments (European Commission: *CEF Energy*). Meanwhile, the European Investment Bank (EIB) gives the following estimate: *"[i]n the energy sector, it is estimated that achieving policy goals in terms of upgrading energy networks to integrate renewables and ensure security of supply, increasing power generation from renewables and energy efficiency in buildings and industry will require additional annual invest in the order of EUR 100bn"* (Revoltella et al. 2016, p.2). The discrepancy between both estimates, though interesting, cannot be explored further here; the estimates are merely presented to roughly portray the amounts of funds needed to reach the Energy Union's goals.

Interestingly, neither coal nor oil is mentioned by INEA. This may well have to do with the higher polluting nature of these two energy resources. Certain investments are not economically viable and will not be made when leaving it up to natural market mechanisms regarding energy investment. For this reason, the EU has created the Connecting Europe Facility (CEF). The Commission notes the following things regarding the CEF: *"CEF is engineered to address both groups of factors behind the investment gap in the energy sector. Financial instruments, by bringing in new classes of investors and mitigating certain risks, will help project promoters to access the necessary financing for their projects. Grants to contribute to the construction costs will be applied to fill in the gaps in commercial viability of the projects that are particularly relevant for Europe"* (European Commission: *CEF Energy*). The current available budget for all

energy investments totals €5.35 billion in the time span of 2014-2020, and of these funds €4.7 billion are grants managed by INEA (European Commission: *CEF Energy*). These data tell us that tens of billions of euros will still need to be made available in order to attain the required amount of investments. This is confirmed by the European Investment Bank, as Mestres (2017) writes: *"(…) according to the European Investment Bank (EIB) there is still a significant gap in infrastructure investment. By their estimates, the shortfall between the investment made in infrastructures and that required to achieve the different global benchmarks will reach 335 billion euros a year in the next five years. More than 30% of this gap concerns energy infrastructures to guarantee energy supply in the EU, modernise distribution networks and achieve greater energy efficiency in buildings and industry"* (Mestres, 20 March 2017).

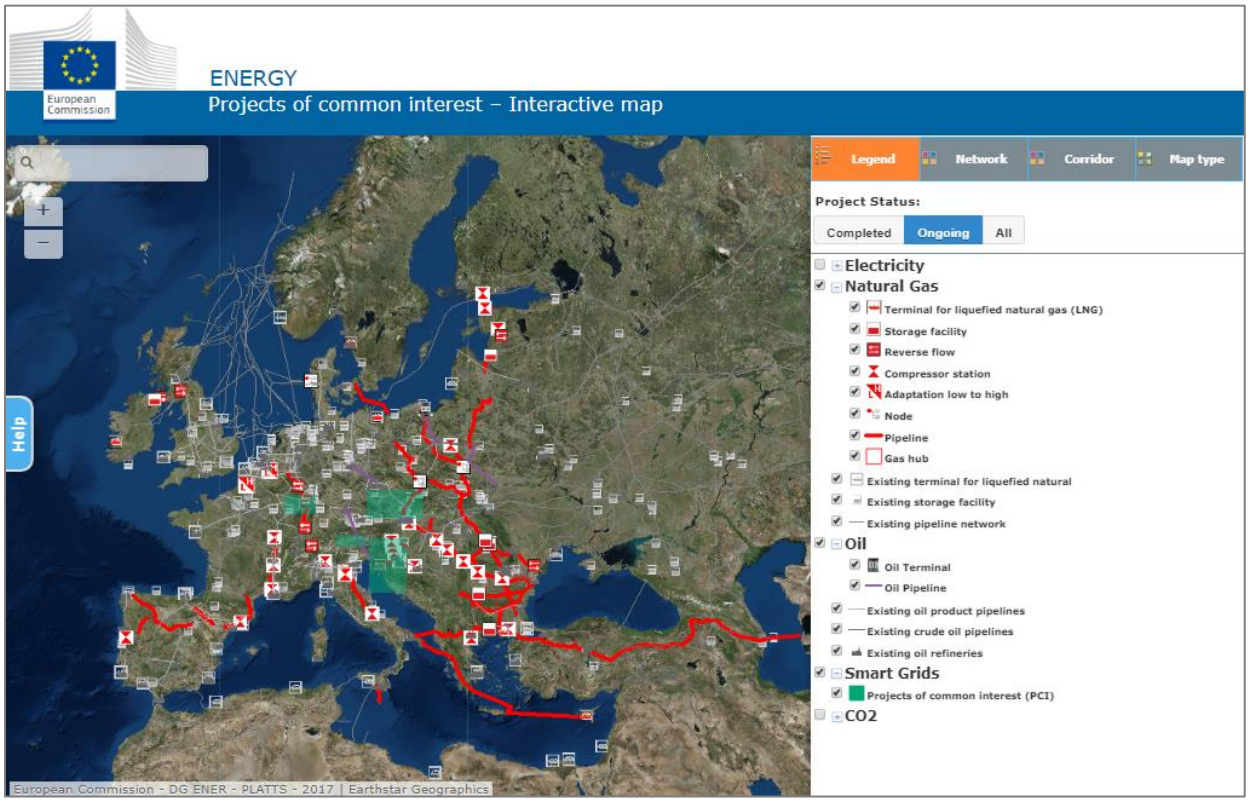
Having noted the status quo, it is next important to see to what extent this EU energy highway is already in place, yet beforehand there are other investment funds to discuss. The overarching scheme is the Investment Plan for Europe, also known as the so-called Juncker Plan, which acts in pair with infrastructure investments made by the Commission (European Commission: *The Investment Plan for Europe and Energy: making the Energy Union a reality*; Gärdfors 2014, p.3). The importance of the Juncker Plan becomes clear in the following quote: *"[t]he Treaty of Rome, which celebrates its 60th anniversary this month, already stressed the importance of trans-European infrastructures and established a common transport policy. The aim was to help create a single market and reinforce economic and social cohesion in Europe. Sixty years on, infrastructure investment is still perceived as a crucial aspect of the European project and the Juncker Plan is a clear sign of this. In order for the European single market to perform at an optimum level, the region requires integrated infrastructure networks for transport, energy, telecommunications, etc. that link all its member States"* (Mestres, 20 March 2017). Part of this plan concerns infrastructure investments that complement other programmes such as Connecting Europe Facility, Horizon 2020 and European structural and investment funds, while co-operating with the European Fund for Strategic Investments (EFSI) (European Commission: *The Investment Plan for Europe and Energy: making the Energy Union a reality*). The EFSI, founded by the EIB and the Commission, seeks to diminish the discrepancy between the amounts of investments needed and those actually made on the ground (European Investment Bank: European Fund for Strategic Investments (EFSI)). While some experts have lauded the EFSI for its potential, critics say that the initiative comes too late, yields too little investment money, and is less than feasible (Mestres, 20 March 2017; Gärdfors 2014, p.15).

To allocate the above-mentioned funds to crucial infrastructure projects, the European Commission has earmarked so-called Projects of Common Interest, or PCIs, which quintessentially are those infrastructure development plans that connect at least two Member States with each other, thus earning them priority status. To see how many PCIs are found at the time of writing and where they are located, the Commission has created an interactive map, which displays all PCIs on three timescales: before 2017, between 2017 and 2020, and after 2020. Please see a screenshot of Map 8 on the next page.[21] On the map, the dark red lines present the gas projects before 2017, the bright red lines are those being constructed between 2017 and 2020 and the salmon-pink lines are those projects planned after

[21] Since this picture is updated often in order to track construction progress properly. The newest visual is found at the actual source of the map, available via this link. Please note that I only took natural gas, oil, and the Projects of Common Interest (PCI) Smart Grids into account, leaving the joint infrastructure projects regarding electricity and CO2 out of Map 8. This was done because electricity and CO2 do not play roles of significance to this thesis.

2020. The planned oil pipelines are hardly visible on the screenshot; they are the purple lines, while the green rectangles represent the smart grid interconnector PCIs. This is probably the most accurate and up to date visual representation of the state of implementation on the ground of infrastructure available. Although it shows the beginning of the so-called 'energy highway' (pictured above in Map 1, in subsection 2.1.2), it also proves that there is still a long way to go before its completion, even if all deadlines in Map 8 are reached. This renders the argument that the Energy Union is an open-ended endeavour with symbolic deadlines (aside from the matter of political will) quite plausible.

**Map 8: Current state of EU energy conduit construction and plans till 2020**




SOURCE: EUROPEAN COMMISSION: PROJECTS OF COMMON INTEREST – INTERACTIVE MAP

Having written about fossil fuel interconnectors in the Union, I wondered where the efforts are concerning joint infrastructure projects that transport renewable energy within and between Member States to find out what, if anything, is factually being constructed on the ground. For this, I asked renewable energy expert Professor Adaramola: *"[s]o this infrastructure* [for renewable energy] *is* [already] *being laid basically* [at the present time]?" The professor replied: *"[y]es, it's being laid already."* Interviewer: "and this is infrastructure specifically designed for renewable energy, or also for fossil fuels?" Prof Adaramola: *"[w]ell, generally it's designed all systems, because it's energy, so the goal is to reduce – in mainland Europe – to reduce dependence on nuclear energy, dependence on coal and crude oil to produce electricity. So, invariably, because electricity – either you produce through renewable energy, or you produce through a coil or nuclear: it's still the same electricity. So the same infrastructure is applicable… So the plan is, actually the plan is why don't we produce more power? Now we can sell it to Europe… likewise, maybe in Spain. And I guess you also know about this issue of North African countries producing solar; a little from*

*solar, and a little to Europe. Yes, so that is part of the same idea. So it is possible if regions have their own strengths."* Interviewer: *"and the same conduits that transport renewable energy are also used to transport fossil fuels?"* Prof Adaramola answered: *"when you produce electricity, it's still the same electricity as that produced by water or by… it's the same transportation system."*

Now, with regards to political will, we can note by the following quotes showing EU rhetoric that the EU finds Union-wide interconnection a crucial endeavour: *"[t]he ambition to create an Energy Union is a priority for the Juncker Commission. The money we save on oil and gas imports and at the pump creates room for manoeuvre for intelligent, forward-looking investments in energy efficiency, renewables, innovation and modern energy infrastructure, all key objectives of the Energy Union. It also provides a window of opportunity to reduce and phase out fossil fuel subsidies"* – Vice-President Jyrki Katainen (European Commission: *The Investment Plan for Europe and Energy: making the Energy Union a* reality, 14 June 2016). Mr Vladimirov agrees with this, saying: *"the way forward would be, of course, to find a way to remove the subsidy schemes and replace them with market-based instruments including green certificates, for example. Or, try to push renewable energy producers to compete on the market, since technology has brought down costs for solar packs and wind packs, down; some say that even the most efficient wind power is now competitive to natural gas power plants – so, we'll see"* (interview with Mr Vladimirov). The first quote portrays clear political will on the EU-level, while the second gives a solution for the problem of overcapacity on national energy due to high usage of very economical fossil fuels.

The aspiration to create a fully operational Energy Union with an energy highway is not just a way to lessen energy dependence; it is directly bound up with combating climate change: *"[t]he Paris Climate Agreement has sent a clear message: the transition into a low carbon and climate-resilient economy is now irreversible. European industry is at the forefront, but when the market alone does not deliver the investments we need, then public money can be used wisely. We need to leverage private investments through public support, in particular when it comes to building interconnections and infrastructure, energy efficiency and renewable energy"* said Climate Action and Energy Commissioner Miguel Arias Cañete (European Commission: *The Investment Plan for Europe and Energy: making the Energy Union a reality*, 14 June 2016). Nevertheless, the same enthusiasm is not shared by the Member States. Looking at the set deadlines and the lack of national political will with regards to costly mega infrastructure projects across European countries, the EU has noted the following problem in its first *State of the Energy Union* published in 2015: *"[m]ore than 100 Projects of Common Interest are in the permitting phase, more than a quarter face delays mainly due to permit granting and/or financing issues. The procedures simply take too long to be effective. Addressing them successfully requires Member States to fully implement the provisions of the Regulation on guidelines for trans-European energy infrastructure (TEN-E), in particular those related to permit granting."* (*State of the Energy Union* 2015, p.8).

All these plans look promising on paper and the goals the EU sets are admirable in and of themselves, but the real question then is: is this feasible? I decided to ask petrochemical expert Mr Maciej Kowalski about his views based on his extensive field experience working in the industry: *"would it be possible for the European Union to construct this whole pipeline and LNG system – that* [wherein] *we are all connected as a Union? You think that's feasible?"* Mr Kowalski answered: *"it's simplifying things, I think. Anything's possible, right? With enough money, anything… building an interconnector or fifty of them is as easy as it can be if you have the money. The problem is creating a market and making it financially feasible or economically profitable for all the players. Where do you build that interconnector? How do*

*you connect it? That's the real problem, and that's… I really feel that money is not a problem. Putting the incentive there to build something that's structured, that's logical that will work for the market; that's the problem. And I don't think the European Union has the tools or the institutions to arbitrarily – or the will, or the political will - to arbitrarily say 'ok this is how we connect everything, and this is how we build it'. What they can do is to – they can lift the barriers or force the countries to lift them – market barriers – and let the market players talk to each other. And they should figure out where that pipe should be, how big it should be, when do we build it? Etcetera, etcetera."* Mr Kowalski deems the EU unable to take charge on the matter of interconnecting the EU Member States and is sceptical towards the effectiveness of its institutions where this is concerned. He also thinks that funding or lack thereof is not the main obstacle when taking into account a possible common EU energy policy. Conversely, in subsection 4.2.2, we have seen that investments do form a crucial difference in the success or failure of infrastructure projects. Whether or not the EU is powerful enough to enforce an Energy Union or develop a common energy policy in another way, shape or form remains an important topic of discussion. The case of delays in permit granting symbolises that the MS are dragging their feet. Obviously, political will among Member States is key to fill those gaps in infrastructure investments after market mechanisms and the EU Commission have made their possible contributions. The Norton Rose Fulbright research centre has made an estimate of the entirety of energy infrastructure investments needed. According to their numbers, Europe would have to spend US$2 trillion (€1.79 trillion) until 2035 of a total of US$53 trillion worldwide (Gärdfors 2014, p.15). The Juncker Plan which in reality hopes to raise €315 billion in three years would then have to be beefed up to make this target, which is rather unfeasible (European Commission: *Investment plan*).

The matter of lacking infrastructure as a critical issue in the EU today with regards to energy policy, was also confirmed by former senior executive at the United States Department of Transportation Mr McCown. I asked him the following question: *"[u]sing this definition, how would you judge or characterise the European Union on its energy policy?"*[22] Mr McCown: *"[w]ell, what's really interesting is, I think there are a couple of very distinct attributes of European policy. You know, Europeans have a very comprehensive energy policy when it comes to Brussels' outlook on reducing the environmental impact of energy. And that's something that we talked about during the Warsaw Security Forum last year – I think you could get that online. But despite such a comprehensive policy, it lacks a couple of components and you know, what's interesting to me, I think as an outsider looking at the European system is the policy is driven by an outcome and the outcome is to reduce greenhouse gas emissions, whereas in the United States, the policy is based on providing ample supplies of cheap energy. So, they're different goals, you know. The goal of the European policy is combating climate change to some extent and the US version is about providing the economy with reliable and cheap power no matter where that comes from. So, the purpose behind the policies are very different between the US and Europe. One of the other things that strikes me about the European system and something we talked about today is despite the commonality of approach towards having a common energy policy, Europe really fundamentally lacks a cohesive and integrated energy infrastructure network. And, you know for example in the United States, I can take oil from the northern part of Alaska and deposit it at a refinery on the US gulf coast, you know, two thousand miles away – no problem. But, you know, I can move natural gas anywhere around the country fairly easily, but you know in Europe, we talked about how some of the LNG facilities in the south are running below capacity but yet,*

[22] For Mr McCown's precise definition of energy security, please see the introduction of Chapter 2.

*you know, Poland or any other EU country couldn't necessarily bring in shipments of natural gas and to France or Spain and move them seamlessly around the country. So, from my perspective, for Europe to have an integrated energy policy, one of the elements of that policy must fundamentally address is having integrated infrastructure."*

Since the key regarding infrastructure investments in the energy sector lies with political will at the Member State level, I posed the Danish Ambassador to Poland this question: *"[b]earing in mind the economic and financial crisis from which the European Union is still recovering, how do you see the political climate could be changed to a more favourable one vis-à-vis these investments* [in infrastructure and the Energy Union] *we just mentioned?"*[23]

The Ambassador answered: *"[w]ell, I think our politicians in Brussels are trying. I think they made some important decisions on how to prioritise investment funds – the Connecting Europe Facility and so on. They are diverging funds to* [unintelligible] *some of these investments in interconnectors and so on. And we have this burning platform of course with Russia on the side, so I think we have all the… I'd say decision-makers and politicians, they have all the elements they could wish for. Of course an even better doing European Union would make it easier. We have other issues: well, we have the British referendum at some point, which is a big issue which is hard to tackle – it sort of blurs the picture, of course, for the future of the Union and the agenda of course. And yeah, of course you have Greece in this. You had the speculations on if Greece were to exit but stay within the Union, could they be a, sort of a mole of Russia and being a backdoor and bring pressure and so on. But luckily that's not happening in hour it seems. It seems like yesterday they voted again in the Greek parliament, so fast* [unintelligible] *getting the reforms through. So I think the… many elements are there. We are still, we are in the implementation side, and the biggest risk of the implementation side is very much how our national – our nations and our national parliaments going indigenous and insisting on own local priorities that might be jeopardising the big picture, but then you forget the big picture once you are home. And this is not pointing fingers at anyone; I think all of our countries – we are facing these challenges of more national focus. And forgetting the benefit of our European project you could say. I heard a suggestion here because there are many challenges coming out of the European agenda right now and all our citizens hear about the challenges: "and now it's all this, and now it's new challenges", so very few positive stories coming out. Some suggest that we should have one day a year where we reintroduce how we were 25 years ago; with border controls and no opportunities to sell or buy across borders, so that people could remember where we were before all the benefits were introduced in our co-operation. Because people seem to forget you cash in everything you get and 'that's mine!' and then you want more or you criticise everything else. So I guess it would be nice if we all remember all the benefits that have been achieved through the European project."*

What becomes clear from His Excellency's statement is the belief in the goodwill and hard work of politicians and representatives in Brussels and Member States, having created institutions and funds such as the Connecting Europe Facility (briefly discussed above). On the one hand, he emphasises the importance of political will in combination with popular support for the European Union that increases when the EU is doing well (politically, economically etc.). On the other hand, the Ambassador stresses the

[23] This interview was recorded in summer 2015, when the EU was still very much dealing with recovery from the financial and economic crisis ensuing the 2009 credit crisis.

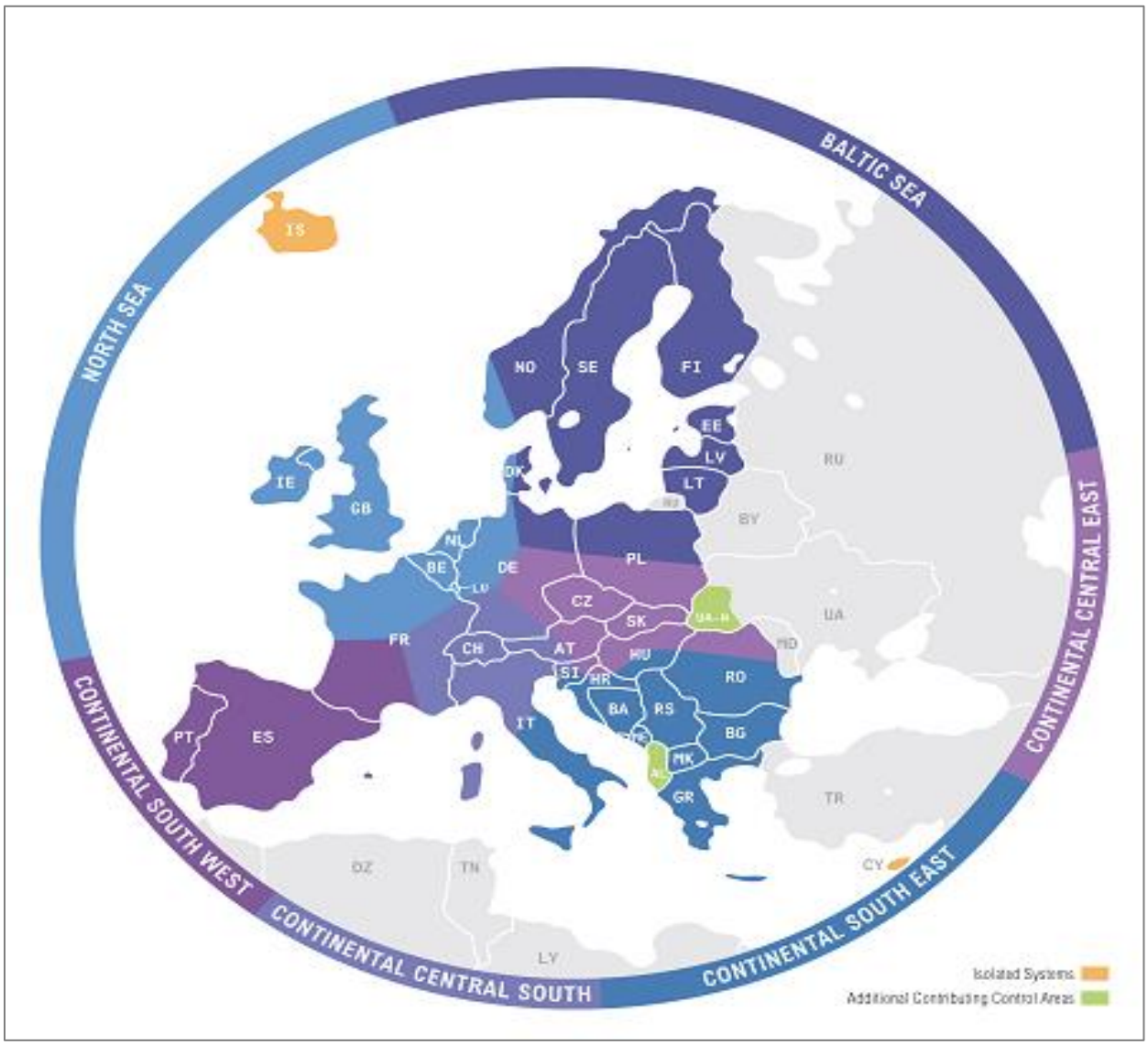
political reality of prioritising local and national policies over regional ones or those that are in the interest of the Union as a whole. The discrepancy between national interests and regional or EU-wide ones certainly seems to be the leitmotif of this thesis, which we shall see in the remainder of this chapter as well as in the next. Following up on this topic, I wished to know more about the Danish case regarding the popularity and prioritisation of infrastructure investments during economic crisis or recovery, and asked: *"[h]ow might the Danish case serve as an example for the whole European Union – when you mentioned that so many investments have already been made for green energy and renewable energy in Denmark, how could this serve as an example to the rest of the European Union to also make these investments in a politically difficult moment?"* The Ambassador answered: *"I think we try through various measures at Embassies and out of Denmark, that, presenting the cases we had EU-funded projects in Denmark - the island of Bornholm and the island of Samsø that are EU projects on* – [unintelligible] *it is interesting, because it's a micro cosmos of society. I think it's 50.000 citizens, it's got the same proportion of industry and inhabitants and needs and so on, so this few, you're trying to do smart grid, and the various resources. So you get a large-scale test of smart energy. And those results are – because it's an EU project – transmitted, transferred to the whole of the Union, and the lessons learnt from this are being used by all of us."*

In sum, we can say that things are being done and the EU is working on it, but that financing remains difficult, investments are lacking on non-EU levels, and lengthy permit procedures complicate and discourage investment opportunities. This is in part due the different policy inclinations of the Member States, but to a much greater extent because of policy-making that can take different directions per cabinet term. As most countries have four- or five-year terms, it becomes extremely difficult to stay on the same political course for decades, which is what is essentially required to realise the EU's plans for an Energy Union and highly interconnected energy grids which could send fuel across the continent if need be and wherein the Union would be divided into regions or areas which would not be based on state boundaries, but rather on their geographic location on the continent. These regions would share and transmit energy to each other via the energy highway – mentioned earlier in this research. The European network of transmission system operators for electricity, or ENTSO-E is a European Union association that has drawn up a colour coded schematic view wherein the possible future energy regions or areas are displayed. Non-EU countries such as Iceland, Norway, Switzerland and the non-EU Balkan states have been included in this map as participatory countries (please see Map 9 on the next page).

Now, although it may seem easy to continuously view the MS as the bottleneck in this, the problem would not be resolved if all Member States were provinces in a European super state or federation. This is because such a state would also have to be ruled by leadership which could not permanently be led by the same group of people. There is namely no guarantee that the next cabinet would not opt differently in regard to energy infrastructure expenditures. As such, the 'problem' is essence is democracy, as in a dictatorship one can indeed make plans for the ensuing decades without having to worry about cabinet change or public outcry when a conduit is laid through a nature reserve for example. Yet, since becoming a dictatorship is not something the EU is willing to do, principle defeats efficiency, leading to the current situation. This is quintessentially what renders this topic so intricate and why infrastructure integrating several EU Member States is such an arduous task and takes so much time while yielding so few concrete results. Furthermore, on top of all this, the EU's own infrastructure investment aims might even prove too low to really interconnect its Member States. Reflecting on

Baumann's framework measuring EU energy security, the current state of infrastructure investments can thus be concluded to be rather low. Mr McCown also concludes this, stating that energy security to a great extent concerns getting the energy product to market – and that this is not an easy task between Member States. The Danish Ambassador warns against measures and policies that solely benefit respective Member States over the level playing field of initiatives and cross-border infrastructure investments that benefit European Union as a whole, or at least more than one state simultaneously. He emphasises the growing need for investments in smart grids, smart energy, and renewables as key in the debate on EU energy security and an important part of the solution to European energy dependency.

**Map 9: Overview of the EU and its geographically closest partners seen as European energy regions**




SOURCE: ENTSOE WEBSITE: REGIONAL INVESTMENT PLANS AND SYSTEM NEEDS ANALYSIS 2040, OVERVIEW

### 4.2.3. Emergency Planning

Emergency planning concerns acting on disaster scenarios in case unforeseen cessation in energy flow and access. Stockpiling quickly comes to mind as a possible temporary solution to a supply cut, which has

become an EU norm: *"Directive 2009/119/EC obliges Member States to maintain minimum oil stocks, corresponding to 90 days of average daily net imports or 61 days of average daily inland consumption, whichever of the two quantities is greater"* (European Parliament, Facts on the European Union: *Internal energy market*). A year after Directive 2009/119/EC was enforced, the situation regarding the security of gas supply to the EU was also tackled: Regulation 994/2010 (officially called *Regulation (EU) No 994/2010 of the European Parliament and of the Council concerning measures to safeguard security of gas supply* and repealing Council Directive 2004/67/EC) lays the judicial foundation of emergency planning regarding gas as an energy resource across the EU (Zeniewski et al. 2012, p.4). It was conceived in direct response to the worries regarding continued flow of energy from Russia via Ukraine to Europe in the wake of the gas crisis that erupted between the former two countries in the winter of 2008-2009, and was designed to safeguard the security of gas supply to the EU by reinforcing prevention and crisis response mechanisms (European Parliament, Facts on the European Union: *Internal energy market*). The Regulation namely requires Member States to draw up a Preventive Action Plan and an Emergency Plan (art. 4 of the Regulation) based on a risk assessment of that country in question (art. 9) (Regulation 994/2010; Zeniewski et al. 2012, p.4). Furthermore, the Regulation also mandates a check whether the state complies with EU infrastructure standards in art. 6 (Regulation 994/2010; Zeniewski et al. 2012, p.4). Four years after implementing this Regulation, in May 2014, the EU published its Energy Security Strategy, officially called COM(2014) 0330 (European Parliament, Facts on the European Union: *Internal energy market*). It too was inspired by lack of continuation of gas flow from Russia via Ukraine to the Union. In EU rhetoric: *"[t]he Strategy aims to ensure a stable and abundant supply of energy for European citizens and the economy. It lays out measures such as increasing energy efficiency, indigenous energy production and completing missing infrastructure links to redirect energy to where it is needed during a crisis"* (European Parliament, Facts on the European Union: *Internal energy market*). The above subtly demonstrates that the EU is wary of a natural or human-made crisis, arguably including Russia possibly using energy as a foreign policy tool, which could disrupt the energy flow to the EU – be the act not directly aimed at the Member States, but primarily at Ukraine or another non-EU state.

But before we continue, I would like to ask why the above is happening. Why is Russia diminishing gas transportation via Ukraine? It could be in part due to the Russo-Ukrainian conflict, but it could also have to do with dividing the European gas market. Dr Jack Sharples of the European University of St Petersburg gave a lecture entitled *"Natural Gas Supplies to Central Europe Changing Dynamics Since 2010"* (Dr Jack Sharples European University of St Petersburg, *Natural Gas Supplies to Central Europe Changing Dynamics Since 2010 ECT Executive Training Programme*, Krakow, 19th May 2016). On the seventh slide, the Dr Sharples writes (in bullet points):

*"[i]n* [the] *1990s, 95% of Russian gas exports to Europe delivered via Ukraine*

*• Yamal-Europe (2006) shifted some transit from Ukraine to Belarus.*

*Since 2010, use of Nord Stream has reduced Ukrainian transit further. Result is 'divided Europe':*

*– Western Europe receives Russian gas via Yamal & Nord Stream – Central & SE Europe*[24] *receives Russian gas via Ukraine"* (Dr Jack Sharples European University of St Petersburg, *Natural Gas Supplies to Central Europe Changing Dynamics Since 2010 ECT Executive Training Programme*, Krakow, 19 May 2016). Splitting Europe into two main gas destinations, could hamper the possibility of creating one strong

[24] 'SE Europe' or 'SEE' stands for South East Europe.

unified common energy policy, because different prices can be charged per gas line or conduit, possibly resulting in dissimilar national stances of European states vis-à-vis imports of Russian gas. Arguably, dividing Europe between Yamal and North Stream could undermine European plans for the Energy Union, yet it is not possible to tell with today's knowledge. When North Stream II is completed and operational, we will know more about how Russia will behave politically regarding both conduits and the EU MS. As such, this might be an interesting topic for future research on EU-Russia pipeline politics.

Even before the 2010 Regulation on security measures of oil and gas supply, the Commission had issued a Directive in 2004 requiring the development of emergency planning by Member States: this is Council Directive 2004/67/EC of 26 April 2004 concerning measures to safeguard security of natural gas supply (Zeniewski et al 2012, p.7; Council Directive 2004/67/EC). To be more specific, art. 8 of Council Directive 2004/67/EC states: *"Article 8 - National emergency measures:*

1. *Member States shall prepare in advance and, if appropriate, update national emergency measures and shall communicate these to the Commission. Member States shall publish their national emergency measures.*
2. *Member States' emergency measures shall ensure, where appropriate, that market players are given sufficient opportunity to provide an initial response to the emergency situation.*
3. *Subject to Article 4(1), Member States may indicate to the Chair of the Group events which they consider, because of their magnitude and exceptional character, cannot be adequately managed with national measures"* (Council Directive 2004/67/EC).

This means that although preventive measures and contingency plans are a new requirement by the EU, most MS had already adopted emergency planning in case of a possible oil or gas disruption by virtue of the implementation of Council Directive 2004/67/EC (c.f.; Zeniewski et al. 2012, p.7). An important side note to make here is that in the event of a crisis instigated by Russia, not all MS may be affected due to differing levels of dependency on said supplier and the location pipelines. Another scenario could be that a national crisis occurs and unaffected MS offer assistance. Let us now see to what extent this emergency planning was successful in light of actual emergencies claimed by EU Member States and how the emergency coping system has been employed on the ground. For this I shall use the Report on the implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU, its full name being Commission Staff Working Document Report on the implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU Accompanying the document Communication from the Commission to the European Parliament and the Council on the short term resilience of the European gas system: *"[s]ince the entry into force of the Regulation the national crisis levels have been declared on the occasion of two events (national emergency was declared only in one Member State) and for this reason experience is limited. There was no example for declaring either Union or regional emergency. In the Cold Spell in February 2012, Greece, Italy and Poland declared "Alert" level because of peak gas demand. In the case of Italy and Greece, the exceptionally high gas demand was triggered by exceptionally high demand in electricity and was coupled with disturbances in gas supply. The deterioration of the situation led in Greece to the declaration of "Emergency" which lasted for five days. The second instance took place in December 2013, when Greece declared an "Early Warning" because of the loss of more than 20% of gas supplied via Turkey for two consecutive days. Measures in the "Alert" level included curtailment of interruptible customers, call for suppliers to procure additional LNG and invitation to voluntarily reduce gas demand. Poland released part*

*of its strategic gas stocks. Greece introduced load-shedding to some of the gas-fired power generation plants in the "Emergency" stage. No Competent Authority informed the Commission officially about actions of neighbouring Member States that were disruptive to their security of supply; however some natural gas undertakings alleged difficulties in ensuring cross-border gas flows due to public service obligations on national level. In order to allow the Commission to carry out its assessment regarding the declaration of emergency as per Article 10(8) of the Regulation, the relevant Competent Authority submitted a detailed explanation about the supply-demand situation and the measures taken. The Commission found that the declaration of emergency was justified and informed the Competent Authority accordingly. As neither regional, nor Union emergency has been declared by the Commission since 2010, there is no experience on how the actions of the Competent Authorities and actions towards third countries are coordinated, and how the consistency and effectiveness of measures on national, regional and Union level is ensured"* (Report on the implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU 2010, p. 21).

This rather lengthy quote shows us that not only are emergency planning measures formally in use, they are factually employed on the ground. Assessment of the emergency planning shows that inter-state and State-to-Union warning mechanisms such as *"(…) cross-border capacities and gas flows, underground gas storage levels and the information provided in the Risk Assessments and Plans (e.g. daily peak consumption)"* are functioning well and that there are high levels of transparency in communication between respective Member States as well as State-to-Union communication (Report on the implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU 2010, p.21-22). As seen in the quote, three warning levels have been identified in the mechanism under the common denominator of threats to gas security (called N-1): Early Warning, Alert, and Crisis level (European Commission, Energy: Threats to gas supplies). Those calamities striking but one Member State are termed as National Emergencies and rules are in place to guide MS in their preparation and prevention of anomalies (Report on the implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU 2010, p.22). Most of these rules concern EU-wide harmonisation of norms and standards as well as setting up national authorities to effectively communicate amongst the Member States and with the EU. Finally, the European Network Transmission Systems Operators or ENTSOs are worth a mention: these are collaborative schemes erected by two Regulations: EC/714/2009 concerning electricity and EC/715/2009 (amended by Commission Decision 2010/685/EU) regarding gas (European Parliament, Facts on the European Union: Internal energy market). ENTOs work with ACER, the European Agency for the Cooperation of Energy Regulators, which function is explained in the next sub-topic. The ENTOs are charged with drawing up ten-year investment plans at two-years intervals on the topic of EU infrastructure, which are subsequently reviewed by ACER (European Parliament, Facts on the European Union: Internal energy market).

From a distance, the above seems to be working quite well. The flipside of this, however, again concerns the seemingly half-hearted national political will of the Member States to harmonise and implement mechanisms. We see this in the fact that not all MS have drawn up their emergency plans and sent these to the Commission. This is despite the fact that non-implementation or lack of timely implementation goes against the nature of a Regulation, which is ''a binding legislative act'' (European Union: Regulations, Directives and other acts). To conclude, we could say that it seems that Member States mostly act in their respective national interests rather than regional or Union-wide interests with

regards to implementation of emergency planning. We find further evidence of this in the following conclusion of the aforementioned EU Commission's research report on solidarity and preparedness for gas disruptions in the EU: *"[e]xperience with the Plans shows that most Member States do not analyse the impact of their national emergency measures on other neighbouring countries. Competent Authorities need to make it explicit in their updated Emergency Plans which are those measures which may affect security of supply in other Member States"* (Report on the implementation of Regulation (EU) 994/2010 and its contribution to solidarity and preparedness for gas disruptions in the EU 2010, p.22).

The answer to a follow-up question I posed Danish Ambassador Mr Hommel fits very well here. I asked: *"[a]lright, what would you say for the medium- and the short-term in that sense?"*[25] His Excellency answered: *"well, of course short-term you have these emergency situations: how you do your back-up systems, how* [you] *do the various solidarity mechanisms. And they are of course important, and we have those, I believe, implemented in the EU. Some argue would we need more. Some argue would that what we have is sufficient. Again, being many countries having to agree – there's a risk of free rider in this: you could say by not investing in your own energy infrastructure, you increase your need for emergency assistance in case of. If you invest in your infrastructure and you become very agile, you have dual fuel opportunities and so on; you become less dependent. So, the country investing in flexibility and being ready is less of a burden to emergency procedures from other countries. And some countries not investing in* [energy infrastructure]*, are more of a burden to the other in the solidarity mechanism. So: I think of course we should have our solidarity mechanisms – and I think we have – but we shouldn't allow countries to be free riders; they still have to do their own job to ensure that they become themselves most agile to adjust, to our needs in an emergency situation."* Interviewer: *"[a]nd would you rank this as the short- or the medium term?" His Excellency: "[t]his is short term. Emergency."* To conclude, I could say that the EU is on track regarding the implementation of emergency planning in the EU, but that the greatest potential pitfall here is probably not Russia cutting energy supplies, but rather intentional failure to comply with EU standards and legislation by MS owing to national policy priorities. In his interview answer, the Ambassador calls into question the level of solidarity between the Member States. He points out that a free-rider problem could come about if some countries develop and put in place efficient and effective warning- and response mechanisms ahead of other Member States. The latter countries might then no longer want to invest in such measures themselves, and rather use the existing instruments of the former states. The Ambassador's solution is to employ solidarity mechanisms to prevent this scenario from materialising.

#### 4.2.4. Energy Efficiency

As we have seen from the discourse by Mr Šefčovič in Chapter 3, the European Commission seeks to have the Member States curb their energy usage, among others by enhancing energy efficiency. Mr Vladimirov sees this trend too, and notes: *"[t]he European Union has improved efficiency incredibly in the last thirty, forty years. Currently, consumption is on track of falling by twenty percent since the 1990s"* (interview with Mr Vladimirov). If it were this easy, this subsection would be very short. Things are, however, more complicated than this. As Auketebayeva aptly points out in her article: *"(…) the task of moderating energy*

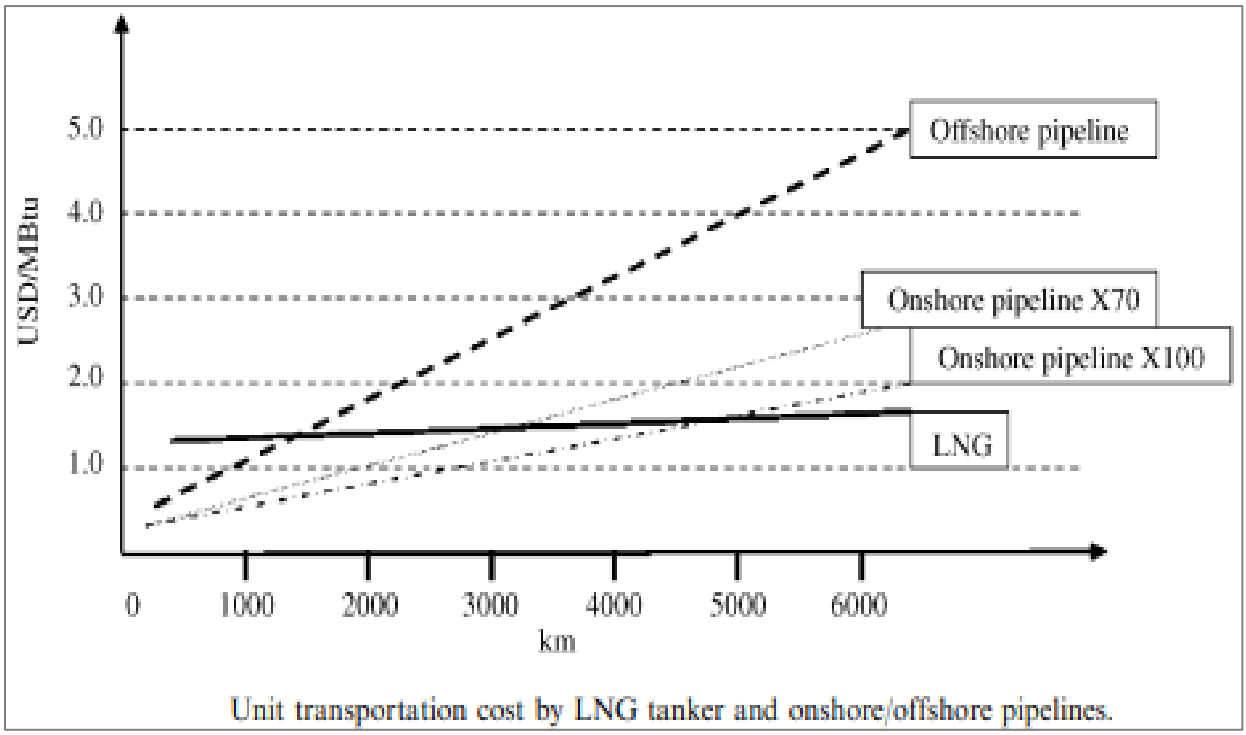
[25] The full question read: "[i]n your opinion, what should policy-makers in Brussels be looking at in terms of their short-, medium-, and long-term energy security needs and the goals towards [energy] independence?"

*demand is as challenging as its long-term objectives"* (Auketebayeva 2016). In order to find out whether EU Member States act energy efficiently and are on track to reach the EU 20-20-20 goals (see Chapter 3), I am basing myself on a few sources. One of these is a 2015 EU report from the Commission to the European Parliament and the Council on the Assessment of the progress made by Member States regarding the national energy efficiency targets for 2020. The report also concerns the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU.

Yet before we dive into this, I should like to draw the attention to an issue that is often mentioned in connection with energy efficiency, by energy companies at least: liquefied natural gas. Energy companies state that LNG is the most environmentally friendly fossil fuel and has the highest level of energy efficiency (Elengy website: Home, LNG, LNG: An energy of the future). An energy firm called Liquefied Natural Gas Limited, even calls its LNG expertise *"(…) a low cost, highly efficient, environmentally-friendly, robust and low risk technology"* (Benton, 31 March 2017). In 2007, Proedrou (2007) wrote that LNG imports stood at a mere ten percent of total gas imports, but that it presented a promising diversification possibility for the near future of EU gas consumption (Proedrou 2007, p.343). Meanwhile, Mathias Reymond wrote an academic article in 2007 about EU energy dependence and vulnerability, wherein he also expounded the underlying notions of LNG trade and imports. Reymond (2007) has written about the profitability of LNG versus that of regular gas pipelines. His observations are as follows: *"[t]hree variables define the differences between LNG tanker and gas pipeline transportation costs: volume, distance to be covered and natural gas pipeline capacity. As a general rule, in the case of small distances (less than 1000 km), it is more preferable to use pipelines whatever their diameter. Offshore pipelines (at sea) have lower capacities than onshore pipelines (with various diameters). Therefore, an 100 pipeline may withstand pressures exceeding 140 bar/s as opposed to 75 bar in the case of most pipelines employed today (70). In that case, LNG transportation becomes financially viable from a distance of 4500 km. As predicted, LNG transportation costs varying according to distances are not very high (*Figure 4*).*[26] *Although European gas imports as LNG are increasing, numerous pipeline construction projects are being developed. In Europe, which strongly relies on imported gas, many gas pipeline construction projects are being implemented, but it is mostly LNG receiving terminals which are being constructed"* (Reymond 2007, p. 4173).

[26] In the original quote, the designated graph has a different name. Due to a previous diagram that already carries this designation, this graph was given a new number in the thesis to prevent confusion.

**Figure 4: Cost of pipeline gas versus LNG**




SOURCE: REYMOND 2007, P. 4173.

As we can see, Figure 4 shows us that although LNG has higher starting costs than any type of pipeline, those costs rise – marginally speaking – very little over extended distances; much less so than pipelines do. Reymond (2007) explains that that there is a point in terms of distance of transportation at which LNG becomes more economical than regular gas pipelines – despite the additional costs needed for the special liquefaction and deliquification stations LNG obviously requires (Reymond 2007, p. 4173). This explains why it is cheaper to import gas from Russia and Norway via pipeline, but from the United States, for example, as LNG.

The curious situation, however, briefly hinted towards in the Introduction to this research chapter by Mr Maciej Kowalski, concerns the matter of LNG terminals working below their capacity. With the focus being placed on energy efficiency, an intriguing question: why do LNG facilities in Europe not operate at full capacity? I asked Mr Kowalski to elaborate on why this, via the following question: *"[w]hy is it so that there are LNG terminals working at half capacity? Because I read about this and I heard about this before, and I think to myself: it's so inefficient; you build such an expensive terminal and then you use it only at low capacity – why is that?"* Mr Kowalski replied in the following manner: *"I think it's mostly because Spain or Italy are not connected well enough to the grid. And also, there might be some – I'm not sure – but there might be some regulations or, for example, that we have we have a problem with, or we used to have a problem with Russia. Russia won't allow using their… the Yamal, for example, for transportation of other gas. Other gas than Russian. Even if we had it, we couldn't use it – like that. (…) For example the Germans have a fairly limited…, they have a better contract with the Russians and they can, they're allowed to sell some of the gas to us. But for us to sell the gas, the Russian gas to anyone else, would be very difficult.*

*And that's one of the obstacles that we would have if we wanted to help Ukraine. Perhaps* [if] *it'd be, we'd be legally prohibited from doing that."*

To first turn to Mr Kowalski's statement: even though he is not sure about why LNG facilities operate at a low capacity, Mr Kowalski argues that there is most probably a political reason behind this. As we can see, Mr Kowalski binds up Russian pressure on Europe regarding the delivery of natural gas with the seeming lack of political help and support for Ukraine after its Maidan revolution. As we have been seeing, it is entirely plausible to assume, and possibly even conclude, that Russia uses its political clout, created by Europe's gas dependence, to obtain political goals in other domains. Such obfuscation is created by blurring the lines between policy goals using tools in one to influence the outcomes in the other. In fact, we have seen before how the notions that 'everything is political' and 'all is interconnected' are may well be true where Russia is concerned. The following striking example can be given to support this premise: former NATO Secretary-General Mr Jaap de Hoop Scheffer said in an interview that he sees a direct link between NATO's offer regarding possible future membership for Georgia and Ukraine on the one hand, and the wars Russia has waged in these states in 2008 and 2014 respectively on the other (Dennekamp, NOS Nieuws, Sunday 7 January 2018). We will revisit NATO with the insights of the then Danish Ambassador to Poland, H.E. Steen Hommel and former senior executive at the United States Department of Transportation Mr Brigham McCown in subsection 4.5.3 on hard power and NATO.

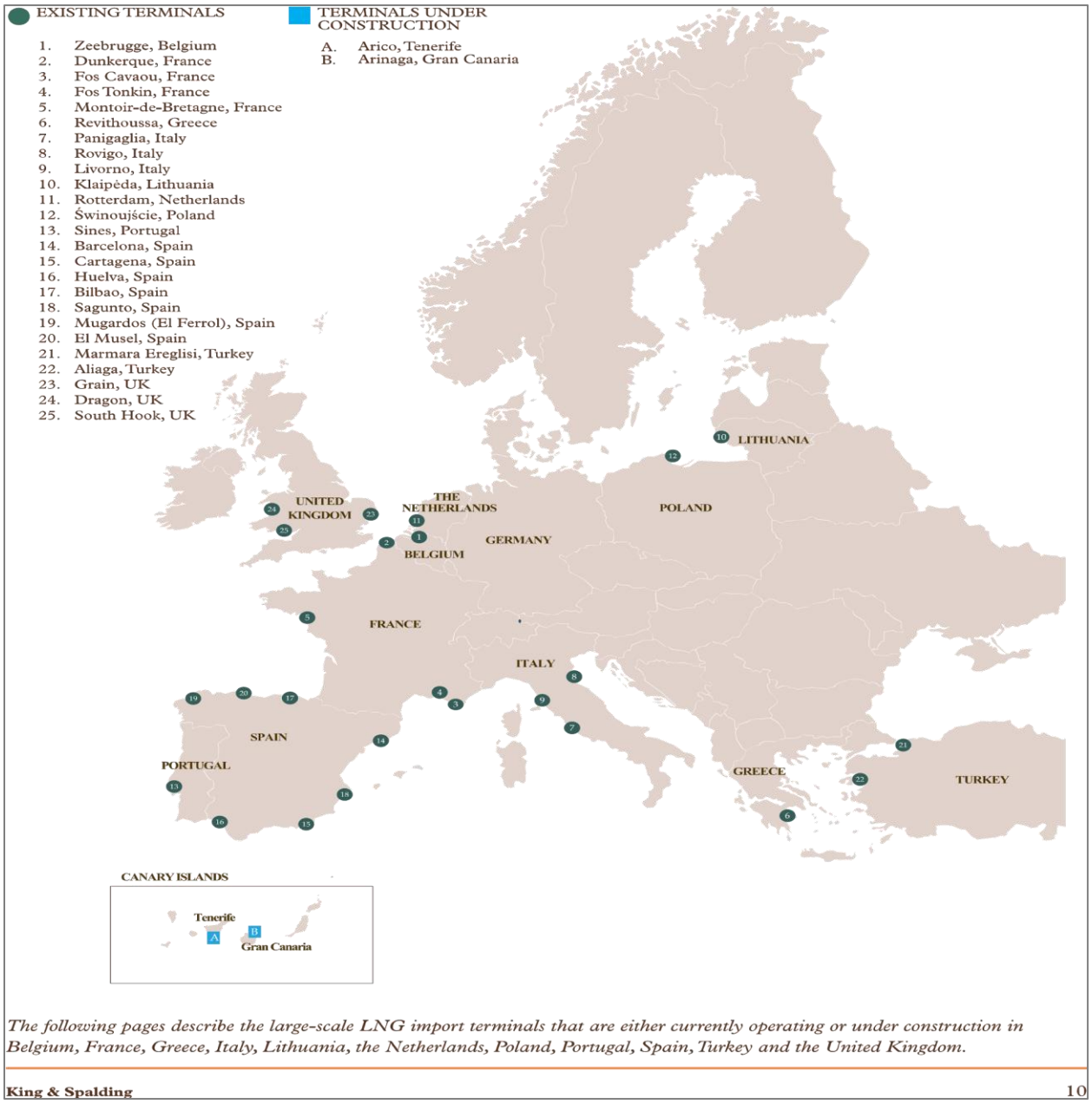
In order to lessen this political influence by Russia that can be used to obtain policy goals detrimental to the European Union, it must lessen its dependency on the former. As argued, one way to do this is to increase energy efficiency. To find out what room for improvement exists, we need to understand what the current state of energy efficiency is – done here on the example of liquefied natural gas. As noted in the Conceptual Framework of this thesis, energy security hinges on four critical points according to Mr Vladimirov: *"(…) availability of supply, reliability of supply, affordability of energy supply, and sustainability"* (interview with Mr Vladimirov). Regarding availability of oil and shale gas in Europe, Mr Vladimirov observes the following: *"[a]vailability, we have had mixed results in Europe: on the one hand, Europe has still large oil and gas reserves in some parts of Europe, but they are declining fast, and have not been replaced by new exploration, even though, despite the enormous potential – the shale gas potential in France, Germany, Poland. Basically,* [there] *hasn't been any successful exploration drilling of shale gas in Europe – or shale oil for that matter. So, the availability of energy has been dwindling. The Union has tried to cushion that and replace its dependence on fossil fuels by subsidising renewable energy technology and by investing in energy efficiency, hence diminishing overall energy demand. And, of course, this place, it took off availability of resources, because when you develop renewable energy, you have more energy production capacity. But it also plays into the sustainability factor that we mentioned, which is a relatively new concept in the energy security paradigm; because the climate change worries basically have pushed governments to be more proactive in diminishing carbon emissions, and trying to improve efficiency of wasteful consumption. That wasn't the case before: oil prices were very low. The big push with climate change policy, so to say, is very much related to the increase of oil price from 2003 to 2008. Because, as the whole oil import bill of developed countries increased dramatically, they seek new ways to reform their energy system, and basically remove a lot of waste, a lot of waste."* In other words, the EU and MS do not encourage renewables over fossil fuels because it is better for the planet, but because oil prices have risen in the first decade of this century. Investing in energy efficiency, energy storage, and renewables is to counteract the negative repercussions of higher oil prices on the European economy.

One aspect of energy efficiency in connection to LNG is the aforementioned situation of LNG stations working at suboptimal rates. The evidence for this is found in a consultation report published on the website of the European Commission, which says that: *"(…) specific infrastructure bottlenecks inside the EU in North/South and West/East directions still prevent the optimal usage of existing LNG infrastructure and limit arbitration possibilities. At the same time, in spite of the abundant regasification capacity, the volume of LNG imports stood at only 45 bcm in 2013, i.e. utilisation factor of 24%. (…) The LNG capacity available in the Iberian Peninsula cannot reach the rest of the EU because of bottlenecks and network constraints between Spain and France and within the French network (mainly south to north). The current PCIs are addressing the internal South to North bottlenecks in France."* (Consultation on an EU strategy for liquefied natural gas and gas storage, LNG Consultation publication, p.2-3). Aside from lacking infrastructure between Member States to transport the LNG to where it is needed most, the report also signals the poor distribution of LNG facilities as a problem targeting efficiency, stating that most stations are found in Western Europe as we can see below: all LNG terminals in the EU and Turkey are shown on Map 10 below. These do not include LNG facilities in non-EU countries (Norway and Russia).

The consultation report on the Commission's website namely notes the following in regard to regasification capacity (a station's capability to turn LNG back into gas): *"[m]ost LNG regasification capacity is found in Western-Europe, with varying degrees of utilisation: highest in Italy (35% in 2013), lowest in the Netherlands (4% in 2013) (…)"* (Consultation on an EU strategy for liquefied natural gas and gas storage, LNG Consultation publication, p.3). I am not educated enough in petrochemical engineering to know why a 35% regasification capacity is normal and whether it should not be a higher percentage, but indeed striking is the whopping difference between Italy's and the Netherlands' regasification capacity levels. Aside from the matter of lacking infrastructure, it seems arguable that a very low regasification capacity combined with highly differing regasification levels does not make for a streamlined LNG system wherein one could expect to be well-prepared to increase or decrease the amounts of LNG in the national, regional or EU-wide energy mix. The following quote seems to sum up the remaining challenges regarding LNG in the Union quite well: *"[i]n 2014, pipeline import capacity to the EU stood at 490 bcm/a and LNG import capacity at 197 bcm/a. This would in theory be sufficient to cover all gas import projections by 2040. However, most of this LNG import capacity is located in Spain, Portugal, France and the UK"* (Consultation on an EU strategy for liquefied natural gas and gas storage, LNG Consultation publication, p.3).[27] As we can see, the geographical distribution of LNG stations is suboptimal, as is the flow from one Member State to another.

[27] The abbreviation bcm/a stands for billion cubic metres per annum.

**Map 10: Liquefied natural gas terminals in the European Union and Turkey**




SOURCE: KING & SPALDING LLP 2016: LNG IN EUROPE 2016/2017: AN OVERVIEW OF LNG IMPORT TERMINALS IN EUROPE, P.10

Energy Commissioner Mr Miguel Arias Cañete also addresses this problem, saying: *"[a]t the same time, we in Europe are doing our own homework to ensure that all our Member States can benefit from LNG supplies. For example, most of the LNG import terminals are in Western Europe while Eastern EU countries have difficulty accessing them due to missing interconnections. So we issued an LNG Strategy which outlined exactly what needs to be done inside the EU, including identifying the key missing infrastructures and we are now actively working to realise them"* (Speech by Miguel Arias Cañete on 12 April 218, p.2). Efficiency wise, and taking the above into consideration, it is no wonder that the percentage of LNG in the

European energy mix remains rather low – as do its imports in comparison to those of natural gas. At the end of his quote in subsection 3.3.2, Mr Maciej Kowalski pointed out why Russian pipeline gas is still more popular than LNG despite the perceived political drawbacks to EU dependence on said supplier state. He said: *"[s]o in that sense, then* [when LNG is cheap and can be extracted inexpensively] *it makes sense to build an expensive plant if your marginal costs are very low and you build that plant, it pays off after some time. But it's still pretty expensive and it would be more expensive, for example, than the Russian gas, which is transported by pipeline"* (interview with Mr Kowalski).

Taking this quote into consideration, my argument and line of reasoning after having conducted this research are as follows: the tension between economic efficiency and profit maximisation by lowering production, extraction and transportation costs as much as possible on the one hand, and the political desire to diminish the perceived geopolitical hold Russia has over the EU and its Member States in terms of fossil fuel dependence on the other, wields a perpetual conflict between policy preference and direction. Whichever wins ultimately depends on perception: the level of perceived Russian influence in a society, and the extent to which it is seen as a credible threat. Since these perceptions vary from one Member State to the next, policy-making on the EU-level regarding energy security is such a complicated undertaking. I argue that this is one of the main reasons why a genuine common energy policy – be it in the shape of the Energy Union or otherwise – has yet to concretely materialise a decade upon its initial creation. Those Member States which do not (or do so, but only marginally) see themselves at risk of Russian influence (be the threat perceived as political, military, economic or otherwise), will hold different political priorities vis-à-vis energy purchases from Russia. They will thus favour economical Russian pipeline gas over potentially more expensive nationally or regionally extracted LNG.[28] However, this also means that the lower gas prices are on the international market, the more appealing LNG becomes and the more competition Russia receives from European liquefied gas. If we follow this line of argumentation, the following possible recommendation can be given: if gas is very cheap, instead of constructing more pipelines in co-operation with Russia, look at investment opportunities regarding European LNG to curb future dependence – seeing as pipeline contracts stretch on for years to come. If, on the other hand, gas is expensive, rather than looking too much into potentially cheaper Russian gas, focus on diversification towards green energy resources. These two options can be explored simultaneously. Just like Norway has created a massive savings account from their fossil fuel exports merely spending the interest gained rather than the total sum itself, EU countries could use lower gas prices to invest more in European infrastructure and alternative energy supplier states and LNG or green resources.

The above is confirmed by the amounts of LNG consumed: as we know, the EU only imported 45 bcm in 2015 (Consultation on an EU strategy for liquefied natural gas and gas storage, LNG Consultation publication, p.3). Of this energy, *"[t]he current level of LNG's share in consumption can vary between around 50% in Spain and Portugal to 3% in the Netherlands with many countries, especially in Central-Eastern Europe, having no access at all to this source of supply"* (Consultation on an EU strategy for liquefied natural gas and gas storage, LNG Consultation publication, p.3). Considering the gas field in the north of the Netherlands that has been extracted for decades, it is unsurprising that this state would have been employing less LNG in its national energy mix than Spain or Portugal. Sartori and Colantoni (2017)

[28] Although LNG can be cheaper than pipeline gas, it does require hefty additional infrastructural investments, racking up the price.

quote Jilles van den Beukel of the online newspaper Energy Post as follows in their Energy Union Watch report: *"[a]s gas production keeps falling in the Netherlands, especially in the Groningen field and numerous other small fields, a collapse of the gas sector cannot be excluded, especially due to the impact of energy transition policies. Russian energy supplies represent the most direct solution to this situation, exposing the country—and the EU as a whole—to growing energy dependence on Moscow"* (Van den Beukel, 7 February 2017 in: Sartori and Colantoni, 20 March 2017, p.6).

When looking at where LNG consumed in the EU originates from, we find that Russia is not a main exporter; most LNG comes from Qatar, Algeria and Nigeria (Consultation on an EU strategy for liquefied natural gas and gas storage, LNG Consultation publication, p.3). *"Gas pipelines and compressor stations should increase the imported capacity by 30 Gm3 /year. However, the major project being implemented is the huge Trans-Saharan gas pipeline (4500 km) from Nigeria, via Algeria, with a capacity which should reach 18 Gm3 /year"* (Reymond 2007, p. 4173). Evidently, the fact that the EU does not own LNG export terminals (only import stations) is exemplary for its current state of dependency. In conclusion, this situation is unlikely to change in the short term. What is more, the sense of importance and priority attributed to planned LNG projects and to possibly increasing current LNG capacity levels greatly differs from one Member State to the next (Consultation on an EU strategy for liquefied natural gas and gas storage, LNG Consultation publication, p.3).

To gain a better understanding of the topic of energy efficiency on the example of LNG in the EU, let us turn to see how many and what kind of facilities we are dealing with: to be precise, there are 23 major LNG hubs in the Union, two more in Turkey, and of these 25 terminals, 22 stations are *"(…) land-based import terminals, and three are floating storage and regasification units (FSRUs)"* (King & Spalding LLP 2016: LNG in Europe 2016/2017: An Overview of LNG Import Terminals in Europe, p.6). As of yet, all current European Union LNG stations are import terminals wherein the liquid gas is regasified to subsequently become part of the national energy mix, whereas only Norway and Russia own LNG export terminals (King & Spalding LLP 2016: LNG in Europe 2016/2017: An Overview of LNG Import Terminals in Europe, p.5-6). The approach adopted by which energy efficiency is to be steadily increased in the EU is as follows: the Member States draw up and execute National Energy Efficiency Action Plans (NEEAPs) after which their alignment with the larger scheme of EU norms and regulations is verified and assessed (Report from the Commission to the European Parliament and the Council: Assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU 2015, p.4). There are two kinds of energy consumption measured in the report regarding efficiency in usage: 'final energy consumption' (FEC) and 'primary energy consumption' (PEC). Final energy consumption is the energy supplied to industry, transport, households, services and agriculture excluding deliveries to the energy transformation sector and the energy industries themselves; primary energy consumption is the gross inland consumption excluding non-energy uses. It includes generation/ transformation losses, the consumption of the energy transformation sector and network losses compared to final energy consumption (Report from the Commission to the European Parliament and the Council: Assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU 2015, p.4 and 6).

In a nutshell, this research report tells us that overall energy consumption has fallen regarding both PEC and FEC, and that energy efficiency has indeed increased, despite the fact that for each category measured there are certain MS that do not comply. Specifically, on average for the EU-28, FEC plummeted from 1186 Mtoe in 2005 to 1105 Mtoe in 2013: this signifies a 18,6% decline in overall energy usage juxtaposed against 2020 target numbers (Report from the Commission to the European Parliament and the Council: Assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU 2015, p.4). Only Estonia, Germany, Lithuania, Malta and Poland have raised their absolute final energy consumption levels (Report from the Commission to the European Parliament and the Council: Assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU 2015, p.4). This however does not mean that energy usage is in perpetual decline: total use of energy increased from 1102 Mtoe in 2012 to 1105 Mtoe in 2013 – it is just to say that on average over an extended period of time, a trend showing reduction can be observed (Report from the Commission to the European Parliament and the Council: Assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU 2015, p.5). Since Member States set their own national targets ahead of the wider 2020 targets (which are softer guidelines sovereign states agreed to follow as opposed to the hard quotas imposed), they can be stricter or more lenient in what they would like to achieve. This led to remarkable differences between Member States: Austria, Bulgaria, Croatia, Cyprus, Greece, Hungary, Italy, Slovakia, and Spain set more ambitious goals for themselves on the road to 2020, while Malta and Poland scaled down the ambitiousness of their initial efforts (Report from the Commission to the European Parliament and the Council: Assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU 2015, p.7). Renewables are on average also being used more which balances out the aforementioned higher levels of final energy usage (Report from the Commission to the European Parliament and the Council: Assessment of the progress made by Member States towards the national energy efficiency targets for 2020 and towards the implementation of the Energy Efficiency Directive 2012/27/EU as required by Article 24 (3) of Energy Efficiency Directive 2012/27/EU 2015, p.4 and 10).

Once again, the conclusion is a rather clear one: Member States scale their energy usage and energy reduction plans up and down in line with national policy preference. It would not be surprising if not all Member States will be able to or even wish to meet the 20-20-20 goals in a timely fashion. EU goals and plans are subservient to national aims and policies. This reminds me of the interview answer given by Professor Adaramola. I had asked him: *"[h]ow can we lessen, for example, the dependence on Russia; on Russian fossil fuels?"* Where other respondents would give political, security and economy-related answers, Professor Adaramola gave a reply that fits very well with the above discussion on energy efficiency and preservation juxtaposed against national interest. The Professor said: *"[a]nyway, one of the ways which we don't want to always agree is: we have to use less. We reduce what we have, so we don't*

*need to use electricity every time. So if you manage what we have, then the next thing is just what you have. And that is an actual link to – because if it is possible that renewable energy can supply all your energy needs. You might think* [unintelligible] *like in France: you might think that they use coal like other countries in Eastern Europe. So… so my thinking is: when you talk of energy security, it means that you are managing the energy resources within your border, to meet your requirements. So, Norway's history too where one said: 'ok, I need wind, I need solar.' Sometimes you might still need to use the other systems. And, like I told you yesterday too: one of the other issues is, if we want to really have renewable energy to really play a very strong role, then investment of the storage systems will have to be enhanced."* This argument shows us that there remains a lot to be gained in the field of energy security when energy efficiency is increased and that renewable energy can play an important – perchance even a pivotal – role in this endeavour.

#### 4.2.5. Fuel Mix

As we have seen, an entity's fuel mix (also called power mix, energy mix or power generation mix), is the combination of all fuel types utilised in and by said entity. By entity, I usually mean state, although one could argue that – under a common EU energy policy – an EU-wide energy mix could be appropriate, logical, or even necessary to employ. The Union's efforts of binding up a common energy policy with an energy union serves as a testament to the importance of this in the eyes of the Commission. This, however, does not mean that there cannot be a genuinely common energy policy when every Member State has its own fuel mix. Even when one state employs a lot of gas, while the other uses mainly coal, they can still send or sell each other energy when necessary – provided the infrastructure is in place. Nevertheless, the idea of an Energy Union with an intricate system of conduits interconnecting the Member States – or even (most of) the continent – although not impossible, remains an extremely complicated and costly task to fulfil when all states employ different fuel types in various amounts. Different kinds of energy require various forms of transportation and infrastructure after all. Another point concerns the differing dependency levels the Member States have towards Russia: these large differences render the foundation of a common energy policy quite a bit more complicated. This is also true for various stances and views the countries have towards this supplier state: there are MS which are wary of possible Russian political influence creeping in along with the gas or coal imported from this supplier, as well as those states which do not believe there to be a serious correlation between energy dependence on, and political pressure from, Russia. Such disagreements and dissimilarities inadvertently weaken the common energy policy – as far as it exists today. The above shows us that the differences in fuel mix betwixt Member States as such not necessarily pose problems and of themselves; as we can see, the issues are more profound and political.

Meanwhile, the European Union seems to endeavour to remedy, or at least mitigate, the outcomes of this potentially problematic situation by throwing its weight behind renewable energy as a solution. Its quest is to render the entire EU less dependent on fossil fuels altogether – be the source national or foreign, and is implemented regardless of national perspectives of Russia. A scenario drawn up by the EU estimates that gas will remain a primary power source until at least 2030, yet that fossil fuels overall will decline in usage in favour of renewables *"(…) from 21% in 2020 to 24% in 2030 and 31% in 2050"*, while emissions steadily drop until 2040 (EU Reference Scenario 2016 Energy, transport and GHG emissions Trends to 2050 2016, p.1-3). Interestingly, the scenario sees the usage of natural gas and

nuclear energy to remain rather steady over time (EU Reference Scenario 2016 Energy, transport and GHG emissions Trends to 2050 2016, p.3). To measure these theoretical approximations against the reality on the ground, I asked Professor Adaramola, the renewable energy expert, about what he thinks are the main pitfalls keeping the EU from its commitment to substitute fossil fuels with renewable energy in the combined effort to combat both dependence on Russia and climate change. Interviewer: *"[w]hat would you say is the main factor holding the progress of renewable energy back in the European Union?"* Professor Adaramola: *"[w]ell, I guess one of the main reasons is* [the] *diversity of the countries of the Member States – is one of the issues. And so, which means there is a difficulty with different resources, or with kind of maybe different desire to move fully into renewable energy technology."* Interviewer: *"[a]re there any other such factors?"* Professor Adaramola: *"[a]h well, like we discussed yesterday: with finance is always one of the issues too – money is one of the issues. And we also talked about sometimes even… movement of people even though it's allowed; it's encouraged. But some areas are more economically viable than other areas, so, for example, it would be difficult for some people to move from UK to Ukraine or for people to move from Netherlands to Slovenia or Poland, because of the differences there – economic power. So, that could be probably one of the other issues. So this key is not the resources when it's available – the conflict, the different... I mean, I know some of the neighbours that have coal resources so wish they would rather use, because it would be difficult for them to live off this company – to close that company because that they want to go into renewable energy. So… every country has different challenges, so they want to address that."*

In conclusion, the most daunting challenge at hand with regards to streamlining the EU power mix and lessening dependence on Russian fuel in said mix, seems not to be Russia itself, but rather the substantial differences between national energy mixes. After all, the decision whether to indeed reorganise national energy mixes into one European power mix remains a political one, above all other (economic and energy security) considerations. In Chapter 5 we will see how two selected EU Member States – Germany and Poland – differ in their energy mixes, as well as in their attitudes towards Russia and the political will (or lack thereof) to purchase energy from this supplier state. This case study will hopefully shed some light on this matter and present the intricacies of fuel mix dissimilarities and the political considerations that lie behind these. The different resources found in different states are one thing that could pose a potential obstacle, but it really does seem that diverging policy preferences among Member States with how to compose their power mixes and the ideas that lie behind it regarding both Russia, general energy dependence, and renewable energy, is what could really stifle a common EU energy policy. As such, of course, this would then naturally also be the key to resolving the situation – if indeed so wished.

### 4.2.6. Conclusion

Guided by the first dimension of Baumann's theoretical framework on energy security, I looked at the EU's plans and rhetoric on the one hand, and the perceptions of – as well as the reality on the ground, on the other. The first facet of the internal policy dimension concerned infrastructure investments. Unsurprisingly, enormous investments are required to fulfil the EU's final goal of an EU energy 'highway'. I have found that a not insignificant gap exists between what is needed and what is actually allocated. In order to push things forward nonetheless, the Commission flagged certain projects as deserving a PCI

priority status. We have seen that the EU's commitment seems sincere, with allocation of funding and in high-level rhetoric. However, whether this enthusiasm is shared by the Member States is less evident.

The next agenda point was emergency planning, which may at first seem like a somewhat tedious sub-topic concerning protocols in case natural disaster strikes. Yet it becomes quite a bit more interesting when we find out it mostly has to do with worries of a potentially discontinued gas flow from Russia. On the one hand, the Ukraine debacle (as well as similar situations taking place in Belarus and Georgia – briefly mentioned below in subsection 4.4.5) has proved that Russia cannot genuinely be trusted as an energy partner, trustworthy a supplier as the Soviet Union used to be to Western European countries in the Cold War. On the other hand, in spite of not Russia's actual views of the EU and of these other states remaining unbeknownst to me, to think Russia would compare their markets to that of the Union seems unwise and outlandish. The sheer difference in market size seems reason enough not to apply a policy of flow cuts; one would not want to lose access to such a large market. Though this mutual dependence seems to attribute a certain security and balance to the Euro-Russian energy relations, it does not cancel the necessity. After all: one can never know what the future might bring. Thus, for energy security to exist, more is needed than just the good hope that nothing bad will happen and that the gas flow will continue. The recurring theme in both the subsection on emergency planning (amongst others), and that on energy efficiency, is that Member States mostly concentrate on the national impact of measures as well as make policies without much regard for other EU states. While this is logical in and of itself, it does hamper regional and EU-wide collaborative efforts, such as the common EU energy policy. The subsection on fuel mixes confirms this finding: national power mixes differ greatly. This is in part due to which resources are found on the national territory, and in part owing to deliberate policy. Be that as it may, this render the conception of a joint energy policy and/or an Energy Union more complicated, which could be why this project is not yet up and running, and could face obstruction by those who have vested interests in sustaining the status quo.

## 4.3. Implementation of the economic dimension

### 4.3.1. Introduction

In this sub-chapter I will look at the state of implementation of the economic dimension of Baumann's theoretical framework. This dimension consists of the following subtopics: Energy markets (4.3.2), International trade (4.3.3), and Technological leadership (4.3.4).

### 4.3.2. Energy markets

Energy markets have already briefly been discussed in Chapter 3 when we looked into the EU Energy Packages and their respective levels of implementation, yet this topic is broader than it might seem at first. As such, this subsection will look into various subtopics related to the EU energy market: from the Energy Packages implemented by the Commission to liberalise and integrate the market to the matters of collective bargaining and the creation of investment opportunities. I will give real-life examples of integration efforts such as BEMIP (the Baltic Energy Market Interconnection Plan) and the stipulations of the Third Energy Package regarding LNG terminals. The theoretical findings from EU and non-EU sources will be weighed against quotes from experts I had the chance to interview. Before starting, I would like to note that although EU is obviously also interested in foreign markets and shifts its interest from expansive to mature foreign energy markets to cushion the blow from the switch to renewables, this subsection only focusses on the foundations of the internal energy market and its challenges (Boon von Ochsśee et al., and De Jong 2011 in: Proedrou 2012, p.20).

One of the main aims of the Energy Packages is namely to establish one harmonised and integrated European energy market. According to EU rhetoric, the ultimate goal is to have energy *"(…) flow freely across the EU - without any technical or regulatory barriers. Only then can energy providers freely compete and provide the best energy prices, and can Europe fully achieve its renewable energy potential"* (European Commission, Priorities, Energy union and climate, Priority Policy Area: A fully-integrated internal energy market). This is to provide consumers with more transparency, consumer protection and choice when it comes to purchase and selection of energy suppliers. It is to pave the way for more and continued energy investments, lessen import dependency, and prepare the EU as a whole for a future wherein renewables are the primary source of energy consumed (European Commission, Priorities, Energy union and climate, Priority Policy Area: A fully-integrated internal energy market). Aside from these immaterial benefits, the financial and economic profits are projected to be 16-40 billion euros per year – an estimate computed by Booz & Company Amsterdam: a strategy and management consultancy firm used as a source in the EU Commission's report (Communication from the Commission to the European Parliament, the Council. The European Economic and Social Committee and the Committee of the Regions: Progress towards completing the Internal Energy Market 13 October 2014, p.4).

Yet how far along is the current state of energy market integration in fact? And before we can really answer that, it is important to ask another question: why does the EU want the liberalisation and integration of energy markets across the Union in the first place? Critics of the EU sometimes muse that the EU 'integrates for the sole purpose of integrating'. But owing to the subsidiarity and proportionality principles (which will be briefly considered in subsection 4.6.1), the EU cannot integrate intrinsically. Proedrou (2007) explains that the main reason why the Union strongly supports the liberalisation of –

amongst others – gas markets, and the reinforcement of competition rules on energy markets, is *"(…) in order to protect itself from potential aggressive Russian moves"* (Proedrou 2007, p.341). One of the main goals the EU actually seeks to accomplish through the Third Energy Package is *"(…) that competition is going to decrease Gazprom's share of the market, bring prices down and enhance the EU's energy security. This policy can also serve as a lever of pressure on Moscow to break up Gazprom and liberalise its gas industry. In any case, it binds Gazprom in a competitive economic environment, in which it has to be competitive in order to retain its high share in the EU market"* (Proedrou 2007, p.341). Thus, there is a heavy geopolitical component to EU energy integration: it is directly bound with both EU energy security as well as getting Russia to play by Union rules and norms of transparency and open competition. One could argue, therefore, that since it is in the Member States' national interests to increase their energy security, it would also be in their interest to integrate in the field of energy.

Nevertheless, the reality on the ground does not follow this line of reasoning, as the institutionalisation of the Third Energy Package is not going smoothly. Even the European Commission itself remains sceptical and writes that investments are in fact lacking, market concentration is underperforming and EU-wide energy competition remains weak – despite intended market liberalisation (c.f.; European Commission, Priorities, Energy union and climate, Priority Policy Area: A fully-integrated internal energy market). The namely Commission notes that *"(…) the European energy landscape is still too fragmented"* and proposes as a solution that *"(…) the EU has to give a new political boost to completing the internal energy market"* (European Commission, Priorities, Energy union and climate, Priority Policy Area: A fully-integrated internal energy market). The EC is not alone in this, as Kaveshnikov (2010) writes: *"[s]eparate liberalised markets of the EU MS have emerged instead of a single EU market. National markets turned out to be less liberalised than expected. Among 18 MS reported in 2008 the three largest companies control more 90 per cent of national gas retail market in 7 MS and 70-90 per cent in 6 MS; annual consumer switching rate was appreciable only in 3 MS (European Commission 2010, pp. 18, 8). Governments of many EU countries pursue an openly protectionist policy, countering the takeover of national companies by other EU firms and encouraging the merger of national corporations. The level of competition in the EU energy market has grown only insignificantly. The difference in the end-user prices of natural gas in MS is three-fold and of electricity more than two-fold (European Commission 2010, pp. 19-20); the trend in retail prices was quite diverse, reflecting an insufficient level of retail market integration. Therefore, the market becomes an oligopoly instead of being a competitive venue"* (Kaveshnikov 2010, p.591-592). The European energy markets have, as such, become rather more fragmented than integrated.

Once again, the key is identified to be political will necessary to provide the market with the aforementioned stimulus. Although the Commission seems to frame this as 'EU boost' or 'EU political will', the making or breaking of the entire project logically rests with the Member States – as does the entire EU endeavour. In order to offer concrete tools to facilitate progress, the EU has established institutions to oversee energy market implementation efforts. One of these initiatives is ACER, the aforementioned European Agency for the Cooperation of Energy Regulators – which has been functional since March 2011 and finds its legal foundation in Regulation (EC) No 713/2009). *"ACER is mainly responsible for promoting cooperation between national regulatory authorities at regional and European level and for monitoring development of the network and the internal electricity and gas markets. It also has the competence to investigate cases of market abuse and to coordinate the application of appropriate penalties with the*

*Member States. The responsibility for applying sanctions applicable to infringements lies, however, in the hands of the Member States"* (European Parliament, Facts on the European Union: Internal energy market). The final sentence of this quote is both expected and unexpected: in light of efficiency matters, it would be logical for the EU to assume control of energy market integration efforts and penalise untimely implementation. On the other hand, if the Commission pushes its agenda through too vigorously, Member States will feel integration is imposed and may seek to delay or obstruct progress. This does not mean that the MS are without oversight or unbound to rules, of course. To promote market transparency, they must make public their energy prices and pricing systems which will subsequently be published on Eurostat biannually – a measure set by Directive 2008/92/EC seeking to encourage fair trading practices as well as Regulation (EU) No 1227/2011 on wholesale energy market integrity and transparency (REMIT) (European Parliament, Facts on the European Union: Internal energy market).

Now, as we have seen above in Map 8, progress regarding the single energy market as a whole is indeed made, yet the EU is far from achieving its goal as graphically depicted in Map 1. The so-called Baltic Energy Market Interconnection Plan (BEMIP) which is to serve to connect the Baltic States and Finland with each other and the rest of the EU, exists in blueprint, yet is far from being fully implemented and operational (European Commission, energy, Topics, Infrastructure, Baltic energy market interconnection plan). Naturally this project requires major investments over the course of an extended period of time, detailed planning and inter-state collaboration as well as shared ideological goals and agreed necessity. From this perspective it is plausible that integration projects are slow and without strong backing of Member States, from which logically follows that potential investors will be wary or even reluctant to partake in the endeavour. The Commission report, however, states that the implementation of the Third Energy Package as well as the 2012 Action Plan has almost been concluded and that implementation of both plans is well underway (Communication from the Commission to the European Parliament, the Council. The European Economic and Social Committee and the Committee of the Regions: Progress towards completing the Internal Energy Market 13 October 2014, p.16). The current phase of the implementation of the Third Energy Package focusses on ridding the Union of any and all obstacles to full market implementation by targeting counterproductive- and undermining national rules and measures (Communication from the Commission to the European Parliament, the Council. The European Economic and Social Committee and the Committee of the Regions: *Progress towards completing the Internal Energy Market* 13 October 2014, p.13).

An example of this is the matter regarding LNG facilities, an energy source briefly discussed in subsection 4.2.4. In the Third Energy Package, also known as Directive 2009/73/EC, the European Commission wishes the Member States to provide for more transparency and open access to LNG (and other) infrastructure *"(…) on fair, transparent and non-discriminatory terms"*, establishing *"(…) a system of regulated third-party access to LNG receiving terminals, and requires LNG terminals in the EU to provide transparent and non-discriminatory access arrangements"* (King & Spalding LLP 2016: LNG in Europe 2016/2017: An Overview of LNG Import Terminals in Europe, p.7). Another rule to encourage transparency is that operators in LNG facilities are to disclose conditions and tariffs of third-party access (TPA), upon which their reports must go through another level of checks and balances; the national regulator, who is to approve of the publication (King & Spalding LLP 2016: LNG in Europe 2016/2017: An Overview of LNG Import Terminals in Europe, p.7). On the level of the Member States, it might be a tiresome task to comply with EU standards and regulations – a cause for eurosceptics in national electorates to complain about

rules and standards from 'Brussels' while national power is ceded continuously. Nevertheless, on the EU level, this standardisation helps EU States trust each other's energy goods and services and provides necessary transparency, openness and is a conditio sine qua non for full energy market liberalisation. Moreover, one could argue this standardisation is a logical endeavour to task the Member States with, as it forms a crucial step towards the EU's ultimate goal of an Energy Union wherein the Union holds a united and single bargaining position in world energy negotiations with third parties. Yet, does this work – is it even feasible to try and establish a collective bargaining position with the Member States and the Commission being divided on energy matters as they are today?

To find out how a state representative feels about the case of collective bargaining in energy negotiations with Russia, I asked H.E. Mr Steen Hommel, Danish Ambassador to Poland the following question: *"[t]o be able to purchase energy as a bloc and improve our collective bargaining position as well as decrease non-European dependence, major investments are necessary. (…) To create one or more European grids through which can flow quickly and economically; how do you think this would be best achieved?"* Mr Hommel replied: *"[w]ell this is about introducing a buyer monopoly. See this as a way for the buyer monopoly thing, we buyers want and, the point, the rational buyers want is of course getting the price down, because a big buyer will get a low price, and the risk of cutting off supplies for a big buyer is less than cutting off to an individual small buyer. So I can see the reasoning why. But of course then we would all have to be 'en bloc' buyers from Algeria and from Norway all the other parties around. It goes counter to the point on the market mechanisms. I think the Energy Union element of transparency and the insistence – this would go without saying – but insisting on these deals being according to European rules and regulations makes a lot of sense. And there's about, there are various clauses in some of the current gas contracts that are simply against regulations: the prohibition to sell on to other countries. There are some… I think there are some price mechanisms that are not justified. So, anything about transparency in the market on who buys from whom, conditions and of course following rules would definitely improve it, and sort of provide a stable framework for the market mechanisms to function. I think that makes a lot of sense, and you really go hard-core on security. And the most sinister sort of assessments of what Putin might and might not do… Being a bloc would not eliminate the risk of a stop from us exporting or importing energy from Russia. So, it… sort of, you tackle part of the commercial risk, I guess. From a stock to a corporate Russian gas or Russian export does. But the hard-core geopolitical security policy situation of a major crisis would not stop. This would then still be a risk. So 'en bloc'... I think the main argument for one bloc would be something about prices, more than the security element. So that would be the main issue on the 'en bloc' buying."* The Ambassador starts out by arguing that if the EU were to form a buyer monopoly, this would in his opinion help to decrease energy prices as it would be that much more financially risky for Russia to lose a major buyer than a small one – which essentially takes us back to his argument in favour of the Energy Union. Interestingly, this could also be seen as a security argument for the prevention of energy cut-offs. However, Mr Hommel signals that if we purchase 'en bloc' from Russia, we will have to apply the same purchasing mechanism to other supplier states – which could seriously complicate energy trade.

I decided to also ask Mr Kowalski a question on the topic of investment opportunities and trying to follow his line of reasoning, said: *"[s]o, we should liberalise the market, then there will be private investors – private companies – maybe even partially state-owned* [ventures]*, but not necessarily; and you think that they will be willing to invest in these* [pipeline] *projects?"* Mr Maciej Kowalski answered:

*"[w]herever there is a possibility for profit, there will be people who want to invest. Yes of course Europe in general is a very big, very wealthy, well-paying market. And the prices here compared to the* [United] *States are very, very high. Still, even after this crisis*[29] *the prices for both gas and ore. So I think this: there are – if the grid was more interconnected, and someone from Spain – as you said – could really sell to someone, to Poland, there would be possibilities of profit for both parties. And this would drive, in a long term, it would drive prices down and help the market grow. Even more households could afford to buy gas to heat their homes, and the market would grow even more. So if we're selling fifteen billion cubic metres in Poland right now, maybe we'd be selling thirty – if the market was integrated and prices were low enough."* Interviewer: *"[s]o it's better to have a low price because then you can…"* Mr Kowalski interjected: *"[i]t's a trade-off, it's always a trade-off. For me it's better for the gas to be expensive, because I deal with on the selling side of things. But I understand that it's better to sell a hundred billion cubic metres of gas at fifty dollars than ten million cubic metres of gas at a hundred dollars. Because you still make more profit. And that's what it does, the secret, that's the true secret, behind the American shale gas revolution. They figured out that if you get really good at drilling and at fracturing, you can do it very cheaply and you can grow the market to a size that was never imagined before."*

We can conclude that progress towards a single European energy market is indeed underway, but that its pace depends fully on national political will, which in turn hinges on policy goals influenced by national norms and debates regarding the importance of the EU internal energy market and the sense of urgency (or lack thereof) to strengthen energy security. *"[m]any Member States have made good progress in opening up their wholesale markets to competition, and this has had significant benefits. However, there are large differences between Member States, and many Member States have not yet fully implemented the necessary rules that allow for competitive and liquid markets"* (*State of the Energy Union* 2015, p.9). These national debates and international differences will be the main topic of Chapter 5. Another conclusion that we can draw here is that the EU, though arguing the necessity of the endeavour, does not wish to trample upon the foundation of Member States' sovereignty, autonomy and policy choice when it comes to market integration, streamlining and transparency. This is an entirely logical reality, yet also one that continues to pose a difficult balance between enforcing rules and allowing leniency at the cost of common EU goals. In the end, this debate is between market regulation and liberalisation: His Excellency the Ambassador argues in favour of 'en bloc' petrochemical purchases – an endeavour that would have to be streamlined on the EU level in order to even have a remote chance at success, while Mr Kowalski contends that market liberalisation would help to establish a more natural price balance in the long term and make for a healthy investment climate.

Conversely, Nikolay Kaveshnikov (2010) would disagree with this statement. In his research article, he maintains the following: *"[e]nergy security cannot be a spontaneous result of market self-regulation, even under the conditions of wider liberalisation. More specifically, a liberal (but not free from in-depth state regulation) energy market can exist in a country or a group of countries with relatively homogenous interests because of identical resource endowment and structure of energy consumption. However, such a market is unlikely to unite suppliers and consumers; i.e. it cannot unite all European countries"* (Kaveshnikov 2010, p.590). Unfortunately, expounding on the debate regarding stimulating the

[29] To be clear, the crisis Mr Kowalski is referring to here is the financial and economic crisis that swept across Europe after 2007.

economy via political measures to a lesser or greater extent versus giving the economy free reign and letting it regulate itself goes beyond the topic of this thesis. This is undoubtedly far from the final word on the issue.

### 4.3.3. International trade

Naturally, a lot of energy commerce takes place between EU states as well as between the EU and non-EU countries. Nevertheless, energy trade with the rest of the world is not of relevance when measuring energy security in this research: the EU trades with several countries, notably Norway and Russia, but also with Algeria, Saudi Arabia and in the future perhaps also with Iran too as it did before the Iran deal failed and new sanctions were imposed by the US. Algeria and Norway are worried that energy market liberalisation and regulations (as discussed in the preceding subsection) will undercut their supply security to the EU, as MS might have lower demand when trans-European Energy Union infrastructure will be in place, yet EU integration has proven to have little impact on overall trade with Algeria and Norway, seeing as mutual benefits of energy trade outweigh a drop in collaboration (Proedrou 2012 in: Proedrou 2012, p.18). Kaveshnikov (2010) argues in favour of seeing supply security from a holistic point of view: looking not just at the consumers' – or EU's point of view, but rather as a positive-sum game wherein energy producers, transit states and consumers all try to find an integrated energy policy that suits them all (Kaveshnikov 2010, p.586; 602). For this, Kaveshnikov (2010) proposes the institutionalisation of a regulatory framework, so that energy security is no longer 'won' at the cost or detriment of either supplier states or client states (Kaveshnikov 2010, p.602). Despite his argument not being without merit, there are two reasons why I will not explore this further: first and foremost, because this research concerns itself solely with EU energy relations with, and dependence on, Russia. That the avenues regarding possible supply diversification to mitigate EU energy dependence must nevertheless be explored in the broader framework of international trade, is logical. Yet there is no reason to perceive the situation from the points of view of other states – aside from when and where strictly necessary. Secondly, having conducted this research, if there is one thing I can say about EU-Russia energy relations, is that there is a severe lack in trust between the parties. An intricate regulatory framework to facilitate international trade is unlikely to be developed if even the much looser ECT (the Energy Charter Treaty) remains unratified by Russia. Moreover, such a framework would require increased energy integration from the EU Member States, which, as we have been seeing, is easier said than done. It is surely possible to list all energy exporting countries that serve the EU – and to some extent I have already done so in the beginning of this thesis – yet one cannot measure the actual implementation of trade; and it remains very difficult to qualify this. Furthermore, energy dependency levels on other states are of no relevance to this research, other than as a means to alleviate the current dependence on Russia.

It is in this global context that I posed Mr McCown this question: *"I would like to expand the topic a little bit, more globally: Saudi Arabia and the OPEC countries especially, they have committed to production levels and oil prices that stay lower than some – and lower than Russia would like, actually. What do you think for the next twelve months, you forecast, what would it look like for the oil industry with, for example, Iranian oil, perhaps coming after we might have the framework agreement / policy with*

*the Iranians?*[30] *If extraction is increased in Iran and low prices will remain, how do you see this development? Are you optimistic or pessimistic about it?"* Mr McCown replied: *"[a]bout the Iran deal? Or about the whole thing?"* Interviewer: *"about the whole thing, you know, globally speaking."* Mr McCown said: *"[y]eah, so I don't know if the Iranian deal will come together or not, because, you know, just again,* [a] *couple* [of] *weeks ago the IAEA produced a report that said that, you know, Iran continues to hide the extent of its processing capabilities. There are many people in the United States; politicians in Congress that want, and Republicans want to be able to force the President to submit any agreement to the Congress to be ratified. There are many people in the US that just don't trust Iran, period. So I'm not sure what's going to happen with Iran or with the short-term, long-term, but even with – with or without Iran oil, with or without Iraqi oil, Syrian oil, with the, you know, the issues going on with ISIS: I think there's plenty of oil to go around. And the people I see that hurting the most would be Russia. (…) That can also hurt some US production as well, but the majority or US producers are gigantic multinational companies and they're going to be fine. What you see in the US are a lot of smaller oil companies that are kind of struggling with the cheap prices, but they are very tiny compared to Shell or Total or BP or, you know, the other main players. But I think most people think over the next twelve months* [that] *oil prices will remain fairly stable, and that continues, I think, to cause some trouble for Russia – which has been hit, I think, over the last twelve years with two issues: a weak rouble, plus weak prices really hurt Russia a lot. From the ability to garner fuel… The other thing Russia badly needs is technology, and that's why they were partnering with US companies to be able to explore for, and find oil in new places. That's all been put on hold with all the sanctions. So, the good news, I think, is for consumers: European consumers and others, I think, will continue to see oil at levels far below where it was a few years ago. And most people think that oil will – and I don't know what the euro pricing is, I just know that when oil was at its peak, it was about a hundred and thirty dollars a barrel – and, I mean, I don't think it's going to go anywhere near there in the next one to two years, because of still weak demand. And there's just so much of it out there."* Based on his expertise and field experience, Mr McCown estimates the international oil market will remain stable. He also points out that Russia is hurt by the lower oil prices charged by the OPEC countries which thusly provide interesting diversification opportunities for European states to obtain oil economically. At the time of the interview, it was still unsure whether or not the Iran deal would be closed. At the time of writing, there is a lot of controversy surrounding the issue: while the US pulled out of the Iran deal in May 2018, the other states unanimously wish to sustain it. Its future is uncertain at this point. If, however, the deal continues to exist, and if the sanctions regime can be lifted gradually, it is not unthinkable that Iran might start exporting natural gas to the EU in the future – yet this is not at all certain either.

After hearing Mr McCown's views on global oil prices, I asked Mr Martin Vladimirov, who approaches the topic of oil prices from an economic perspective, to weigh in in a European context. Interviewer: *"[y]ou have just mentioned in your lecture how oil prices affect the world market in oil, and I was just wondering, with the perspective on the European Union, how you think this will develop – the effect of the world oil prices on the European Union in terms of geopolitics, in terms of stability?"* Mr Vladimirov explained: *"[w]ell, default oil price is providing a direct tax credit to consumers in Europe; the European Union is a net importer of oil, and a very big one for that matter. And it was previously spending*

[30] The reader will forgive the by now – where Iran is concerned – somewhat dated question and answer in light of more recent political developments.

*around four hundred billion euros per year for importing oil and gas. This bill has decreased substantially: it is the collapse of the oil price, but also because the natural gas prices have fallen down significantly, as they're linked to the oil price. This has created opportunity for big economies like Germany, France, and Italy to diminish their current account deficits with bilateralness, with countries like Russia, among others. And it has created the opportunity for households and businesses to spend more on consumption rather than saving. Of course, the effect of low oil prices in the Eurozone is more complicated than it seems from microeconomic theory. The effect has not been as pronounced as expected before, because, since many of the countries in the European Union have huge budget deficits and debt GDP ratios, some of the windfall of the low oil prices has been spent on actually covering this debt – instead of being spent on consumption. And you know that consumption is the key ingredient to demand, to GDP growth; when you cannot actually use it, this dampens the overall effect on the economy. Of course, the more energy intensive countries have benefitted more than the ones that already were very efficient in their consumption patterns; so southern countries and eastern countries have benefitted disproportionally more. There are also paradoxical cases in which the low oil prices have had a bad, or negative, effects on the fiscal state of some countries, because fuel imports actually taxed with VAT and excise tax. Which, in some countries like Bulgaria, for example, make up a very large proportion of the budget revenue; so low oil prices have meant less taxes – less tax revenue for some countries, and thus less funds to spend. But overall the effect has been, on a net basis, positive – less so than in the United States, because as I mentioned, the economy is structured differently and the debt situation is different, also."* The statement Mr Vladimirov makes about how the EU is a major oil importer is interesting, because when speaking about dependence on fossil fuels, we usually mention gas. In subsection 3.4.4, it was also shown that European oil dependency rises a lot faster than its gas dependency. Falling oil prices means that this fuel type becomes increasingly popular in use, further encouraging oil purchases and as such also systemic dependence. The European Commission has reported that oil prices are down by 60% since 2014 – which, according to the EU, benefits EU energy security (European Commission website, Energy, Data & analysis: Market analysis). The above makes one think about where the EU could purchase its energy aside from Russia; yet too much diversification towards another single supplier would just be exchanging dependence on one country for another. This in itself is not problematic, if there are no serious political consequences attached, or threats of cuts by the supplier – as perpetrated by Saudi Arabia in the oil crises in the 1970s.

All this begs the question: what about domestic production? As a whole, the EU produced 937.1 tonnes of energy (all types of energy products combined) in 2003, after which production levels fell to 790.4 in 2013 (Eurostat File: Energy available and international trade in energy, 2003 and 2013). Meanwhile, total energy imports rose from 1349.6 to 1441.8 in the same years (Eurostat File: Energy available and international trade in energy, 2003 and 2013). Exports amounted to 533.4 tonnes of energy in 2013, a rise from 2003 which used be 446.5 tonnes (Eurostat File: Energy available and international trade in energy, 2003 and 2013). Finally, gross inland consumption fell from 1803.5 in 2003 to 1666.6 in 2013 (Eurostat File: Energy available and international trade in energy, 2003 and 2013). Yet none of these figures speak of implementation. Trade can be increased or diminished, but not implemented or have its implementation measured from the perspective of energy security. It seems to me that Baumann included international trade in his theoretical framework on energy security for the purpose of measuring levels of diversification. That is to say, how evenly possible energy dependency is spread out over various supplier states to minimise damages of potential supply disruption, and as such maximise energy security despite

keeping moderate to high levels of dependency. Yet international trade is not the same as diversification and as such, it is meaningless to interpret Baumann's intentions and wording further or to list suppliers and respective dependency levels.

Next, I should like to present the matter of collective bargaining. As briefly mentioned in Chapter 1 and 2, the notion of collective bargaining could be explained as all EU states agreeing on one standardised tariff for the purchase of foreign energy – this being non-EU in origin. The matter of collective bargaining as an international (energy) trade strategy is a rather political one. To start with, it involves unanimous agreement of all Member States on two issues: the notion of setting a standardised tariff, and its height. Furthermore, many different details on execution and application would have to be worked out. Seeing as MS have different dependency rates vis-à-vis Russia as well as various political stances towards this supplier state, it should come as no surprise that this is a very intricate issue, and that any such tariff scheme idea has as of yet not come close to actual application.

Another way to interpret collective bargaining, or as the EC diplomatically calls it 'speaking with one voice', does not go as far as a single external tariff for energy imports, but the lighter, less politically sensitive option of greater EC involvement in bilateral energy negotiations. The European Commission expounds this as follows: *"[i]mproving coordination of national energy policies and speaking with one voice in external energy policy. The Commission aims to be involved at an early stage in envisaged intergovernmental agreements with third countries that could have a possible impact on security of supply. Moreover, the Commission will ensure that all such agreements and all infrastructure projects on EU territory fully comply with the relevant EU legislation"* (European Commission, MEMO: Questions and answers on security of energy supply in the EU, 28 May 2014). The matter remains rather vague as it does not become clear precisely how the EC would be involved and what its exact role would be in EU bilateral energy negotiations with Russia. Nikolay Kaveshnikov (2010) has another take on the external energy policy: he believes that priority ought to be given to strengthening the internal energy market (Kaveshnikov 2010, p.591). His quote on topic is as follows: *"*[a] *key EU energy project is the building of a single liberalised electricity and gas market (SLEGM). The main task of liberalisation is to establish a high level of competition between energy companies which should lead to the levelling of energy tariffs in different EU MS and a general price reduction. Since the early 2000s, a SLEGM has been presented as the most effective way to ensure EU energy security. Noel (2008, p.8) believes that '[t]he most efficient solution to the Russian gas problem lies not in the development of an external energy policy, but in further restructuring of the EU's internal gas market'. He also believes that such a market would create a maximum degree of solidarity among the European gas consumers and would increase collective security through re-distribution of the gas flows in cases of crises"* (Kaveshnikov 2010, p.591; and Noel 2008 in: Kaveshnikov 2010, p.591).

To obtain better insight into this rather opaque subject, I once again sought the perspectives of energy analyst Mr Vladimirov about Russia playing countries against each other. His reply quickly revolved around collective bargaining and a common EU energy tariff. The question was: *"[d]o you see that Russia can play the European Union Member States against each other by usage of North Stream and by charging a different price, for example, for the same amount of gas to Germany, as you mentioned, than to other countries? (…) does that destabilise the European Union – and if so: what can we do?"* Mr Vladimirov: *"[w]ell of course it destabilises the… especially, it destabilises the European Union push for a common*

*energy policy, because Russia prefers to negotiate gas relations bilaterally – and not multilaterally – because* [of] *its bargaining position. If it bargains with the whole EU, it would be much weaker than it's today vis-à-vis individual Member States. Especially in Central and Eastern Europe, where it has, apart from its monopoly position in many countries, it also has leverage through… indirectly through local proxies and cronies. And they are close to Russia, so Russian influence in these countries is quite big. It's able to sustain the same term, the same long-term gas tariffs. So this is a divide-and-rule policy, because…* [end of sentence]. *What can the EU do, is push forward the legalistic nature of things. I mean, to be honest: Gazprom has faced a lot of regulatory issues related to liberalisation of the market. And by strengthening this paradigm, this regulatory paradigm, it would be possible to prevent Gazprom's manipulation of markets in the future. Another way is to incentivise the import on the energy terminals by making some of the projects – the invasive planning, still to become reality with external financing from the Commission. Because many of these projects are not financially viable: they need external support in order to pay off in a way, and the European Union has stepped up efforts on this front: especially in Central and Eastern Europe and Southeast Europe. So: more of the same would be good, but also following a consistent regulatory legal policy, because it is not possible that you create different rules for North Stream and different for South Stream, depending on who is benefitting from that. So, in general: the European energy policy faces the big problem of power dependency. So, countries – Member States – have their energy policy path that's just defined. And until this path of dependence is broken, they will not change the way they choose their energy supply. And of course the EU – the European Union TFEU, what is it, the Treaty of the Functioning of the European Union – states that energy supply is left only to the Member States. But there needs to be some kind of a co-operation and co-ordination of energy supply options, because even in an internal energy market that is fully connected, we cannot have a fully independent energy policy."*

Mr Vladimirov's standpoint is clear: according to him, Russia is guilty of playing countries in the Union against another and using its influence abroad to do so. What Mr Vladimirov says is true; one way in which Russia does this is by charging different countries different prices for the same amount of energy provided. What is more, Russia has yet another dual pricing system in place: a lower pricing scheme at home, and a higher one abroad (Haghighi 2007, p.276). In her book, Sanam Haghighi describes the difficulties regarding price discrepancy Russia faced in its WTO accession talks as well as during its bilateral negotiations with the EU (Haghighi 2007, p.276). Europe argued that this constituted unfair competition, while Russia – knowing it would lose five to seven billion dollars per year in revenue if it streamlined its fees for foreign markets with its domestic prices – denied this was state support to the advantage of its own market (Haghighi 2007, p.276-277).

Mr Vladimirov concludes that it is more favourable for Russia to negotiate energy trade deals bilaterally, because this way, it sustains its political clout as a major supplier and geopolitical world player. By providing some countries with quite economical gas, these states also become in favour of such deals – as we see happening with North Stream. Still, regardless of whether or not Russia actually does set countries against each other, a system of collective bargaining could be beneficial to EU Member States. By standing in firm unity, it would be unlikely that Russia could dictate high, unfavourable energy prices for one country, while keeping fees per bcm low for the next. The idea is to negotiate one common, standard energy tariff with a third-party supplier, as is Russia. The observing reader will already see the dilemma this poses: in the hypothetical scenario that Russia would agree to abide by a single European energy tariff, there will always be European countries that lose their preferential trade deal and will be

worse off. The creation of a common external trade tariff for energy wielding collective bargaining power thus all comes down to political will from the Member States themselves – rather than it being Russia's decision. Russia would most probably vehemently oppose this policy, yet if the EU states have diversified sufficiently to have viable alternatives to cover fuel supply, Russia would have to accept the new status quo or lose its most important market and a crucial source of income. Nevertheless, as long as Russia's abovementioned soft power strategy is successful, sufficient political will is hard to muster. Which government in this day and age would be willing to opt for higher energy prices 'for the greater good', than lower prices for their national population? Such a cabinet would surely lose the subsequent elections, and who knows what policy changes then might occur? Moreover, European states have hitherto not diversified to such an extent that a metaphorical fist can be made in energy negotiations with Russia.

Having contextualised and expounded the situation, I decided to ask Ambassador Hommel about his take on the matter of a possible common external energy tariff for the EU. My question was: *"[t]he general logic behind purchasing as a bloc is that the economy is much bigger, so we as the buyers might be able to dictate the prices* [to Russia]*, rather than Russia dictating for example that, the fact that Germany pays much less for the same amount of gas than Poland does."* The Ambassador replied: *"[b]ut it does also resolve the market in the way that if you then sign a five-year deal of importing Russian gas 'en bloc', what about the other supplies? And we are interested in having a diverse market. We're interested in having diverse import channels. We're interested in having the energy resources within and outside continuously developed. So I believe in the market forces in this, and I believe in the market forces being supported by exactly what was agreed in the Energy Union deal:* [these] *are transparency, and enforcement of the rules and requirements for such deals that would definitely also help on the differentiation of prices between countries. That you have different prices – I don't know whether you could eliminate it totally, because also the countries are also different. If you go to the financial markets today, you would normally charge another price for Greece than you would for Germany, for a reason."* The Ambassador places the blame with the EU's pricing mechanisms that allow for market imperfections, while subsequently indicating greater transparency as a solution. Most importantly, His Excellency does not think that purchasing energy as a bloc would eliminate the security risk; it would only be helpful in terms of obtaining a more favourable energy prices in his view. I interpret his answer of the follow-up question as follows: the Ambassador does not deem a common external energy tariff (meaning all EU MS pay the same for the same amount of Russian energy) to be helpful, as in his perspective this would undermine the EU's market diversity. The Ambassador notes that having one standard tariff would mean this general fee would apply not only to energy bought from Russia, but also from other exporting countries – which would undermine EU price flexibility. Moreover, he suggests that it is ultimately justified that certain states pay more (or less) than others for the same amount of energy, by comparing this to the economic and financial differences between states that yield different credit ratings on financial markets. In my humble view, these two matters are not to be bound up together, as one clearly is political, while the other is more neutral and economic in essence.

I would like to end the discussion on collective bargaining with a theoretical consideration of the situation. Political scientists often term the EU as a soft power, which sounds rather positive in that it implies the employment of peaceful diplomatic tactics, such as trust-building through trade and co-operation, and the creation of a level-playing field. But if we look more closely at Mr Joseph Nye's definition of the term

'soft power' as presented in Chapter 2.1 of this thesis, we see that Russia's acts in North Stream could legitimately be classified as soft power. To save the reader some time, here is Mr Nye's definition of soft power again: *"(…) getting others to want the outcomes that you want – co-opts people rather than coerces them. (…) Soft power rests on the ability to shape the preferences of others"* (Nye 2004, p.5). Seeing as there is a way in which one could argue Russia's acts are a portrayal of soft power rather than hard power, are the European states overreacting when they speak of Russian aggression? The answer is yes and no. Yes, because power play tactics orchestrated and carried out by Russia, such as power cuts and sudden (extreme) price increases as we have seen in Belarus, Georgia, Moldova and Ukraine, would be very difficult to commit against a European Member State without consequences from the EU. The United States Congressional Research Service Report for Congress wrote the following about the pressure Russia put on former Soviet satellite states and the consequences this has had for European views of Russia as a supplier state: *"[t]he cut-offs to Ukraine and Moldova in price-dispute contexts damaged Russia's reputation as a reliable energy supplier and reportedly have prompted former Soviet Union and West European countries to investigate where they might obtain non-Russian gas. Also reportedly, during late 2006 price negotiations, Gazprom warned Belarus that its failure to agree to higher prices could jeopardize the country's energy supply. In addition, the actual and threatened cut-offs have provoked criticism that Russia is using energy as a political tool"* (Gelb 2007, p.3-4). In their 2006 research article, Monaghan and Montanaro-Jankovski recommend that in order to improve EU energy security, the Union should work on energy efficiency, improve relations with transit states as well as with Russia (Monaghan and Montanaro-Jankovski 2006, p.25). But their article was written before the annexation of Crimea, and before widespread allegations of cyber-attacks and election rigging. Rather than keep approaching Russia, the EU has, put this country under a stringent sanctions regime after the latter's annexation of Crimea – so the EU has proven it can act unitarily in the face of injustice. So is it all just perception of Russian threats that prompt countries such as Poland to lobby for collective bargaining? Not completely: although perception is a very strong variable in the geopolitical equation, this is not the whole story.

Whether we see these acts as soft power exertion or as a display of hard power namely depends on our perception of the given definition of these two notions. If we see any acts that do not involve physical violence and aggression – such as skirmishes and openly violent conflicts as soft power, then these acts surely are. Yet, if we count non-violent acts such as aggression and threats as hard power, then one could also see the above deeds as exemplary of this. Regardless of classification, Russia's power exertion in the field of energy trade with the EU countries has three important implications. Firstly, the bilateral energy deals consolidate Russian influence in Europe by perpetuating and strengthening the Member States' dependence on Russia fossil products: energy deals are often signed into use for years, and sometimes even for decades per deal, and as we have already seen, to break dependency after pipelines have been laid is extremely difficult. The numerical data I calculated back this up: as some countries purchase more than 100% of their gas, oil or in some rare cases coal from Russia in one year, the subsequent year they will use that surplus and buy less. But the following year they are back once again to buy more than they can consume, owing to their depleted energy stocks; they cannot break the cycle of dependency. Secondly, Member States which do not get to benefit from the 'friendly' price regime Russia has in place for others, or are omitted in a pipeline project, often experience grievances. The situation is perceived as unfair and taking place 'at the cost of' the other Member States. As such, negative sentiment grows both towards Russia, and towards those Member States that do benefit. The

comparative case studies of Germany and Poland in Chapter 5 highlight this very conundrum. Flowing from this is the third implication of Russia's soft power energy play: the bilateral deals make it extremely difficult to found a common EU energy policy, thus preventing the EU to get involved and leaving the Member States to fend for themselves in energy (re)negotiations with a more powerful Russia that holds most of the cards. The only reason Russia does not hold all of the proverbial cards, is because this state is also strongly dependent on the European countries for the financial remunerations it earns with the fossil fuel trade, as we have seen at the beginning of the thesis. Be that as it may, both facts and perceptions forming national policy play key roles in the decision of whether or not collective bargaining and a uniform external energy tariff will ever be implemented.

Furthermore, there is of course the topic of international trade in connection with supply diversification. Here, I will take the example of potential US shale gas exports to Europe, yet before we dive into this matter, it would be logical to first find out what led to the shale gas revolution in the United States. I therefore asked Mr Maciej Kowalski for his take on the matter of US shale gas, asking specifically how the US shale revolution came about and how Mr Kowalski sees the future of US shale gas. This is interesting to the research, as there may be lessons to learn for the EU from the American success story. Mr Kowalski explained how the US shale revolution started: *"[t]here was this guy called George Mitchell, and he was a millionaire – a Texan millionaire. And for twenty or thirty years he insisted that gas from a geological formation called shale can be economically produced. At the time he was already a millionaire from other sources, so he had the money to spend and to waste."* Interviewer: *"[a]nd when was this?"* Mr Kowalski: *"[i]t started in the 80s, I believe so. It started in the 80s and for twenty or thirty years he was very unsuccessful: he spent millions of dollars drilling holes that were dry, that nothing came out of. And then, after enough wells were drilled with trial and error, he managed to find the formula of the – it was mostly about the fracking fluid that allowed the gas from the shales to be released from the rock and economically produced."* Interviewer: *"[y]eah because you put in – ok so you drill a hole, but nothing comes out because it's a different kind of gas, right?"* Mr Kowalski: *"[i]t's the same gas; it's methane, it's CH4; it's the same gas – shale gas, natural gas, liquefied natural gas, they're all the same chemical substance."* Interviewer: *"I see, but then why didn't the gas come out of the…"* Mr Kowalski: *"[t]hat was the problem…"* Interviewer: *"[w]as it a different kind of rock that it just…?"* Mr Kowalski: *"[y]es, exactly. The specificity of the geological formation is such that… well I would have to draw it out for you."* [Mr Kowalski proceeded to draw a basic schematic view of a shale rock formations and the way that the gas is extracted from it.] In a nutshell, I learnt the following from his drawings and explanation: there are right and wrong angles to drill for gas, correct and incorrect chemical mixtures of drilling fluid, and different kinds of rock and soil that demand differing drilling operation types (interview with Mr Maciej Kowalski). Due to the high number of overall variables, the endeavour becomes quite complex, which is the reason why it took Mr George Mitchell and others two decades to figure out the precise chemical composition, drilling angles, soil composition and other hundreds of variables for shale gas extraction to become successful (interview with Mr Maciej Kowalski). Mr Kowalski also explained how after the hole is drilled, a steel pipe, the casing, is run through the wellbore (the drilled hole) to sustain it and keep it from collapsing (interview with Mr Maciej Kowalski). The casing has small holes through which the fracturing fluid - a mixture of chemicals - and water is run (interview with Mr Maciej Kowalski).

Now that we know how the shale gas revolution in the United States came to be to serve as a case study example, and we have a basic idea of how fracking works, it would be interesting to return to our

core study regarding the European Union and its quest for greater energy security. For this, two logical options can be explored: shale imports from the US and shale explorations in Europe itself. When considering the United States' shale gas revolution coupled with its mentioned criticism of (West) European foreign fossil fuel suppliers during the Cold War for their wish to import from Russia, it is known that the United States today wishes to export natural gas to European countries so as to help curb this dependency on Russia (Nakano and Book, 26 February 2016). Could this path of diversification be a wholesome direction for EU Member States? I decided to ask the Danish Ambassador's view on the matter: *"[c]onsider the United States for a moment: trans-Atlantic plans to lift the United States' export ban on oil and start exporting to Europe so as to help lessen European energy dependency on Russia, are starting to materialise. To what extent do you think should the United States play a role satisfying European energy needs?"* His Excellency, Mr Steen Hommel: *"[t]he US introduced the ban on exports to make sure that they had their own energy security way back. US allowing exports - I think is great, but they are part of the market. The market becomes bigger; there are more origins of energy sources in the market. Whether this will be a game changer or not: I don't believe so. I think there's a, of course* [unintelligible] *cost. I think the whole idea and what makes it so attractive is the understanding that US shale gas is extremely cheap, and we'll get the same cheap gas in Europe like this, if they allow to export. This is not the case… apart from this, allowing export or not, it* [the natural gas] *would have to be liquefied, it would have to be transported, and have to have import facilities as Świnoujście in Poland – not working yet. All this would add to the price. So in terms of price, I'm not quite sure that the basic expectations to this being 'wow! Cheap energy for Europe!' will be fulfilled. But I think it's great if you have more energy on the market, it will be part of keeping diversity in the origins of energy, and also be part of making the market more liquid. I think the LNG market is less liquid than… well, liquid... It's more… oil is really a world market commodity, whereas LNG is still a fairly small part. It's becoming bigger in Asia, but it's not very big in Europe yet. So the more LNG available on the market, the more world market priced it will be, and not geographically, sort of, priced. So by adding LNG from the US market, would make the bigger energy market for LNG more… again… Accommodating world needs, you could say, and adjusting to where it's all for. Right now I think the prices in LNG live up tremendously between Asia and Europe, whereas oil is the same price all over. So buying in a bigger commodity would make it more liquid – the market for LNG. So: there are past locations of this, I don't think it's a game changer. And it's nice of the US to allow this; I think they will also have their own interests in creating more markets for their own products."*

Interviewer: *"[y]ou don't think that they will ever become a major supplier to Europe or a major energy partner in that sense?"* Ambassador Hommel: *"*[unintelligible] *I am not an energy specialist or anything like that. I don't think so. Looking at the US energy consumption and then their own production, right now they make this fantastic leap; fantastic what's happening in the US on this. But whether this is a situation for the next fifty years, I wonder. The production profile of shale gas quite different from oil: the lifespan of a shale gas field is much shorter than oil. Oil has a sort of a steady production flow for many years, whereas gas has a peak very short after – that's also why you have a different profile when you do the exploratory drilling and so on. So you have to invest all the time in shale gas, so it's different. So I don't think it's a big game changer, and I think it's very political also: in Poland, it's been very, sort of, 'we want the US to supply gas for us'. It's been very politicised – more than maybe the potential real impact of the issue. But then again, I'm not an anti-analyst as such, just a perception."* It is certainly true that the

logistical issue weighs heavily in the debate on possible trans-Atlantic energy trade; the relatively great distance would namely heavily increase transportation costs. Another issue would be a question of prioritising either principle or pragmatism: the US would mostly export shale gas to Europe – a fossil fuel type that is released from underneath the earth's surface via the process of fracking, as explained above by Mr Kowalski. Particularly EU states which have thus far emphasised the importance of the environment might well put principle before pragmatism and thus decline American shale gas.

To gain a more balanced view, I also asked Mr McCown and Mr Kowalski similar versions of the same question, seeing as the first gentleman is an American energy expert, and the second works for an American petrochemical company. To start with Mr McCown, whom I asked: *"[t]o what extent do you think that the United States should keep playing a role in satisfying European Union energy needs?"* Mr McCown said: *"[w]ell, I think the US has a lot it could do to help Europe in the short-term. You know, we have* [a] *huge amount of natural gas that we want to sell abroad – that we currently sell abroad – and that, you know, people want to bring it over here* [to Europe] *because it… you can, frankly, make a lot more money. Because the price that Europe pays for natural gas is two to three times what we pay for natural gas. The difficulty is in the fact that getting it here increases the price even further, and we have to figure out a way to be able to supply Europe with natural gas and oil and things. We supply Europe with a large percent of its diesel fuel right now and we can do that, and we'll continue to do that. That's why many people in the country (…) focussed on if we could sell our oil to Europe, could you use that in European refineries as a replacement for Russian oil. And the answer is: yes, you can. So there is a big desire in the United States to help out Europe any way we can. The question becomes: can we do that in a way that offers a price that's competitive? Because, you know, Russian oil or Russian natural gas has typically been, you know, pretty cheap. And, so we have to figure out a way to be able to provide that fuel at the same price or nearly the same price; and that's really hard to do."*

A follow-up question posed was: *"[n]ow, you've been talking a bit about the geographical distance – so do you think that despite this distance, that the US could still remain a good partner to the European Union in terms of energy, and energy security, also?"* Mr McCown replied: *"[n]o, yes, I think they can absolutely, because, yeah, America supplies Asia with a large percentage of natural gas, so it can be done. It's – when there's a willingness and a desire to do that. Either there's two different aspects if you say: 'we want to sell something to Europe, because they'll buy it', people go: 'okay, great, we can make money on it, so we should sell that.' When you say to people: 'we need to help Europe get this, because they've either been cut off from Russia or it's to counter Russian expansionist type of things'. That, you know, people are very conciliatory and want to help out, because there's a long relationship, you know, the trans-Atlantic alliance, is very strong,* [and] *has been for almost a hundred years. So, the disadvantage is that* [in] *America, people are kind of cut off from the rest of the world, so we Americans tend to not think about the rest of the world a lot of times. But, in a crisis or when there's an issue, you know, people are very fond of Europe, you know, because our heritage from there."*

Interviewer: *"[s]o you think that even despite the fact that there will be transport costs involved, that the United States could still supply Europe with competitively priced oil – despite, for example, now that Saudi Arabia is continuing to produce oil at lower prices these days?"* Mr McCown: *"[y]eah, I mean it's just under normal, daily contexts, I think… You know, can Saudi Arabia and Russia produce oil cheaper than the US and get it to Europe – get their oil to Europe cheaper than the US? I think that's true, yes. Now,*

*but, a couple of things that have really changed over the last few years is that fracking, the way we get most of our oil and gas these days, was very expensive. Those costs have dropped dramatically: those costs have dropped by fifty to seventy percent in the last five to ten years, and they continue to drop. And so,* [as] *long as oil is around seventy-five dollars a barrel, American oil is competitive. Ultimately, Europe will have to decide, you know, if it has choices for oil, you know, where it wants to buy it from. But even if Europe continues to buy oil from Russia and Saudi Arabia, the US has enough oil that, should something happen or there be an incident, the US has, you know, can supply Europe with massive quantities of oil and natural gas. On the natural gas side, the difficulty for the pricing has to do more with the LNG terminals, which is partly, you know, a cost borne by the countries here. And that's why it would be really nice if, you know, the EU could take advantage of existing LNG terminals in other countries. And be able to move the oil around me. You know, I presume if you took the whole of EU, it would fit inside the US, right, size wise?"* Interviewer: *"I think so."*

Mr McCown: *"[a]nd you know, the US, we have two point six million miles of pipeline, just in the US; that's enough to wrap around the Earth a hundred times. That's how well-developed our pipeline system is. And we have natural gas pipelines and crude oil pipelines and refined product pipelines, which mean gasoline. And we move it all over the place by pipeline, because it's the most efficient, it's the cheapest, it's safest; it's relatively easy to do. And… so it can be done on a big scale. And, you know, it could be done in Europe as well. But it takes time and money."* Interviewer: *"…and infrastructure."* Mr McCown: *"[y]eah, to build the – yeah. Yeah, to do that."* In a nutshell, Mr McCown says that the United States would like to increase energy exports to Europe, seeing as the price of natural gas is considerably lower there, but that the high transport costs make it difficult to compete with nearby Russia. He goes on to say that there are upsides and downsides to changing the law prohibiting the international sales of US oil and reach full self-sufficiency. In light of the fact that this law has already been overturned at the time of writing, it is of no use to transcribe said segment of the interview. This can, of course, be found in the recordings. Closely connected to this is the question posed to Mr Kowalski, which read: *"[s]o do you see the United States ever exporting this shale to Europe?"* Mr Maciej Kowalski said: *"I think very soon. Very soon."* Interviewer: *"[d]o you think it* [the United States] *might become a serious energy partner to the European Union?"* Mr Kowalski replied: *"I think so, yeah."* Mr Kowalski added: *"[t]hey* [US petroleum companies] *would take it* [the shale gas] *out, they would transport it to – they would clean it first, because there might be some other gases or maybe water or anything else; they would clean it, they would send it to a liquefying plant and ship it to wherever you want to ship it to."*

We see how Mr Kowalski estimates that shale exports from the US to the EU will quite surely take place in the near future; a very dissimilar stance to that taken by Ambassador Hommel. Evidently, both gentlemen have formed their views based on their respective backgrounds. As my opinion is of no importance to this thesis, I wish to refrain from commenting on the future. Still, when taking into account key evidence, I would be less optimistic in my academic estimate than Mr Kowalski or Mr McCown. Had shale imports been a miracle fix for the EU's growing energy needs and its wish to lessen dependence on Russia, trade negotiations would have started years ago. The seemingly unpredictable policies and unreliable stances of the under the Trump administration have rendered the US a less than reliable trade partner (Stone, 29 January 2018). In fact, after an interview wherein President Trump seemed to threaten with a possible trade war, Mr Margaritis Schinas, Chief Spokesperson for the European Commission, has

declared that: *"[t]he European Union stands ready to react swiftly and appropriately in case our exports are affected by any restrictive trade measures from the United States"* (Stone, 29 January 2018).[31] It is important to note at this point that the interviews with H.E. Mr. Hommel, Mr Kowalski and with Mr McCown took place in 2015 – well before the Presidential election and the change in political climate.

All in all, given the high transportation costs and the currently political climate, it seems that importing shale gas from the US into the EU as a diversification option away from Russian gas would be neither economically (related to project costs), financially (related to outcome profitability), nor perhaps even politically viable at the current time. This begs the question: what about drilling for shale gas in Europe itself? To understand this issue more clearly and find out whether this is a workable endeavour, it is first important to look at the extent to which shale gas is available on European soil. Map 11 on the next page shows where shale gas basins exist around the world. According to source of Map 11 – the United States Energy Information Administration (EIA) – the European continent has several shale gas basins, in total holding an estimated 594 tcf (trillion cubic feet), which is 16,82 tcm (trillion cubic metres) – amounting to roughly 10% of total world reserves (Directorate-General for External Policies, Policy Department DG, policy briefing: The Shale gas 'revolution' in the United States: Global implications, options for the EU 2013, p.16). The EIA even indicates Poland to hold a place in the top-200 of shale reserves with an estimated 5,3 tcm in reserves. When considering drilling for shale gas, the first hurdle to be taken is, as noted, whether to allow it at all: certain states may choose against the practice of fracking – whether this is harmful for the environment or not. The second obstacle is the seemingly ambivalent position of the European Union: on the one hand, there is namely EU environmental legislation, which every Member State has to abide by regardless of domestic political stance or conviction. On the other hand, however, the EU also deems the possible exploitation as an opportunity to increase EU energy security. At this point I would like to briefly remind the reader that we have seen Professor Adaramola argue in favour of renewable energy. This does to some extent contextualise the debate on fracking, because it presents another dimension: the opportunity to generate energy without the apparent zero-sum game of fracking and risking possible lawsuits faced should that process go wrong and the population becomes exasperated.

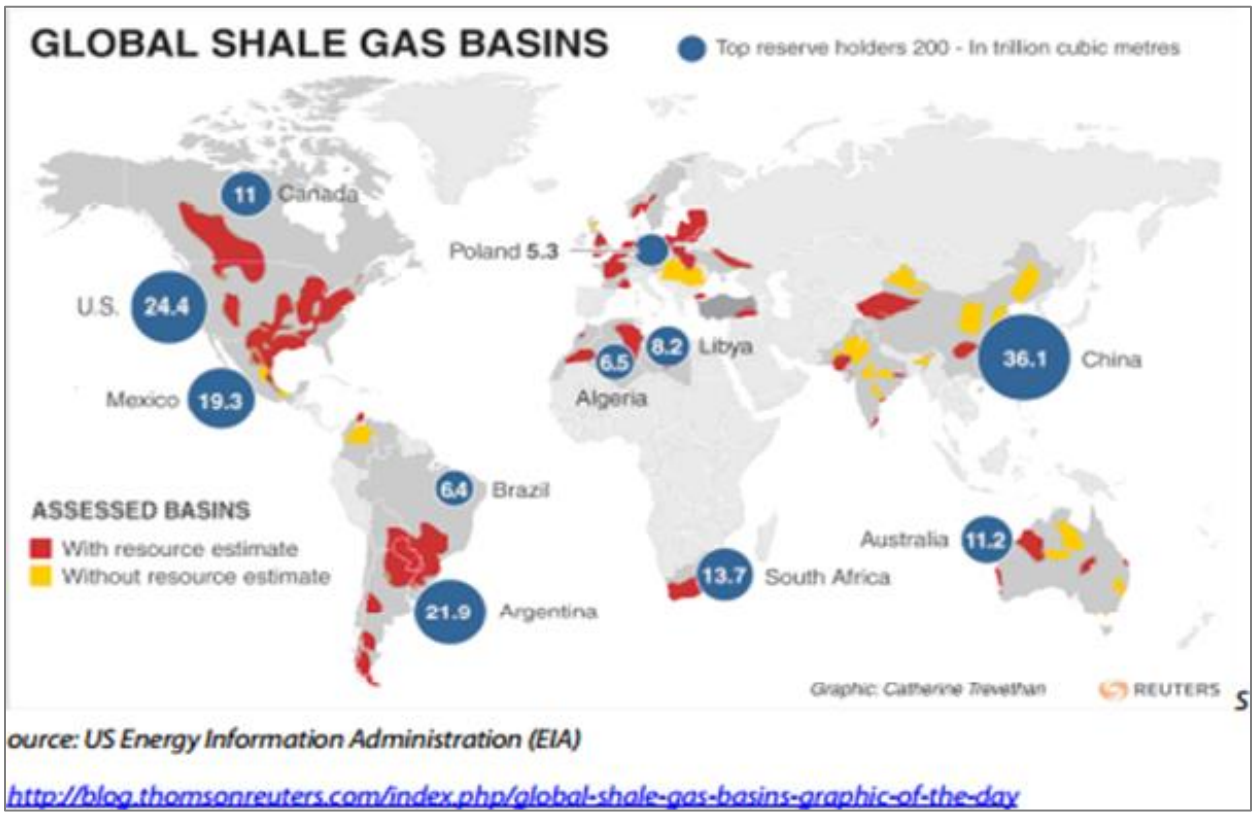
For the sake of completeness, after briefly having mentioned how oil prices behaved in the past in subsection 3.3.3., I wish to concisely summarise the statement given by energy expert Mr McCown on the matter of current global oil prices. Near the end of the interview with Mr McCown, the expert argues that oil prices will most probably remain stable in the near future (interview with Mr McCown). He adds to this that despite the fact that the United States has rather large resources in its soil, the country has no intention of selling it all (interview with Mr McCown).[32] Moreover, the gentleman argues that (investment in) exploration and extraction is unprofitable at the present time in light of current low oil prices (interview with Mr McCown). From a logical point of view, this is particularly be true for extraction sites that are difficult to reach due to the composition of rock formations possibly situated above the source, or its

[31] In more recent current events, the trade war has indeed been initiated.

[32] Mr McCown reminded me of the oil export ban that was still in force at the time of the interview, in 2015. The export ban, which lasted four decades, has since been lifted, and the US nowadays competes with both Russia and Saudi Arabia as a top exporter (Ngai et al., 8 February 2018). Reuters reported that the US has quickly become Europe's (France's in particular) fifth international exporter (Ngai et al, 8 February 2018).

location. That being said, Mr McCown adds that the situation is different for gas and other petroleum products, such as diesel fuel (interview with Mr McCown).

**Map 11: Representation of global shale gas basins**




SOURCE: DIRECTORATE-GENERAL FOR EXTERNAL POLICIES, POLICY DEPARTMENT DG, POLICY BRIEFING: THE SHALE GAS 'REVOLUTION' IN THE UNITED STATES: GLOBAL IMPLICATIONS, OPTIONS FOR THE EU 2013, P.7

In a 2013 EU policy briefing of the DG External Policies, the following was advised on the matter: *"[d]eveloping unconventional and shale gas in the EU could lead to a greater energy security, while providing a diversity of energy sources in energy dependent Member States, and ultimately reducing the EU's overall energy dependency"* (Directorate-General for External Policies, Policy Department DG, policy briefing: The Shale gas 'revolution' in the United States: Global implications, options for the EU 2013, p.15). It ultimately depends on whether or not extraction of shale gas is environmentally unfriendly, and if so, to what extent. Based either on preliminary findings, perception, or policy preferences, several EU states – among which some bearing shale gas basins on their national territory, have banned the practice altogether or placed a moratorium on extraction, as seen in Map 12 below the on the page after next. As we can estimate by the differing stances per Member State, the political decision on whether or not to permit shale gas exploitation is not an easy one. This is compounded by the fact that this is quite a disputed topic and seemingly somewhat shrouded in mystery. Therefore, to gain better understanding of the matter, I asked Mr Maciej to share his knowledge on whether or not there are negative environmental concerns and repercussions to the practice of fracking to obtain shale gas. Interviewer: *"[s]o, what about the environmental concerns here, because you're still, you know, you're putting a lot of chemicals underneath the ground?"* Mr Kowalski replied: *"[y]es of course, in any industry there are some risks and*

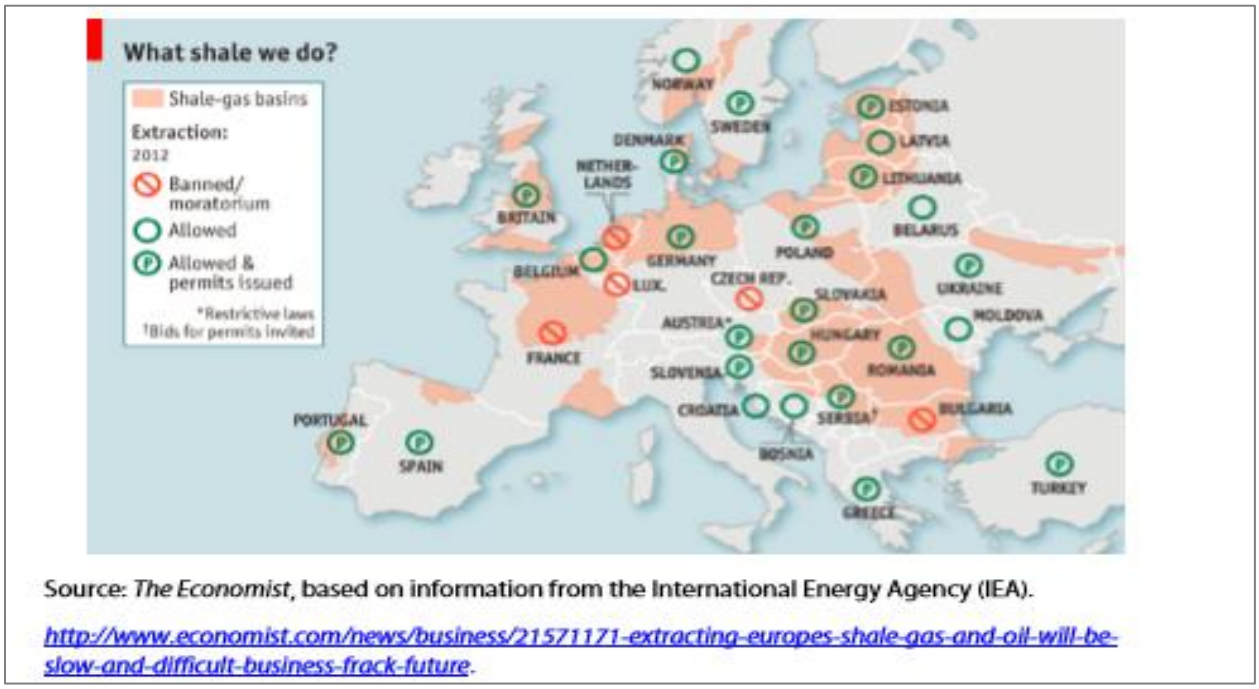
*all industries are aware of the risks that are associated with that. That being said, you compare this to a gas station that is sitting in the city centre or with any other energy source, including solar; the risk here is minimal. You have, admitted that, but you usually have…"* [Mr Kowalski proceeded to draw a picture of a layered geological formation wherein shale gas exists and a wellbore is installed] *"…you have anywhere from four to five layers of pipe separating you from any groundwaters or deeper waters here. And that, by the way, this pipe is separated also by cement. So after we case every section of the well, we cement it. So you're trying to crack through five or six layers of cement and to cross with steel. That's first of all. Second of all, your fracturing fluid, even if, for some unknown reason it would get out of the wellbore, the amount of fracturing fluid is one percent and you would lose a couple of litres. Compare this to running a truck into a river where you have a hundred gallons – a hundred litres of fuel: you will never get to that level. The risk is really minimal. It still is there; it's never been proven that, I mean these days they drill tens of thousands of wells, and fracked hundreds of thousands of fracturing stages. Never once did they prove that it contaminated any amount of groundwater. And also, you're pumping this here…"* [Mr Kowalski pointed at the drawing he made.] *"This is four kilometres long. We're trying to get a fracture that will extend maybe a hundred metres, two hundred metres, three hundred metres horizontally. And you're trying… and our vertical is maybe ten metres. And you're telling me that this water will travel four kilometres upwards? We wish it could travel this well. We can't have trouble getting it two hundred metres out of the wellbore – this path. But again, so we're going fifty metres up, maybe inches wide, two hundred metres in this plane and you have four kilometres of rock on top of you. Including impermeable rock and including different geological structures. For this water to travel the way up there it would take a long time and a tremendous amount of bad luck. That being said, of course it can happen: no-one will give you a guarantee it won't – for example there could be a fault here that helps it travel upwards."*

Thinking of the situation in the Dutch gas field in the northern part of the Netherlands where, after perpetual drilling for natural gas, earthquakes started to occur, the imagined the possibility of unstable fault lines due to disruptions in the gas levels underneath the soil came to mind (Van der Voort and Vanclay 2014, p.1). Interviewer: *"[t]here could be an earthquake."* Maciej Kowalski: *"[i]t's never been proven."* I also wanted to briefly ask about the matter of the possibility of groundwater contamination from fracking hinted to by Entrekin et al. (2011) and Davis (2012) yet not conclusively proven (Entrekin et al. 2011; Davis 2012). Interviewer: *"[b]ut then you can't, ok even if you don't use this water,"* [referring to any groundwater present at the fracking site] *"[y]ou can't use it anymore. I mean, even if the water doesn't travel up, hypothetically speaking, you wouldn't be able to use it anyway, because it's contaminated, right?"* Mr Kowalski replied: *"[w]ell that's not… you are using it and you're getting it back through the wellbore. It's coming back up after you suck it out."* Interviewer: *"[a]h yeah, but that's the water you put in. I'm talking about the groundwater that was already there."* Mr Kowalski: *"[o]h you don't have groundwater for kilometres. You have maybe a small – well, no, I'm sorry, sometimes you do, but it's just the water that sits there; you're not drilling a well to get some water out of it. You want to avoid it. If you get water in here you're in deep trouble because you will not be able to produce any gas. The water will suck into your wellbore and will block your gas and oil out, so it's a big risk for us financially, because this wellbore would be lost. We'd probably plug and abandon it."* Interviewer: *"[s]o where's the groundwater usually, at what kind of depth?"* Mr Kowalski: *"[a]nywhere up… usually around – the first layers, like, thirty metres then up to two, three hundred metres, I believe."* Interviewer: *"[o]h, that's a big difference with four kilometres; that will not touch each other."* Mr Kowalski: *"[y]eah, it is."* Interviewer: *"[s]o you have*

*like a lot of – what was it again - metal casing and cement, and it just stays there. People don't take this out anymore. Ok, that's interesting."* Mr Kowalski: *"[f]or you to imagine, we are talking – this wellbore, I drew it really big here…"* [Mr Kowalski pointed to the wellbore shaft on the sketch he had made earlier] *"…the largest part of it may be this big."* [Mr Kowalski held up his hands approximately 60 centimetres from each other] *"[a]nd the pole you'll be producing from will be may be twenty centimetres wide. And out of that, you get hundreds of millions of dollars' worth of gas and oil. That will give thousands and thousands of jobs and heat thousands and thousands of houses. So the footprint compared to a windmill, it's incomparable. And by the way, when it's done, you can plug and abandon it, you can make it whatever you want it. There's nothing staying on the ground. Nothing."*

Naturally, these are merely the views of one field expert and a meagre amount of literature on the topic; a definitive settlement of whether fracking is a wholesome idea in general and should or should not be applied in the EU goes beyond the scope of this research. Moreover, it is once more worth reminding that Mr Kowalski works in and for the petrochemical industry.

**Map 12: National stances on shale gas extractions in the EU**




SOURCE: DIRECTORATE-GENERAL FOR EXTERNAL POLICIES, POLICY DEPARTMENT DG, POLICY BRIEFING: THE SHALE GAS 'REVOLUTION' IN THE UNITED STATES: GLOBAL IMPLICATIONS, OPTIONS FOR THE EU 2013, P.16

In sum, we can say the following: on the one hand, the EU is pragmatic in its ideas regarding possible shale gas extraction from European soil, placing the focus on improving the level of energy security by lessening energy dependence on the Russian Federation. On the other hand, there is the EU clean energy and anti-pollution regulation to be dealt with. We have seen that the EC takes the lead in policy initiatives to render fracking a possibility in the near future. Yet, it would also be interesting to take the views of the European Parliament into account, as the EP is the voice of the European people and thus the most democratic EU organ. In 2012, a motion for a resolution was passed in the EP with a margin of nine votes on the topic of the industrial, energy and other aspects of shale gas and oil (Tzavela, Report on the motion for a European

Parliament resolution on the industrial, energy and other aspects of shale gas and oil, Committee on Industry, Research and Energy, 25 September 2012). In this report of the motion, the EP wishes to agree on a course of action in which to develop the extraction of shale petroleum products in an environmentally friendly way (Directorate-General for External Policies, Policy Department DG, policy briefing: The Shale gas 'revolution' in the United States: Global implications, options for the EU 2013, p.15; Tzavela, Report on the motion for a European Parliament resolution on the industrial, energy and other aspects of shale gas and oil, Committee on Industry, Research and Energy, 25 September 2012). The motion takes into account infrastructure, sales, the drop in energy prices in the US due to their shale revolution, the environmental aspect of the situation as well as the importance of supply security (Tzavela, Report on the motion for a European Parliament resolution on the industrial, energy and other aspects of shale gas and oil, Committee on Industry, Research and Energy, 25 September 2012)

In other words, a possible ban on the production of shale products was voted down, in favour of the creation of a monitoring scheme of checks and balances so as to ensure that if and when exploration and extraction were to take place, it would be done in the way least harmful to the environment (Directorate-General for External Policies, Policy Department DG, policy briefing: The Shale gas 'revolution' in the United States: Global implications, options for the EU 2013, p.15-16). This way, the EP could reach a compromise wherein both the environmentalists and the fossil fuel lobby could to some extent be satisfied. The Member States hold varying stances on fracking and shale extraction: from banning it to adopting a wait-and-see attitude, to actively encouraging exploration and production (Directorate-General for External Policies, Policy Department DG, policy briefing: The Shale gas 'revolution' in the United States: Global implications, options for the EU 2013, p.17-18). This incongruence between Member States is rather unsurprising given that both policy goals and priorities differ, amongst others based on the amount and type of fossil fuels found on the national territory, the wish or lack thereof to achieve greater energy independence, and the strength of lobby power. This situation is compounded by the fact that, as we have seen, opinions in the petrochemical industry and scientific community greatly differ and so far lack conclusive evidence to prove or disprove whether fracking and drilling might be harmful to the natural environment.

The general European public, for its part, mostly takes a cautious stance. The EU policy briefing concludes that although shale gas is unlikely to revolutionise the European gas market, individual MS stand to gain substantial monetary benefits from shale production depending on availability and national policy as well as national public opinion (Directorate-General for External Policies, Policy Department DG, policy briefing: The Shale gas 'revolution' in the United States: Global implications, options for the EU 2013, p.18). The briefing ends by recommending that continuous assessments are to be made in order for environmental safeguards to be abided by, while a regulatory framework is to be put in place to guarantee human and environmental safety (Directorate-General for External Policies, Policy Department DG, policy briefing: The Shale gas 'revolution' in the United States: Global implications, options for the EU 2013, p.18).

#### 4.3.4. Technological leadership: the EU's quest of switching towards renewables

When considering the matter of technological leadership in the field of energy, one quickly thinks of renewable energy sources. As mentioned in previous chapters, the EU and national governments are working to increase the amounts of green energy into the national energy mixes. In spite of the fact that

that this research focusses on oil and gas dependency, the study does wish to look for solutions to mitigate the reliance on Russian fossil products. I have already hinted towards the relevance of renewable energy at various points throughout this thesis: the EU's commitment to increase the share of renewables in national energy mixes has been discussed in Chapter 3. But what are we actually talking about here? I went to visit Professor Muyiwa Samuel Adaramola – an expert in the field of renewable energy – in Norway, and asked him the following question: *"[w]hen talking about renewable energy, what do we actually mean? Is there one general recognised definition of the notion of renewable energy, or are there various different kinds of countries that understand different things of this?"*[33] Prof. Adaramola answered: *"[y]es. Generally, there is all like a unique definition of renewable energy, and renewable energy is generally classified as 'energy that can renew themselves', as you are using the – for example solar energy. This is renewable energy, because the sun is always there: there is – you can't deplete it. The same with wind energy: the wind will blow every time, so it's not possible to deplete wind energy. Some also believe that waste also could be defined as renewable energy, because we use waste, we produce waste, and the waste can be used to produce gas too. So any source of energy that can sustain themselves and produce themselves."* Interviewer: *"[s]o is biofuel also one of these?"* Prof Adaramola: *"[y]eah, biofuel is, because it is derived from waste; because we produce waste every time. So as long as there will be waste, waste will still be in production. So, some will consider biofuel, biogas, as renewable energy. So it depends: some persons believe that a forest is a form of renewable energy."* Interviewer: *"[s]o that you don't cut down trees faster than you can plant them back."* Prof Adaramola: *"[y]eah. So then you can consider a forest as* [a form of] *renewable energy."*

As the binding 2020 target of 20% use of renewable energy in national energy mixes has been agreed upon as well as a strong commitment to at least 27% of renewables by 2030, the EU and its Member States are turning newly acquired norms of clean energy into business opportunities (c.f., European Commission, Energy, Events: EU leading global technology and innovation renewable sector world future energy summit). To place this into its global context: now that the United States of America are pulling out of the COP21 climate accords, other states and entities among which China and the EU see a niche in the global energy market to become technological frontrunners. To present the EU discourse on this matter which more convincingly expresses commitment, Mr Jean-Claude Juncker, President of the European Commission, notes: *"[w]e need to strengthen the share of renewable energies on our continent. I want Europe's Energy Union to become the world number one in renewable energies. This is not only a matter of a responsible climate change policy. It is, at the same time, an industrial policy imperative if we still want to have affordable energy at our disposal in the medium term"* (European Commission, Energy, Events: EU leading global technology and innovation renewable sector world future energy summit). To emphasise the stature of this endeavour on the path to becoming a technological leader while developing and applying new technologies in a profitable way, the implementation of a growing share of renewable energy is set to become part of the €300 billion joint EU fund called the Jobs, Growth and Investment Package (European Commission, Energy, Events: EU leading global technology and innovation renewable sector world future energy summit).

[33] Despite the somewhat awkward phrasing towards the end of the question, I meant to ask if different meanings of the term 'renewable energy' circulate, or whether a widely accepted definition exists.

Yet how much renewable energy is 'enough' – what is the optimal balance between fossil fuels and renewable energy in the average European energy mix? I asked Prof Adaramola: *"[w]hat do you think is the right share* [of renewables] *within the European Union's energy balance, and how would you decide this, what that right share would be?"* Prof Adaramola answered: *"[i]t's a difficult thing to do, because, I mean, when we talk about a share, I guess is – like for example in Norway, it's more like the production is* [unintelligible] *mostly over ninety-five percent, because we produce a little from hydropower. (…) So it's difficult to say specifically, but then if you follow the EU Regulation, then they might be taking maybe twenty percent for now, or maybe thirty percent what could be.* [The] *problem is: it's difficult to decide, and possibly unfortunately because of infrastructure."*[34] The professor draws the attention to the fact that European countries are so different in their respective shares of green energy in the domestic energy mixes. The dissimilarities are striking when considering that Norway (not an EU Member State) runs nearly exclusively on hydropower, when some MS lag behind the target of 20% renewables in 2020. From a stereotypical point of view, one might be inclined to think the eastern and southern Member States would be lagging behind more than the northern and western countries. Yet the statistics – as seen on the next page – show otherwise: we see that Latvia holds a place in the top three, while Estonia, Portugal, Croatia, Lithuania, and Romania are all mentioned in the top ten best performing countries (Eurostat: Share of energy from renewable sources in the EU Member States).

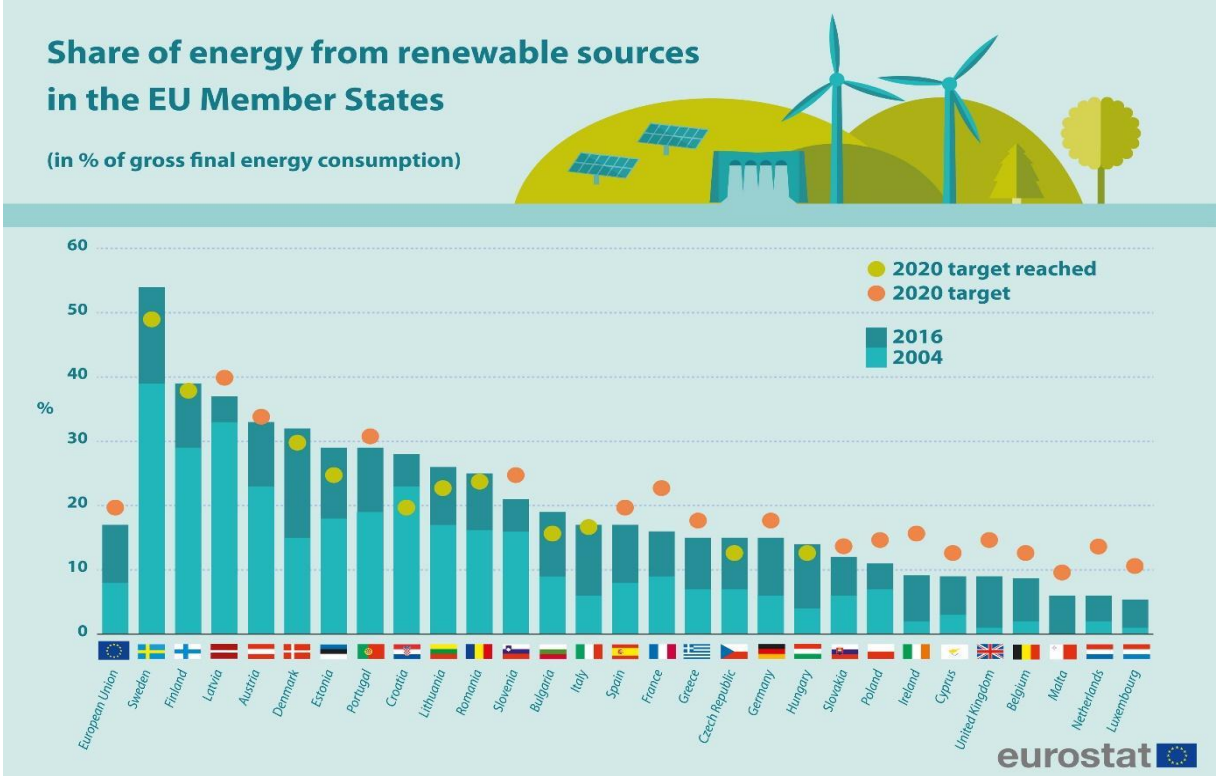
Conversely, four out of five worst performing countries are north-western EU states, this being the United Kingdom, Belgium, The Netherlands, and Luxembourg (Eurostat: Share of energy from renewable sources in the EU Member States). An important side note to this, however, is that due to the 20% benchmark, the goal differs per country. For this reason, Professor Adaramola preferred not to answer the question regarding what constitutes 'enough' green energy in the EU energy mix – the states differ too greatly amongst themselves to draw parallels. The large disparities between countries effectively complicate efforts to mainstream effective policy for a transition towards greater amounts of renewables in the European fuel mix. The above is a testament to the notion that the possible creation of a single European energy market with a common energy policy is rather unrealistic at this point – not to mention the lacking infrastructure and different stances towards dependence on Russia. Following along the lines of the argument and statistics above, how can the Member States attain their 20% goal of renewables? If we know this, when we can find out what could be done to increase the amounts of green energy per Member State, and whereupon success lies in this matter.

I asked Professor Adaramola the following: *"[t]he share of renewable energy in the energy mix: does it depend upon the resources found in the specific country, or is there an independent measure? For example: this country has a lot of trees, that country has waterfalls…"* Prof Adaramola responded: *"[t]hat is the goal of the EU: that in terms of the overall global energy mix it's truly possible, because Norway has a strength in hydropower, so maybe Denmark's strength is in wind energy. So, for that to happen – like I said before – is a matter of infrastructure. So, which means, the EU has to be connected together. And the problem manage are different locations that can us let it control. So the goal is to look at an area where each of them has strength. The idea is maybe solar will be the dominant from Spain, Denmark, Italy – everywhere, because they have more resources in that area. So it's more like the area which we initially*

[34] I am unsure of the correctness of the last words of this sentence, but cannot quite understand it better than what I have written down.

*don't have enough constructed. Who put those, then you have the installations where the greatest connector – you have a cable from Norway; they're connected to mainline Europe over there you have some… I mean, currently, there are cables like that: from Norway to Denmark, from Norway to Netherlands, to Germany and so on* [unintelligible] *from Norway to UK. So, that's good, that each country* [is] *actually going to have some strengths."*

**Figure 5: Share of energy from renewable sources in the EU Member States**




SOURCE: EUROSTAT: SHARE OF ENERGY FROM RENEWABLE SOURCES IN THE EU MEMBER STATES

There is a lot more I could write about the state of technological research and leadership in energy by the European Union, however as pointed out above, that is not the focal point of this thesis, but more of a possible solution offered aside from diversification. It thus suffices to find out whether the commitment anchored in the form of legal EU agreements on the one hand, and political will and concrete endowments of funding on the other, make for an investment climate wherein R&D is welcomed and encouraged in the European Union. Although the push for a favourable investment and research climate may seem a given, it is not: judging from the numbers in *Figure* 5, we see that there are plenty of MS where incorporating renewables does not seem to be the highest policy priority. Seeing as Prof Adaramola is a leading expert in the field of renewable energy technology, he told me why this is. Interviewer: *"[w]ith regards to infrastructure and technology: would you say that the technology is already there to save energy – in the batteries, for example?"* The Professor said: *"[i]t's expensive now." Interviewer: "[s]o, the technology is not really… a cost-benefit analysis would not really be…"* Professor Adaramola: *"[y]eah, it's not viable financially. The technology is there, but it's not yet economically viable."* That being said, however, this does not mean that barely anything is being done in terms of R&D in the field, or that any efforts made are done so reluctantly because of 'orders from Brussels'. The President of France, Mr

Macron, notably decided to welcome American climate researchers in France to assist in the efforts of clean energy research (Twitter, @Emmanuel Macron, 9 February 2017).

### 4.3.5. Conclusion

This sub-chapter looked at the second facet of Baumann's theoretical framework: the economic dimension of energy security. Firstly, energy markets were discussed. The national energy markets in Europe are to be merged into one common energy market, a goal set to be accomplished through the EU Energy Packages. The European Commission hopes among others to curb energy dependence and boost renewables in the energy mix through the initiative of the Energy Packs. I quickly found the main bottleneck to the completion of this policy goal to be a deeply fragmented energy market with a plethora of dissimilarities between Member States. The compliance with EU energy law by having to abide by common standards can namely be seen as a way to improve efficiency and strengthen the Union as a whole; it can also be perceived as a meddlesome way to force unnecessary rules on sovereign states. Thus, it is all a matter of perception. Some countries, like France and Germany, have voted leaders into office that are pro-EU and want integration to continue in order to strengthen the common standing of European states in the world. Meanwhile, other states such as Hungary and Poland have elected Eurosceptic leaders who resist assimilation of rules and regulations from 'Brussels' into their national law, disliking the influence on, and to some extent shaping of their policy directions. If the EU states succeed in forming one energy bloc that purchases energy at a single rate from supplier states such as Russia, this would diminish the fees paid for energy and increase energy security. Nevertheless, as pointed out by Ambassador Hommel, it would also make the EU a much less desirable energy trade partner. What is more, any and all energy trade tariffs with third countries would have to be decided in agreement with all Member States, which would significantly lengthen and complicate trade negotiations. As of yet, it is unclear as to what will be decided on the topic of energy markets. The only thing that can be said for sure, is that the last word on the debate between market regulation on the EU level and market liberalisation on the MS level has yet to be written.

The next subsection concerned International trade, which started with a succinct remark on the nervousness of two regional gas supply states to the EU – Algeria and Norway – and how further EU integration in the field of energy does not hurt their chances of catering to European states. From gas, I went on to two interview answers on oil markets from the expert respondents whom I had interviewed. Mr McCown sees global market stability regarding oil, while Mr Vladimirov has observed a drop in oil prices. Since the price of natural gas is bound up with the oil price, this had dropped also, at the time of the interview. Mr Vladimirov argues that this price drop has for the most part yielded positive results for countries that have less strong traditions of current account saving on the balance of payment than countries that save a lot. When then looking at how the EU has been doing from a domestic perspective (between the years of 2003 and 2013), we have seen both a drop in domestic energy production, and in consumption (having most likely to a greater or lesser extent to do with ever-increasing energy efficiency). The research also notes a rise in energy exports, as well as in energy imports from outside the Union. These data seem a little counterintuitive: production levels decrease, yet exports are on the rise, while consumption diminishes and imports increase. I have no clear explanation for these findings other than that these are all European averages, meaning that they would make more sense if viewed in a national context.

I subsequently looked into the matters of collective bargaining and diversification – using the example of shale gas. The strategy of collective bargaining seeks to put more power in the energy negotiations with third country suppliers in the hands of the European States by putting up a single external energy tariff. Although collective bargaining sounds empowering in theory, as it would end differing energy fees per MS, there are many practical hurdles to be taken. These range from all Member States having to agree on the height of the tariff, and having to apply it to all third countries, to thusly rendering the Union a less interesting energy trade partner. Perchance, instead of (or additionally to) collective bargaining, the EU could diversify more; not just in terms of supplier states, but also regarding energy types. One option to do so, is to employ greater amounts of shale gas into the energy mix. This example was chosen, because it is a fossil fuel and gives balance to the already large parts in the thesis attributed to green energy. It is also because of the shale gas revolution that took place in the United States at the beginning of this century, which raises the interest regarding shale gas (and other shale products) as a diversification option that could be considered. The research investigated the opportunity and found that shale gas is not viable if imported from faraway places – high transportation costs would drive the price up to beyond the point of profitability for either client or supplier. As for domestic production, the Member States differ greatly in their views towards shale products. Research has yet to conclusively prove whether extraction of shale gas or -oil is safe or environmentally damaging. Opinions vary and are influenced by the background of the groups who lobby in favour or against. While research and public- as well as political debate continue, it is unsurprising that many EU states chose to place a moratorium on shale extraction, while others have banned it altogether.

Finally, technological leadership has almost come to be seen as synonymous with renewable energy. Although stereotypes on 'who is the greenest' have been shattered, the relative goal posts of the European climate agreements have made it somewhat easier for some countries to accomplish their targets than for others. Professor Adaramola advises each Member State to find the renewable energy type – or types – it excels in, and make use of it via harnessing infrastructure accordingly (interview with Professor Adaramola). The Prof also recommends more interconnections between Member States to share renewable energy with one another, but as much technology is so novel that it is too expensive to be economically viable for market usage at this stage, we will have to wait for this.

## 4.4. Implementation of the geopolitical dimension

### 4.4.1. Introduction

The topic of this sub-chapter is the geopolitical dimension of Baumann's theoretical framework. In subsection 4.4.2 we will start by looking into the state of implementation of transnational energy networks, followed by implementation of the Energy Charter Treaty in 4.4.3, Re-nationalisation of energy networks in subsection 4.4.4 and the state of application of soft power in energy negotiations in 4.4.5. A few concluding remarks are then made and (former) Danish Ambassador to Poland, Mr Steen Hommel, shares his views on geopolitics in the context of energy dependency.

### 4.4.2. Transnational energy networks

The subsection on transnational networks in many ways resembles subsection 4.2.2 on infrastructure investments. In essence namely, these are two sides of the same coin: the construction of the transnational networks cannot take place without the allocation of funds and infrastructure investments. In order to prevent repetition, this subsection will concentrate itself on the plans for and application of the Trans-European Networks for Energy or TEN-E strategy, since the precise facts and figures regarding infrastructure investments in general have already been discussed. The TEN-E strategy is the chief EU-wide approach employed to connect the EU as a whole in terms of energy. TEN-E has marked eight priority corridors and three priority thematic areas (European Commission: Trans-European Networks for Energy). As is the case with the PCIs, priority status is designated to those energy corridors and projects (spanning across at least two MS) that require immediate attention in the field of gas, oil or electricity, to help connect remote conduits to the main EU energy grids (European Commission: Trans-European Networks for Energy). Their priority status is meant to boost investment when deemed less than interesting to traditional investors, prepare conduits for the transport of renewable energy as they *"(…) may benefit from accelerated licensing procedures, improved regulatory conditions, and access to financial support"* (European Commission, INEA, Energy Priority Corridors). The following areas have been earmarked as priority corridors:

1. Northern Seas offshore grid;
2. North-South electricity interconnections in Western Europe;
3. North-South electricity interconnections in Central Eastern and South Eastern Europe;
4. Baltic Energy Market Interconnection Plan in electricity;
5. North-South gas interconnections in Western Europe;
6. North-South gas interconnections in Central Eastern and South Eastern Europe;
7. Southern Gas Corridor;
8. Baltic Energy Market Interconnection Plan in gas (European Commission, INEA: Energy Priority Corridors).

Each of these priority regions oversees several different projects. For example, in sector one, the Northern Seas offshore grid, we find project 1.7.2-0049-UKFR-S-M-15, which concerns an interconnector between France and the United Kingdom and is currently in the final stages of project development (European Commission: IFA2 Final Project Development). Specifically, this regards a subsea 1000 MW and 320 kV HVDC interconnector which receives a 50% contribution in the total costs of €11.914.000, which amounts to €5.957.000 (European Commission: IFA2 Final Project Development). In this way, 27 Projects of

Common Interest (PCIs) (of 195 PCIs in total) are part of Priority Corridor 1 (European Commission: Projects of common interest). It is rather unsurprising that France is collaborating closely with its regional fellow EU States: after all, Reymond reported that France imported a whopping 96% of its gas in 2007 – rendering the country highly vulnerable and energy insecure (Reymond 2007, p.4174). Unfortunately, not much information is given about the actual current state of implementation. Aside from the start and planned end date as well as the status 'on-going', we are none the wiser where this is concerned. Even those plans of which the deadline has passed still state they are 'on-going', such as the Midcat gas pipeline between France and Spain which passed its deadline in December 2016 (Conceptual and FEED studies (French part of the Midcat project)).

In this same fashion, there are also priority gas corridors and a priority oil corridor:

Priority gas corridors:

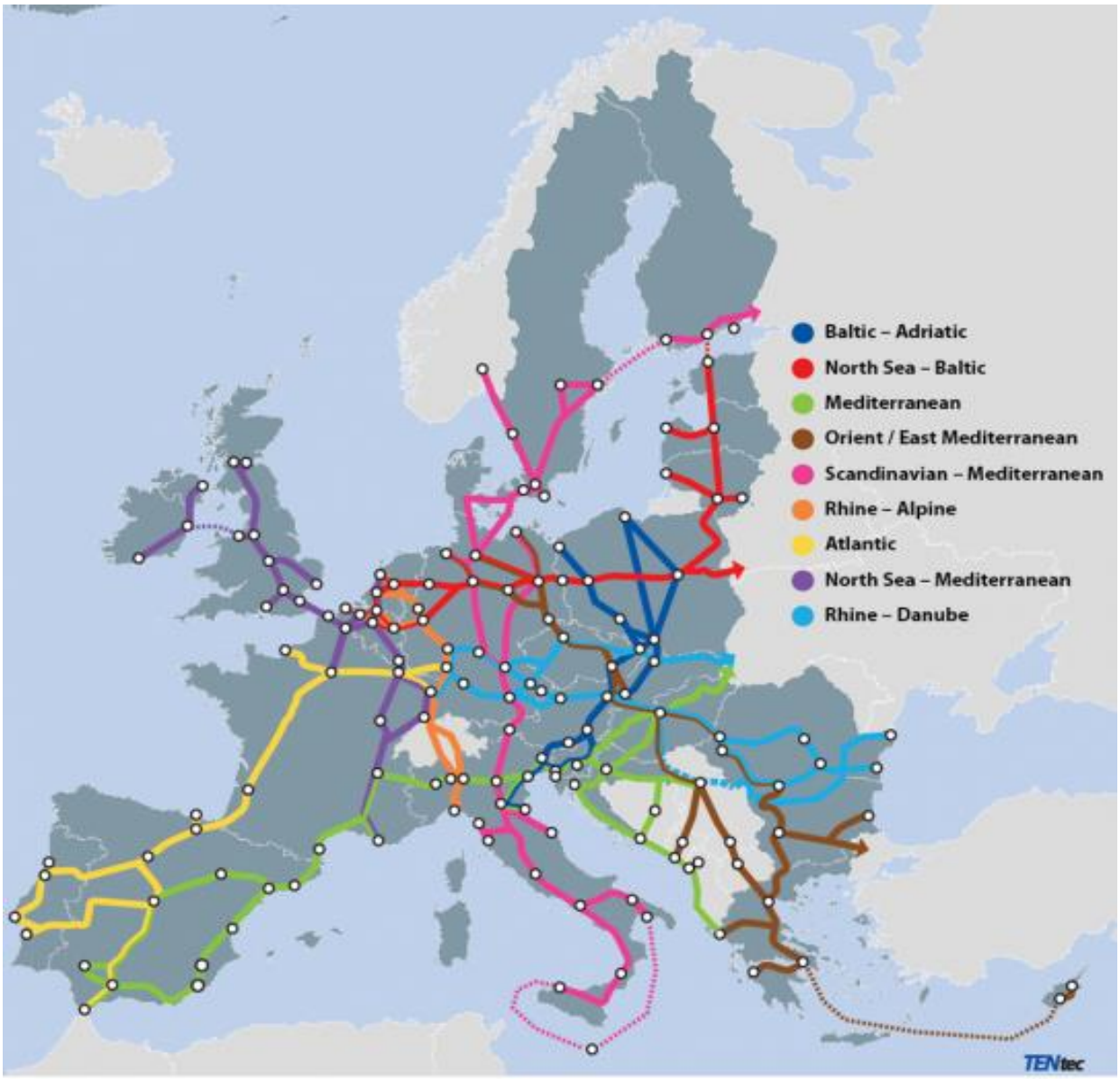
- North-south gas interconnections in Western Europe ('NSI West Gas'): Gas infrastructure for north-south gas flows in Western Europe to further diversify routes of supply and for increasing short-term gas deliverability.
- North-south gas interconnections in central eastern and south eastern Europe ('NSI East Gas'): Gas infrastructure for regional connections between and within the Baltic Sea region, Adriatic and Aegean Seas, eastern Mediterranean Sea and Black Sea, and for enhancing diversification and security of gas supply.
- Southern Gas Corridor ('SGC'): Infrastructure for the transmission of gas from the Caspian Basin, Central Asia, Middle East and eastern Mediterranean Basin to the EU to enhance diversification of gas supply.
- Baltic Energy Market Interconnection Plan in gas ('BEMIP Gas'): Gas infrastructure to end the isolation of the three Baltic States and Finland and their dependency on a single supplier, to reinforce internal grid infrastructures, and to increase diversification and security of supplies in the Baltic Sea region (European Commission: Trans-European Networks for Energy)

Priority oil corridor:

- Oil supply connections in central Eastern Europe ('OSC'): interoperability of the oil pipeline network in Central Eastern Europe to increase security of supply and reduce environmental risks (European Commission: Trans-European Networks for Energy).

The European Commission has created a schematic view that displays EU's entire energy grid as it is planned to look like upon completion of the Energy Union, as seen in Map 13 below.

**Map 13: planned Energy Union upon completion portraying interconnected regional energy grids**




Note: the nine TEN-T core network corridors are based on the CEF and TEN-T Regulations (1316/2013 & 1315/2013); they have been created as a coordination instrument to facilitate the completion of major parts of the core network of strategic importance.
Source: European Commission, Directorate-General for Mobility and Transport, TENtec Information System

SOURCE: EUROSTAT WEBSITE, FILE:TEN-T CORE NETWORK CORRIDORS (FREIGHT AND PASSENGER) RYB17.PNG

This, however, is a rough depiction and is not extremely precise, yet we can clearly see how the different EU regions all have their respective energy grids which are interconnected to the other regional grids. According to research centre Norton Rose Fulbright, it is not yet too late for structural change regarding investments, but the current investment proposals made provide too few funds to really create a pan-EU energy system on the one hand, while its feasibility remains to be seen and will depend on investment risks on the other (Gärdfors 2014, p.15). This brings us back to the issue of the state of factual implementation of those specific energy projects (in part) funded by EU monies. The key here is political will, as is with infrastructure investments and frankly all other parts of implementation of any common

EU energy policy. We have also seen in Map 1 precisely what is to be put in place in the near future – this shows that there surely still is a lot to achieve before the aimed transnational networks that connect the entire European continent are in place and operational. The TEN-E strategy paints the same picture: that of high aims, but little factual integration, as Member States continue to see energy flows as a national state affair. This could be deemed as rather illogical, as very few MS generate enough energy (be it fossil or renewable) to sustain themselves in an autarkic manner. Even more so, all are dependent upon energy imports either from other European countries like Norway, or from Russia. This in turn means that that energy must be transported via other Member States to reach its target market. From a logical, security and economic perspective, it would thus be recommended to closely co-operate and construct transnational networks and interconnectors. Yet political reality is socially constructed, as argued in the theoretical chapter of this research, and states wish to guard their national markets and infrastructure while trust of and willingness to co-operate with other Member States may be at sub-optimal levels, effectively hindering the EU energy project.

I asked Mr Kowalski for his opinion on the ambitious plans the EU has to expand and interconnect regional grids with one another. Interviewer: *"[d]o you think there will ever be one European grid, or two, or three – for example one in the south, one in the middle and one in the north?"* Mr Kowalski unfortunately wished not to answer this question, as he is does not work in the mid-stream industry.

### 4.4.3. The Energy Charter Treaty

The basic facts and dates as well as ideas behind Energy Charter Treaty (ECT) have briefly been discussed in preceding chapters. To concisely recapitulate, the ECT is an international framework in the field of energy (International Energy Charter, Process, Energy Charter Treaty (1994): The Energy Charter Treaty). The four key pillars of the ECT are as follows:

- the protection of foreign investments, based on the extension of national treatment, or most-favoured nation treatment (whichever is more favourable) and protection against key non-commercial risks;
- non-discriminatory conditions for trade in energy materials, products and energy-related equipment based on WTO rules, and provisions to ensure reliable cross-border energy transit flows through pipelines, grids and other means of transportation;
- the resolution of disputes between participating states, and - in the case of investments - between investors and host states;
- the promotion of energy efficiency, and attempts to minimise the environmental impact of energy production and use (International Energy Charter, Process, Energy Charter Treaty (1994): The Energy Charter Treaty).

Through its four issue areas, the ECT elicits trust, checks and balances and good governance in energy affairs as well as fair trade standards. Trust is of vital importance, because when a state does not trust another state, it is not eager to close a deal on a vital and thus sensitive matter such as energy. Theoretically speaking, this notion is found in neo-liberalism, which argues that through co-operation in international institutions and organisations, trust is gained and suspicion can to a certain extent be overcome when collaboration proves mutually beneficial and honest in nature (Proedrou 2007, p.329). As such, the value of an international framework such as that of the ECT, will entirely depend on how many

and which states have ratified its Charter. Now, as mentioned earlier, all EU Member States as well as all Member States of the Atomic Energy Treaty have signed and ratified the ECT as well as several other states. This renders the Energy Charter Treaty a force to be reckoned with in international energy dealings and law. Interestingly enough, as we have seen above: Russia is a signatory state, but has not ratified the ECT – nor has it set a date for ratification. This means that by international law, Russia cannot be bound by the Energy Charter Treaty and as such is not required to act in accordance with it, regardless of its signatory status (International Energy Charter, Process, Energy Charter Treaty (1994): The Energy Charter Treaty). This makes Russia a somewhat unpredictable player in world energy politics, as technically speaking, Russia could flout all the ECT's principles if it so wished and the other Charter Members could not litigate against these actions. The EU attempts at norm exportation through the ECT: it efforts to inspire Russia to adhere to the same rules and standards the EU and its Member States abide by (Helén 2010, p.2). According to researcher Henry Helén, the EU tries to institutionalise the energy relationship and convince Russia to align its energy policy with market principles, yet this scenario has not materialised and is very unlikely to in the future (Helén 2010, p.2).

To conclude, it can be stated that the strength of the ECT stands and falls with its ratification and implementation. The fact that the Russian Federation has not ratified the Energy Charter Treaty does not mean that it has ill intentions, that it will or seeks to undermine the Charter's fundamental principles, or that it will never ratify the ECT Charter. However, it has been established from a theoretical and practical point of view that trust is crucial, particularly in sensitive matters such as energy.[35] As such, non-ratification of a widely respected international framework eliminating the possibility to contest possible ill-intentioned actions in court can leave state partners in energy trade to feel the state in question may have a surprise up its sleeve that could have negative effects on the state of energy security of its partners. In sum, when looking at this situation from the perspective of Baumann's framework, energy security remains rather low between the EU and Russia where the ECT is concerned. This is chiefly due to perceived risks and an alleged lack of mutual trust. On the other hand, however, Russia is indeed co-operating with EU states beyond the ECT framework. A factual reason backed by hard evidence that leads all EU states to doubt Russian intentions may not present itself in the near future, yet as we have seen in the beginning of this thesis: perception matters in politics and policy-making – indeed more so than do hard facts.

#### 4.4.4. Re-nationalisation of energy networks and -infrastructure

Nationalisation or renationalisation, the act of placing a private company under state control, is an interesting practice to consider in the field of energy politics. Although it is very likely Baumann means nationalisation of Russian enterprises, it strictly speaking does not become clear from his theoretical framework whether he speaks of renationalisation of European or of Russian energy companies. However, to be sure, it is also necessary to take into account the EU's position where renationalisation is concerned, as this is the main topic of the research. Although EU law has strict rules in relation to nationalisation, state aid and monopoly formation, it is technically not illegal to do so. Legally speaking, art. 106 of the Treaty of the Functioning of the European Union (TFEU) provides the following: *"[a]rticle 106 (ex Article 86 TEC)*

[35] For the argument as to why energy is a delicate issue area in the view of states, please see the Introduction of this thesis.

1. *In the case of public undertakings and undertakings to which Member States grant special or exclusive rights, Member States shall neither enact nor maintain in force any measure contrary to the rules contained in the Treaties, in particular to those rules provided for in Article 18 and Articles 101 to 109.*
2. *Undertakings entrusted with the operation of services of general economic interest or having the character of a revenue-producing monopoly shall be subject to the rules contained in the Treaties, in particular to the rules on competition, in so far as the application of such rules does not obstruct the performance, in law or in fact, of the particular tasks assigned to them. The development of trade must not be affected to such an extent as would be contrary to the interests of the Union.*
3. *The Commission shall ensure the application of the provisions of this Article and shall, where necessary, address appropriate directives or decisions to Member States"* (Eur-lex: art. 106 TFEU).

It has been established that the EU only allows nationalisation when rigorous criteria are adhered to. In light of this binding piece of legislation as well as taking into account the governmental ties between several of the largest Russian oil and gas companies and the Russian federal government, we can deduce that it is highly plausible Baumann is referring to Russian multinationals being re(nationalised). This claim is supported by the fact that it becomes clear from this statements that Baumann holds a negative and rather worrisome stance towards re-nationalisation. He namely deems it a suboptimal economic outcome that could yield negative political socio-political repercussions, as elucidated in this quote: *"[t]he nationalization of the energy business hinders the workings of economic rules and enables that political motives become predominant, which causes at least one negative effect: state-owned companies do not always respect market rules and may instead be involved in domestic or even international politics"* (Baumann 2008, p.8). As mentioned in the theoretical chapters of this thesis, the research focusses on the position of the European Union in energy affairs. As such, looking at Russian renationalisation technically goes beyond the scope of the research. That being said, what can be looked into is the EU view of Russian nationalisation of oil and gas companies. European companies are not allowed to receive state aid from EU Member States unless it can be proven highly necessary in which case the strict rules hinted towards above are to be followed that prevent any market distortion and maintain transparency (European Commission, Competition, State Aid: State aid control).

Russia started to politicise its energy policy towards foreign client states, which made for a conflation of foreign trade and foreign energy policy (Finon and Locatelli 2008, p.425). *"Russia's state apparatus disintegrated, its international position deteriorated, and market rules were imposed on the economy with little benefit"*, upon which President Putin decided to make Russia into an *"(…) ''energy super-power'' and play a key geopolitical role by positioning itself as an essential supplier for major regional energy markets and by organising competition between consumer countries and regions to boost its importance"* (Finon and Locatelli 2008, p.425). The government extended control over the country's energy resources, took a majority of shares in the energy companies, used energy revenues to finance the state, and extended their sphere of influence to former Soviet satellites *"(…) to control recently exploited reserves and exports"* (Finon and Locatelli 2008, p.425). Finon and Locatelli (2008) note that *"[i]t also includes rich European countries where they are keen to play a part in downstream activities and tighten their hold on revenues along the entire value chain. The Russian state does not hesitate to pre-empt companies to secure the country's energy resources and ensure that they are properly exploited. The*

*shake-up in the oil and gas industries since 2001 has enabled the development of production, transport, and exploitation resources to be reorganised under direct control of the state"* (Finon and Locatelli 2008, p.425). At first glance it may seem as if the Russian state is strong and all-powerful because of these actions, but on second thought we see that the opposite is true: Tompson (2006) explains that the fact that the Russian government could nationalise the energy industry and control business, uncovers the inherent weakness of Russian institutions and checks and balances (Tompson 2006 in: Finon and Locatelli 2008, p.425).

We see that Russia does not operate by EU norms, values and procedures: it not only assists companies financially at will; as noted, it actually subjects energy companies to full or partial state control, and uses this power as a political and policy tool (c.f., Proedrou 2007, p.333). This becomes clearest in an apt quote by researcher Filippos Proedrou: *"(…) there is ample evidence that the Russian state has managed to reinstate control of the energy sector and forces the energy business to adjust its policies to serve the state's goals"* (Proedrou 2007, p.333). This way, a level playing field in which both European and Russian energy companies can compete on the European market from a basis of equality and fairness cannot be created. This is because with state backing and infinite funds, Russian companies will always be a step ahead as they are not bound to the same rules as are European corporations. This evidently poses a considerably trade risk for EU oil and gas companies. What is more, Russia is a deeply corrupt country: it *"(…) ranks 147th out of 180 surveyed countries in Transparency International's 2008 corruption perception index"* (Christie 2009, p.274). Christie (2009) worries that *"[b]ribery is a potential problem, because it means that Russia may be able to buy the acquiescence of European politicians for energy projects or transactions that are not in the public interest"* (Christie 2009, p.275).

In order to try and create a certain level playing field between both groups of energy companies, the European Commission has negotiated an antitrust with Russia which stipulations include: *"(…) restrictions to re-sell gas cross-border are removed once and for all and facilitating such cross-border flow of gas in Central and Eastern European gas markets; Gas prices in Central and Eastern Europe reflect competitive price benchmarks; and Gazprom cannot act on any advantages concerning gas infrastructure, which it obtained from customers by having leveraged its market position in gas supply"* (European Commission, Press releases database, Press Release details: Antitrust: Commission invites comments on Gazprom commitments concerning Central and European gas markets, 2017). These commitments can be made legally binding on Gazprom following Article 9 of the EU's antitrust Regulation 1/2003. This means that the Commission is even authorised to penalise Gazprom in case it does not keep to the agreed upon antitrust rules with a fine that could total up to maximum ten percent of Gazprom's global revenue (European Commission, Press releases database, Press Release details: Antitrust: Commission invites comments on Gazprom commitments concerning Central and European gas markets, 2017). This way, European companies are still protected while having to abide by EU legislation and can compete with Russia in a safer manner on the European energy market. Naturally, this subsection can but highlight a few issues in the larger matter of state aid, its repercussions and the response by other players on the market. Going into this further goes beyond the scope of this research, as this sub-topic focusses on the behaviour of the EU and EU MS rather than on Russia – while EU laws and rules pertaining to renationalisation are clear and strict and therefore do not necessitate further discussion in this thesis.

Meanwhile, not only have we seen that Russia operates on international markets using dual pricing schemes, Haghighi (2007) has explained, the state also exerts control over the buying and selling of energy so that it can be sure its products are kept in high demand (Haghighi 2007, p.276). Daniel Yergin writes: *"[e]nergy-exporting countries focus on maintaining the 'security of demand' for their exports, which after all generate the overwhelming share of their government revenues. For Russia, the aim is to reassert state control over 'strategic resources' and gain primacy over the main pipelines and market channels through which it ships its hydrocarbons to international markets (…)"* (Daniel Yergin in: Pearson et al. 2012, p.140). From this perspective, it is not that strange that the Russian government actively uses its control over Gazprom for national benefit: a crucial part of governmental income is gained through Gazprom's energy sales to foreign states. Furthermore, Christie (2009) reminds us of how the Kremlin does this, saying that *"(…) the combination of scarcity of resources and high and rigid market penetration (i.e. through control of the cross-border transportation channels) is the optimal way of obtaining pricing power over consumer countries"* (Christie 2009, p.275-276). To conclude, while it does not wish to stop state aid in general, the Commission's antitrust agreement with Gazprom can be seen as a safeguard mechanism to prevent or at least diminish possible future malpractice from the Russian side. From this perspective, the European Commission's legislation, harmonised standards and norm exportation indeed help to indirectly as well as directly increase energy security in the EU. The notion and power of norm exportation will be discussed next.

### 4.4.5. Soft Power

We have seen in subsection 4.4.3 how the EU employs soft power in its energy relations with Russia: one of the tools it employs in this to exercise this, is that of norm exportation. The EU uses among others the Energy Charter Treaty to inspire Russia to play by the same rules and standards as do the EU and its Member States. Russia's continuing refusal to ratify the Charter proves that this particular soft power tactic has failed. Another soft power approach employed in 2006 concerned the aforementioned energy partnership the EU wished to found with the Russian government: *"[a] true partnership would offer security and predictability for both sides, paving the way for the necessary long-term investments in new capacity. It would also mean fair and reciprocal access to markets and infrastructure including in particular third party access to pipelines. Work should start on an energy initiative based on these principles. Subsequently the results could be integrated into the framework of EU-Russia relations due to replace the current EU-Russia Partnership and Cooperation agreement in 2007"* (Commission of the European Communities, Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy 2006, p.15). As the quote makes clear, the EU wishes to achieve the opening of markets – which would create a level playing field between the two entities as equal partners in energy trade, since EU energy companies would gain full access to the Russian market. The European Commission tried to persuade Russia into this partnership by stressing mutual interests. As I have proved earlier in this research, one of the principal facets of the Russo-EU energy relationship is its interdependent character. The EU is dependent on Russia for energy and Russia on the EU for hard currency revenue strengthening its GDP. However, upon inspection of Russia's behaviour, is seems that open and full access to its markets, greater EU energy security, reduction of EU energy dependency, an increase of Russian dependency on Europe, a level playing field in energy trade, predictability and third party access to pipeline networks are all principles that run counter to Russian foreign policy objectives. Governmental financial assistance for state-owned

or partially state-owned petroleum companies and the unchallenged monopoly position of Gazprom in its perpetual role of sole operator of the gas lines in Russia seem to be vital policy outcomes. It should thus come as no surprise that over a decade after the Green Paper presented by the European Commission, this proposed partnership has not amounted to any concrete steps taken.

The above logically takes us to a discussion on interdependence and mutual dependence, as these conditions shape soft power tools and their applicability. As briefly mentioned in Chapter 3, the theory of mutual dependency, developed by Keohane and Nye, goes beyond the well-known neo-realist versus neo-liberalist divide of conflict as opposed to collaboration: the foundational notion of anarchy in international relations is abandoned in favour of the concept of interdependency (Proedrou 2007, p.332). Keohane and Nye expound that the concept of interdependence theorises that even though a situation of interdependence is likely to diminish the chance of conflict due to shared and mutual interests, the risk of conflict is never completely eliminated (Keohane and Nye in: Proedrou 2007, p.332). They go on to argue that when interdependence is found to be asymmetrical (meaning one is more dependent on the other than the latter on the former), this asymmetry may be exploited as leverage or a tool to exert power (Keohane and Nye in: Proedrou 2007, p.332). Considering that the definition of the term 'soft power' used in this research is *"(…) getting others to want the outcomes that you want* – [soft power] *co-opts people rather than coerces them. (…) Soft power rests on the ability to shape the preferences of others"*, the exertion of pressure and influence over another state in an asymmetrical position of interdependence qualifies as soft power (Nye 2004, p.5). Putting theory into practice, Proedrou (2007) reminds us that the European Union endeavours to diversify away from Russia in order to lessen dependency – in this effort, it also steps up its determination to employ a greater share of renewables in the EU energy mix (Proedrou 2007, p.335-336). He adds to this that *"(…) interdependence can become a major factor for stabilisation. The EU and Russia, to take a further example, have cemented their decades-long energy partnership and, despite some mishaps, maintain the benefits that accrue from it. In this light, the energy domain is also characterised by steady patterns of cooperation too."* (Proedrou 2012, p.16-17). Proedrou thus focusses on the mutual benefits of energy interdependence, which pairs well with the soft power influence the EU exhibits in foreign policy.

That being said, as mentioned above, Russia intends to consolidate its positon as the EU's chief supplier of petroleum products, so as to prevent losing its foothold on the European market and keep the EU dependent (c.f., Proedrou 2007, p.336). As explained in the beginning, Russia namely needs European hard currency as a crucial lifeline to fuel its economy. We could argue that the state is as such trying to undermine European diversification efforts. One way in which Russia does this is by offering bilateral energy deals to countries like Hungary and Bulgaria – these deals keep European countries divided among themselves as different prices can be charged per country and certain states may be omitted in the process of laying pipelines (we will look into this further in Chapter 5). Another tactic concerns the creation multilateral projects such as North Stream that keep European states hooked on Russian gas since the pipelines are physically in place and ready to provide fuel, undermining diversification efforts. This is a double-edged sword as diversification options for gas are already sparse due to the limitations in transportation options other than pipelines. This is because the physical nature of the substance that is gas. Hence, it is logistically nearly impossible to import from distant countries. Another soft power strategy Russia could employ pertains to gas flow cuts: although no EU Member State has to date been directly subjected to this manoeuvre; Belarus, Georgia and Ukraine have encountered temporary cuts in gas flow

in the past, which proves that the Kremlin does not shy away from using energy as a weapon of foreign policy. The incidents between Russia and Ukraine have restructured the energy relationship between the EU and Russia, as North Stream and South Stream have severely diminished Ukraine's importance and status as a key transit state for Russian gas bound for the European market (Proedrou 2012, p.18). Yet since the EU Member States have only been subjected to interruptions in the energy flow in a secondary capacity (as less gas flowed to EU states from Ukraine when the latter experienced a cut by Russia), I will not explore this soft policy tactic further, seeing as what happens in non-EU states goes beyond the scope of the research. What can verily be stated, however, is that this so-called 'energy weapon' targets countries in such a profound way that one could even argue it to be a hard power method.

Be that as it may, social scientist Zeyno Baran (2007) believes that it is not the Russian energy weapon Europe ought to fear, *"(…) but rather that Gazprom keeps investing in acquisition of Europe's strategic energy assets, thereby locking Europe into a deeper, long-term dependence while concentrating more and more power in fewer Kremlin hands"* (Baran 2007, p.143). Despite the fact that Baran's article was written years prior to the foundation of the EU Energy Union, its implications have not lost any significance. Proedrou (2007) agrees with Baran's line of argumentation, noting the crafty ways in which Russia operates on European markets. Proedrou (2007) argues North Stream to be the key Russia uses to supply to its most profitable markets (in Western Europe) (c.f.; Proedrou 2007, p.340). This serves Russia in two ways: it can bypass many former Soviet satellites such as the Baltic countries, Belarus, Poland, Slovakia, and Ukraine *"(…) unless they concede to the Kremlin's will"*, and it is able to reduce its dependence on these states as important gas transit countries (c.f.; Proedrou 2007, p.340). Meanwhile, Russia quite literally buys power and influence on EU energy markets by purchasing shares of EU and non-EU[36] energy companies and assets *"(…) in European gas distributors, oil refineries and ports"*; the EU states affected being the Baltic countries, Bulgaria, the Czech Republic, Hungary, and Slovakia (Proedrou 2007, p.340).

This merely concerns the gas sector, because it operates in a very similar way where oil is concerned: it has a major stake in EU oil markets, particularly in the CEE region (Proedrou 2007, p.340). Russia namely controls the Lithuanian port of Butinge, and also seeks*, "(…) despite strong Latvian resistance, a majority stake in the port of Ventspils"*, while having constructed two new ports on the bank of the Baltic Sea to serve consumer states in Western Europe directly (Proedrou 2007, p.340). *"Robert Larsson concludes that 'Russia does not covet to become dependent on third parties for transit and is prepared to go to great lengths to bypass the risk by geopolitically motivated infrastructure projects'"* (Larsson in: Proedrou 2007, p.340). The idea that buying into a country's critical infrastructure – and into its oil and gas sector in general – has (geo)political repercussions becomes clear from a quote by Mr Vagit Alekperov, President of Lukoil, who said: *"'[s]tates whose oil sector is largely owned by Russian companies such as Bulgaria would be unlikely to pursue an anti-Russian foreign policy'"* (Proedrou 2007, p.341). Aside from Russia playing a decisive role in the oil and gas supply, and thus in the energy security situation of several EU countries, Transneft (another Russian oil company) *"(…) encourages the former Soviet allies to repay their debts by giving away shares of their state distribution companies to Transneft"* (Proedrou 2007, p.340-341). According to Proedrou (2007), *"(…) this will contribute to Russia's domination of their markets*

[36] By non-EU, I mean energy companies of European countries that are not Member States, such as Belarus, Moldova, and Ukraine.

*and facilitate the political control this entails"* (Proedrou 2007, p.341). Although the European Commission is very likely troubled over this phenomenon, European Member States allow these actions and policy moves to take place. The impact of Russian soft power influence in Europe as well as European feebleness and indecisiveness in light of the dilemma between founding a real common energy policy, and retaining sovereignty over fossil fuel commodities continues to uncover the deeply troubling tug-of-war between the EU and the MS. Indeed, the notion that Russia entangles itself increasingly into the very fabric of European energy markets to gain influence and power, is deeply worrisome, yet these soft power strategies could not take root were it not for perpetual European discord.

So what can the EU do to counter Russian soft power tactics? Correljé and Van der Linde (2006) argue that energy-importing states employ energy policies resting on three pillars: *"(…) (a) low supply costs, (b) security of supply, i.e. the continuity of supply and the dispersion of risks and, more recently, (c) environmental considerations"* (Correljé and Van der Linde 2006, p.539). They say that to obtain energy security in these pillars, there are four categories of policy tools that can be used to increase a state's level of energy security: *"(…) prevention, deterrence, containment and crisis management"*, to which they add that *"(…) in addition to energy policy specifically, trade and foreign relations and security policy are also part of the energy security toolset, as is environmental policy"* (Correljé and Van der Linde 2006, p.539). What is especially interesting about their research article, is the fact that Correljé and Van der Linde paint two scenarios with regards to reality: a so-called 'Markets and Institutions' storyline and a 'Regions and Empires' scenario (Correljé and Van der Linde 2006, p.533). In their own words, *"[t]he first storyline represents a continuation and intensification of the international system based on multilateral relations and a globalization of markets. The second one represents the break-up of the international system into competing blocks, which may engage in rivalry over the control of energy resources and markets"* (Correljé and Van der Linde 2006, p.533). According to Correljé and Van der Linde, depending on which lens one looks through, the applicable soft power strategies to increase energy security change. It would be too much to go into detail about every tactic from the point of view of each of the two scenarios. For that, I recommend the reader to take a look at the researchers' article. What can be said here, however, is that notions related to constructed matters such as worldview, conviction and perception decide which soft power tools and policies a state will initiate – rather than actual facts.

To conclude, we have seen that soft power in energy politics is the exertion of influence and pressure through pipeline politics and the use of energy dependence as leverage. It is also the obstruction of negative outcomes (such as EU diversification from a Russian perspective) and the attempt to force through favourable results (such as increasing renewables from the European point of view). Due to the high levels of interdependence, both entities are at risk when major shifts take place in the status quo. This is because both entities are vulnerable and exposed as energy and revenue are equally fundamental needs societies and economies cannot do without. We see that soft power methods are used both by the EU and by Russia, yet employment does not equal success: it has been confirmed that neither power is really able to steer the other's behaviour to a noteworthy extent. From a distance, the state of interdependence rather looks like a stalemate of two entities that do not trust each other, and yet have no choice but to co-operate for their own survival. This also explains why only soft power tactics are engaged in, while hard power methods as well as tough actions like cuts are not a serious option – too much is at stake. That being said, we will nonetheless briefly look into hard power in the following sub-

chapter. From the above, we can distil that debates on energy security and energy politics that revolve around a certain measure of interdependence are what we make of them: they can be cause for conflict, yet can also be grounds for a more durable peace and greater regional stability. In sum, interdependency does to a certain extent provide certainty, and therefore is not per definition harmful to the state of EU energy security.

#### 4.4.6. Conclusion

We have seen the intricacies of the geopolitics of energy dependency through the lenses of transnational energy networks, the Energy Charter Treaty, re-nationalisation of energy networks, and soft power. These are all aspects of the geopolitical dimension of Baumann's theoretical framework on energy security. The common denominator that connects all four features seems to circle around power; how to obtain and keep it. The idea behind the transnational energy networks is that the ability to share energy across the EU, unites the Member States and makes them less vulnerable to third party suppliers from outside the European Union. To secure oneself gives power, as does the idea of strength in numbers. That being said, although interconnectors are being constructed, we are still far from being able to speak of a genuine pan-European energy network that allows to share energy among the Member States. Skipping the Energy Charter Treaty for a moment, we see that renationalisation too, concerns power: if a state becomes too nervous about the foreign energy companies working and profiting on and from its national soil, it could opt to renationalise them. Naturally, the obvious problem with this is that said state immediately loses its credibility as a reliable business climate for international investors. As we have seen, the EU allows monopolies and renationalisation, but only when adhering to rigorous rules functioning as checks and balances that take into account intent and consequence of the renationalisation. In Russia, different rules apply and renationalisation seems easier when befitting the government. How precisely renationalisation of fossil fuel companies works, goes beyond the scope of this research. Soft power is strongly involved in international energy relations and negotiations: in its most positive light, it can be seen as a means to strive for greater trust, co-operation and unity, while at its worst it can be understood to comprise of manipulation and wilful influencing of the other party. The Energy Charter Treaty can be argued to be a soft power tactic as well. It shows us that governments and other official entities seek security and power in wanting to consolidate agreements and keep third parties such as Russia to their word. This has mixed results, because third parties are not actually bound by the Charter Treaty in the sense that it's just that: an agreement. It's not legally binding, which means that the legitimacy and credibility of treaties like this one are strongly dependent on who, and how many states abide by the rules stipulated. The Energy Charter Treaty is mostly a European endeavour, designed to a great extent to control non-European players, which shows how important power play is in the field of international energy relations.

As a final point, I would like to add the insights given by the Danish Ambassador and a quote by Mr Vladimirov. I posed Ambassador Hommel the following question: *"[l]ooking to the future, what you think will be the most important challenges to take into account with regards to energy security and the changes in the geopolitical balance of power?"* His Excellency: *"I think in Europe we have a big opportunity to do a lot on our own, and this is a good situation to be in: that actually, the Energy Union – it's not that it's perfect or all elements are fantastic, but the Energy Union, if we manage to implement what we said we would implement, we actually ourselves have… We are more or less ourselves capable of defining energy supply and usage in Europe. Not that we would go from an import of fifty to zero, but we would go*

*from maybe importing less but also having a more diverse input where we would have options if one source could be from sort of a negative point of view; somebody shutting off the supply or simply an operational failure or a breakdown of the wire or pipelines, or… So we become more secure through diversification, more input,* [a] *more agile grid within. So I think we have, we have an opportunity to ensure our own energy security ourselves. Indeed the political balance, if we manage this and hopefully we do, it will change the geopolitical balance in the way that the Russian gas and to some extent oil would then only be oil and gas and not be a geopolitical tool anymore – which would be great, because I think we should have no intention not to co-operate with Russia. It would be fantastic if we could simply buy their oil and gas at market prices without any political tool linked to it. And this could be obtained through us being more energy secure through the measures we talked about in the beginning.*[37] *That was simply next time Putin would look in his toolbox there would be one tool less – well, I guess he will invent another one."*

Mr Vladimirov: *"(…) and since the energy produce is mandatory, and they have prioritised it to the grid;*[38] *traditional electricity producers – electricity generators – are suffering financial losses that have put the whole electricity system on the brink of financial collapse, especially in countries like Germany, but also in Bulgaria and others. Romania has difficulties also"* (interview with Mr Vladimirov). Both experts remark on the key factor that is a properly working power grid. Without this, there can be power cuts owing to overloads of energy. Still, this remains a matter of national policy priorities as long as the implementation of the Third Energy Package which streamlines the national grids into an open access European grid, has been completed. The key is, once again, found in European unity. This is, verily, a skeleton key, as it would also to a great extent help resolve the matter of Russian efforts to divide EU states and put them against each other, as well as any other soft power strategies employed to increase Russian influence in European and weaken EU energy security.

[37] Here, the Ambassador is referring to other interview questions posed which appear throughout the thesis.

[38] Mr Vladimirov says here that many European governments have prioritised the production of energy over the creation and upkeep of a properly functioning energy grid.

## 4.5. Implementation of the security policy dimension

### 4.5.1. Introduction

In this sub-chapter I will measure the implementation of the final dimension in Baumann's 2008 theoretical framework: the security policy dimension. This will be a rather succinct sub-chapter: in subsection 4.5.2 the state of energy infrastructure security is discussed, whereas in subsection 4.5.3 I will look into the application of hard power onto the case of EU energy security vis-à-vis Russia. Subsection 4.5.4 will be this sub-chapter's conclusion.

### 4.5.2. Energy infrastructure security

The security of energy infrastructure refers to the protection of physical energy groundwork. The European Commission says it seeks to accomplish the following where this topic is concerned: *"[s]trengthening emergency and solidarity mechanisms and protecting critical infrastructure. This includes more coordination between EU countries to use existing storage facilities, develop reverse flows, conduct risk assessments, and put in place security of supply plans at regional and EU level"* (European Commission, Energy, Topics, Energy Strategy and Energy Union: Energy security strategy). The EU also calls for a Union-wide approach to securing critical infrastructure against both natural and human-made disaster, arguing that a power shortage in one Member State can also disrupt the situation in the next as interruptions in energy flow do not respect borders (European Commission, Energy, Topics, Infrastructure: Protection of critical infrastructure). The EU proposed several institutions and organisations, and put forth initiatives to create a platform whereon different stakeholders and experts could join forces and discuss optimal approaches to infrastructure security. These are, to name a few:

- the Communication on Critical Infrastructure Protection in the Fight against Terrorism of 20 October 2004;
- Council Directive 2008/114/EC of 8 December 2008 on the identification and designation of European critical infrastructures (ECIs) and the assessment of the need to improve their protection, which seeks to *"(…) identify and designate ECIs and assess the need to improve their protection"*;
- the Council conclusions on Prevention, Preparedness and Response to Terrorist Attacks of adopted in December 2004 and;
- the EU Solidarity Programme on the Consequences of Terrorist Threats and Attacks adopted by Council in December 2004;
- a Green Paper published in November 2005 regarding a European Programme for Critical Infrastructure Protection (EPCIP) which provided policy options on how the Commission could establish EPCIP as well as the Critical Infrastructure Warning Information Network (CIWIN);
- the 2005 December Justice and Home Affairs Council Conclusions on Critical Infrastructure Protection which called upon the Commission to make a proposal for a European Programme for Critical Infrastructure Protection (Commission of the European Communities: Communication from the Commission on a European Programme for Critical Infrastructure Protection 2006, p.2)

The Thematic Network on Critical Energy Infrastructure Protection (TNCEIP) founded by the European Commission's Directorate General of Energy consists of *"(…) European owners and operators of energy infrastructure in the electricity, the gas and the oil sectors"* – thus attempting to create a level playing field (Position Paper of the TNCEIP on EU Policy on Critical Energy Infrastructure Protection 2012, p.1-2). The

reason for the necessity of the TNCEIP and of infrastructure security in general is not hypothetical – actual attacks do take place: *"[a]ll members of TNCEIP have faced a constant increasing number of attacks on their critical energy infrastructure in 2012, mostly in the form of thefts, vandalism, and cyber-attacks"* (Position Paper of the TNCEIP on EU Policy on Critical Energy Infrastructure Protection 2012, p.2). As we can see, there are many initiatives and institutions to lessen the risk of destruction of infrastructure seeking to create a forum to bring together different stakeholders. When it comes to implementation, however, the information presented remains rather vague: the documents do not provide implementation facts, and rather just mention what should be done or how much more funding is going or should go to infrastructure investments. The exception to this is a 2013 Commission staff working document, which in its final annex provides a roadmap towards project implementation (Commission staff working document on a new approach to the European Programme for Critical Infrastructure Protection Making ECIs more secure 2013, p.16-17). Unfortunately, this 2013 report has not been updated and no new information is provided as to physical improvements that have been put in place since the planning phase. The mentioned roadmap was planned for completion by late 2014. As such, based on the available sources there is no quantification possible to measure improvement in or the current state of infrastructure in the EU. Arguably, the main threat today concerns cyber-attacks: power stations, energy storage and transit facilities can be shut down or otherwise disrupted from a distance (World Energy Council 2016, p.1). According to the Georgetown Security Studies Review, the European Union, and specifically the EU's Information Sharing and Analysis Centres (ISACs) notify in a report that warning and security mechanisms are insufficiently in place to prevent attacks, thus exposing vulnerabilities (Haynes, 26 February 2017). Moreover, it has been established in the same report that the cyber security is not a priority in the European energy sector (Haynes, 26 February 2017).

Much of this seems hypothetical without an actual example of infrastructure sabotage. Case in point (involving Russia) is the situation in Georgia on 22 January 2006. On that day, two Russian gas pipelines near the Georgian border that transported gas to Georgia, exploded after being bombed (c.f.; Kramer, 25 January 2006; BBC News: Desperate Georgia gets some gas, 23 January 2006). While the Russian government called this an act of terrorism perpetrated by Chechen rebels, Georgia accused Russia of the act (BBC News: Desperate Georgia gets some gas, 23 January 2006). The Georgian government has found relations with Russia to have severely cooled since its Rose Revolution in 2003 during which the policy-change of strengthening ties with the West gained momentum (c.f.; German 2009, p.347-348; BBC News: Desperate Georgia gets some gas, 23 January 2006). That being said, Georgia had been pro-West since its independence in 1991, which has always been an eyesore to Russia (German 2009, p.357). The mutual nature of the enmity is clear in a quote from Georgian Presidential Chief of Staff, Mr George Arveladze, in an interview with the New York Times: *"[t]he lesson that all of Europe should draw is the importance of alternative corridors of energy and of not being dependent on one source of energy, especially from a country such as Russia"* (Kramer, 25 January 2006). Some of the causes of the 2008 Georgian-Russian war are said to be found in pipeline politics (discouraging the construction of pipelines such as the BTC oil line), and to thwart Georgia's policy shift towards the West (c.f.; German 2009, p.357; Kandiyoti, 20 August 2008).

Not all data on security breaches are given, presumably because the sharing details of such a sensitive topic with the public could undermine the security situation further. Yet regardless of whether the explosions that cut the gas flow into Georgia in the middle of the cold wintertime were Russia's doing

or not, and whether the Russo-Georgian war was fought over pipelines beyond Russian control or not, it is clear that a lot needs to happen in the near future in regard to the safeguarding and improving of key energy infrastructure security. To create the aforementioned level playing field wherein Member States and energy stakeholders work together, more information sharing between these groups is necessary. From the Union's point of view, it is imperative the situation pertaining to common security of infrastructure be taken more seriously and be acted upon as a priority. After all, when a transit country like Ukraine experiences a fuel cut from Russia, so will the European countries that are the end receivers. Whether this will indeed happen or whether infrastructure security will rather remain a national concern is to be decided by the Member States in accordance with the EU.

### 4.5.3. Hard power and NATO

Goldthau and Sitter (2015) point out that the European Union, with the Commission at the helm, is a so-called 'regulatory state': it regulates and streamlines policies, exports norms, negotiates trade deals (c.f., Goldthau and Sitter 2015, p.942). Compounded by this is the fact that the EU has no armed forces of its own to speak of other than modest peacekeeping units – the Union depends on its Member States' military capabilities as well as on NATO to defend its territory. Although this thesis does not take NATO into consideration, I was intrigued about the Danish Ambassador's views regarding the connection between the EU, energy security and NATO vis-à-vis Russia, and asked: *"[s]peaking of NATO for a moment, how does the energy security policy that we have right now in the European Union impact the NATO strategy regarding its eastern flank, specifically in Ukraine?"*

His Excellency: *"I think our alliance is concerned about the alliance members' safety, and the... with or without the threat of cut-offs of energy supplies, there's a different situation today than there was fifteen years ago or even two years ago. Russia has, with or without energy, become a strategic challenge rather than a strategic opportunity – that not considering energy as such. I do not see that NATO would change its sphere of interests due to energy resources as such. This is one of the elements, one of the tools. So when NATO does – in the good old days it was so easy, there was a trench and we shot a* [unintelligible] *– today it's hybrid and there are so many tools that can be used, from propaganda to behind the lines instigation of various things and small green men and so on. And energy is maybe also one of those tools. So how can NATO address the various security challenges and in this box of new, innovative ways of threatening us; energy is part of it. Like cyber warfare and so on. So it's just another element of what could threaten us. So when they do their planning and analysis in Brussels, this is simply added to the portfolio of what could be done, of course. And in the, sort of, again, extreme scenario of a conventional war, the availability of energy is of course crucial to operating, managing a war. And, well I think that is not the main concern that we would have the energy supplies from all those sources. I think it's simply just another tool that we have to be of… the potential enemy… we would have to deal with, as is the case for cyber warfare, as is the case with propaganda. So, it's just another element of that. But the geography of NATO doesn't change due to this and our spheres of interest; it does mean that we now have a focus on resources being available* [unintelligible]*, we have to a different extent than we had before. I don't think so."* The Ambassador basically says that it does not matter to NATO whether Russia uses energy as a weapon of foreign policy or not. He argues that the Russian Federation employs various tactics vis-à-vis Europe and that NATO is unchanged in its defence against such threats.

Aside from a diplomatic perspective, it certainly is interesting to also consider the situation from the viewpoint of a former senior executive at the United States Department of Transportation. I asked Mr Brigham McCown the exact same question as the Ambassador, saying: *"[m]y next question refers to Russia: I was wondering, in your opinion, how does the currently assertive Russian policy and the EU security policy impact the NATO strategy on the eastern flank pertaining to the situation in Ukraine at the moment?"* Mr McCown replied: *"[y]ou know, I think Ukraine has taught us a whole – it's been a wakeup moment for the West. You know, after the fall of the Soviet Union and through the period when it was the CIS and then the Russian Federation, we viewed Russians as partners who wanted to be part of a European solution. I still think that's largely the case with Russian people in general, but clearly the leadership of Russia has, you know, has really gone in a different direction. I think my personal view and the view of many from the US is that these actions are designed to placate a domestic audience and you see that with, you know, you see that in that if you could take a Russian person and then another person from Europe and you ask them a question on Ukraine, you know you would get two completely, totally different answers. And, you know, Putin's approval rating at home has never been higher and before the Ukrainian crisis and I think if you look back right before the Olympics, his popularity was starting to dip, the economy was already a little bit in recession, and so the..(…) When you view it in that context, a lot of people are not sure the extent to which Russia poses a threat to Western Europe. But I think what I've seen is the closer you are to the Russian border, the more concerned you are. And clearly, the Baltic countries and Poland, and the close border-states in the former Warsaw Pact countries are very nervous, because you see, you know, Putin talking about, you know, Crimea and then a land bridge to Crimea then you – his comments on Kaliningrad are very nervous. But Europeans also remember that even during the height of the Cold War, you know, Russia was a stable supplier of energy products at a reasonable price. And so, getting those countries that are dependent on Russia to, in essence, switch suppliers is very difficult and you heard a lot of that, I think, this morning when people are saying: ''we don't have the infrastructure, or we can't do it or it's too difficult'' and I don't really see that changing in the next five to ten years."* The conclusion we can draw from Mr McCown's statement is a confirmation of the fact that politics is a human undertaking: regime change can signal major policy shifts and shake up partnerships and change international relations between client states and supplier states.

Mr McCown and I continued a brief conversation on the matter of NATO, Russia and (energy) security. The transcript of this reads as follows: Interviewer: *"[y]ou know, it's interesting how Russia was, even during the Cold War, as you say, a stable supplier, but then we see the issues in Georgia and in Ukraine where Russia is asking for, you know –"* Mr McCown: *"*[a] *ransom basically."*

Interviewer: *"[e]xactly. And at a very difficult time, during, in the middle of winter for example quadrupling the prices."*[39]

Mr McCown: *"[w]ell you see, that's sort of a, that's a difference, and it's one of the differences I draw on. If you look at the old Soviet Union; they never used, to my knowledge, energy as a weapon, as a foreign policy point. It was sort of, you know Russians are very good at living in – I don't know if you've studied*

[39] This statement refers to what the Russian government did in Georgia in the winter of 2006. For more information, please see below at the end of this subsection.

*Russians or you know Russians, but they're very good at being able to fight you over here and over here act like nothing's going on at all and to separate, sort of their issues into different – we call them silos or what's the other word we use… Forget what the other English word is now, but they're really good at just fencing off different aspects, but what's different this time around is that, you know, the Kremlin has asserted such control over the industries, over Gazprom, over the other entities and you're seeing those companies being used as an instrument of foreign policy. And, I don't know, did you get a chance to read my little paper I put together?"* Interviewer: *"[y]es."*

Mr McCown: *"[s]o that puts some of that in there. And it's, yeah, and that's kind of scary because that's new, that's different. I mean, you know, it's one thing to say that Russia is not living up to its obligations or they're trying to renegotiate, well they always do that, right? But to hold countries somewhat hostage over pricing, that's new. And I think to some extent though what Russia has been doing is actually counterproductive because it's forcing the West to come together. Frankly, NATO is seen by many as maybe not any longer needed or relevant."*

Interviewer: *"[i]ts importance has declined."* Mr McCown: *"[y]eah, its importance has declined substantially, defence spending had gone down substantially; everybody thought it's all over. And now we're right back to where we were and I think there is a Cold War. I think we're back in a Cold War, I really do. And it will take some time to decide whether that's the case or not if Putin sticks around or if something happens to him – I mean, quite frankly, he's made many enemies at home as well. So, you know, we'll see, but Putin has done more for Western integration and bringing people closer together than could ever have happened without him. But, as a practical matter in the short term, there's really nothing that Europe can do to shift its dependency away from Russia. It's just takes years to build the infrastructure that would be needed. Now, people are starting to think about these kinds of things – I will leave you with this: this is a report done by the Congressional Research service, which is an independent research arm of the, United States Congress, it's non-partisan that you respond to request from both, all of the parties. And this is something that is brand new that just came out at the end of May and the question was: ''what are the effects of removing the crude oil export ban – how could this help Eastern Europe? So even people in the US are starting to say: how can we help Europe? How can we limit, quite frankly, Russia reach? And, you know, this sort of thing – no would've undertaken, such a step – a few years ago. You know, this is kind of neat, because it shows the pipelines and the refineries in Europe. It compares the crude oil refining capacity of the different countries in Europe and it compares US oil to Russian Ural oil. And it's kind of neat to say this, to see this, because it's part of an evolutionary process and the good news is – if there is one – is that the West, both in Europe and in Transatlantic has the ability and the capacity to deliver much more oil and natural gas to Europe, if it is needed. I think the worst thing that the Russians could do is to cut off the supply, because that will just further push everybody toward an independent solution and it would frankly starve Russia of badly needed capital right now that they need. So, I don't think Russia will do much more with the natural gas because I don't think they can afford to."*

Interviewer: *"[s]o how do you see the NATO policy in this framework?"* Mr McCown: *"[w]ell, you know I think there are two differences because you have the EU which is more a political foundation and you have NATO which is more of a military-strategic alliance."*

Interviewer: *"I read that NATO also has an energy policy these days."* Mr McCown: *"[t]hey have an energy policy – I haven't read it lately though, so I'm really not up to speed on it that much, but one of the things is that I know the military planners have been doing is looking for ways to ensure sufficient quantities of fuel as available should there be some sort of a conflict with the East. And a lot of the NATO strategy thus far has been about identifying stockpiles and storage, ensuring that each country is stockpiling enough energy sources to be able to support – they won't say it's a conflict – what they call contingency circumstances, which frankly could be natural disasters as well but if you read between… Do you guys have this saying ''read between the lines''?"*

Interviewer: *"[y]es, literally in Dutch: 'tussen de regels door lezen.'"* Mr McCown: *"[y]eah, reading between the lines, it's about ensuring there is enough fuel to support military operations for thirty or sixty days without reinforcing stuff from the US."*

Although it is good to ask questions and be better informed about the situation in its full complexity and to have at least mentioned the interplay between the EU and NATO (which largely span the same Member States) for the sake of completeness, the above is in essence also the argument as to why I do not take NATO into account further in the research. NATO is a different organisation, to some extent with different Member States and dissimilar objectives. Yet NATO is mentioned here, because aside from national militaries, it is mostly collaboration in NATO that is seen as a hard power capable of physical defence, while the EU can as such be characterised as a soft power. This is because the latter utilises diplomatic tactics and trade deals as instruments to obtain preferred policy outcomes, rather than hard power means such as force, coercion and payment, as defined by Nye (c.f., Nye 2004 in: Goldthau and Sitter 2015, p.942). The discrepancy between the EU's enormous economic power coupled with its lack of military might is telling: the EU is a 17.3 trillion dollar economy, the largest single market in the world and most integrated international organisation to ever have existed on the one hand, while it lacks central control, a federal budget or access to arms under EU command on the other (c.f., Goldthau and Sitter 2015, p.942). That being said, the absence of hard power means does not equal a total lack of power. As seen in subsection 4.4.5, the EU actively employs a wide variety of soft power tactics to negotiate energy deals with other entities. Upon a closer look, we see that the Single European Market (SEM) has strong regulatory powers to convince other states and non-EU companies to play by its rules: as the SEM operates based on rules and norms of transparency and liberalism, it is – through its economic gravity – able to successfully transport these norms and have business and contract partners adopt these (Goldthau and Sitter 2015, p.942). We saw the outcome of this in the ECT Treaty of which numerous states are signatories. This way, the European Union can still exert power and influence. Russia, on the other hand, could use hard power in the form of the so-called 'energy weapon', as discussed above. As mentioned in Chapter 3, hard power rests on both a military and an economic component, as well as on inducements ('carrots'), threats ('sticks') and/or payoffs, rendering tampering with energy flows a hard power tool (Nye, 2 August 2004).

As the sole operator of Russian gas pipes, and a quasi-monopoly actor on the EU energy market, Proedrou (2007) remarks that Russia could diminish the quantities or demand prices increases (Proedrou 2007, p.341). Yet as argued above, the chances of Russia actually using energy as a weapon of foreign policy against the EU are slim (though not negligible) due to high levels of interdependence. That being noted, this does not mean that Russia has never used energy flow or pricing against a state at all. Aside

from the case of Ukraine (see subsections 4.2.3 and 4.4.5), Russia has actually put pressure on the Baltic States, Poland, Belarus, Moldova, and Georgia. In 2007, Russia doubled the gas prices for Belarus to show it does not view the latter's political course favourably, while pressure was put on Moldova and Georgia by raising energy prices for steering a political course towards the West (Proedrou 2007, p.339). All Baltic countries and Poland also saw their energy prices rise sharply, plausibly owing to their anti-Russian sentiments expressed in foreign policy – which in Lithuania's case led the postponement of joining the European Monetary Union in 2007 due to insufficient funds (because it had to spend very sizable sums on gas from Russia) (Proedrou 2007, p.339). Lithuanian President Grybauskaite has said that European and NATO states are involved in an unconventional war with Russia, posing a real threat to Europe and the region, and requiring NATO reform (CNBC: Lithuanian President: Russia is engaged aggressively around the world, 26 January 2018; Weymouth, 24 March 2017). Tracey Germany (2009) quotes the following covert threat from Russian Minister of Foreign Affairs, Sergei Lavrov, made in 2008, in the wake of the Russo-Georgian war: *"[i]n 2008 Sergei Lavrov, the Russian foreign minister, accused Washington of 'infiltrating the post-Soviet space ever more actively: Ukraine and Georgia are graphic examples' and warned that if either country becomes a NATO member-state there will be a 'substantial negative geopolitical shift'"* (German 2009, p.348).

Yet Russia not only uses energy as a stick; the carrot strategy is also employed. Russia namely subsidises those governments towards which it holds sympathy by providing free energy, as is the case with the regions of Abkhazia and South Ossetia, which both unilaterally seceded from Georgia; thus supporting actions that weaken Georgian statehood (Proedrou 2007, p.339). In conclusion, despite the fact that the EU has no serious hard power capabilities to speak of, it can still be persuasive in its norm exportation due to economic clout. Russia is unlikely to use hard power against the EU in an official capacity such as the energy weapon, yet there are documented cases of such events taking place in other states that are located in the former Soviet or current Russian sphere of influence. I cannot speculate on topics such covert operations as cyberattacks, election rigging in the US and Europe, the 'little green men' in Ukraine, and other non-official hard power tactics perpetrated by Russia or its affiliates. All these topics go beyond the scope of the research. That being said, it has nevertheless become clear, that the European Union's claims of, apprehension regarding Russian energy aggression are not meritless, or baseless accusations, as Russia argues.

### 4.5.4. Conclusion

This sub-chapter talked about the security of key infrastructure sites and conduits, as well as hard power. The safety of energy infrastructure is proven of paramount importance, given that the energy these conduits transport are quite literally lifelines to importing countries. Where infrastructure security has a low policy priority, it means that politicians do not expect an attack to take place. Nevertheless, as we have seen, there will always be forces that want to destroy strategic infrastructure – be they state actors or non-state actors. The subsection 4.5.3 talked about hard power and focussed on NATO. The regulatory entity that is the EU may be an economic giant, but remains a military dwarf. NATO is therefore needed to fill the security gap that exists between the Member States' national defence capabilities and the EU. Generally speaking, it is difficult to compare the EU and NATO with each other, although parallels can certainly be drawn vis-à-vis Member States and the cautious stances towards Russia. This country has proven able and willing to utilise sudden price increases for natural gas as well as power cuts in some

instance, against smaller states and non-EU Members in its sphere of influence. These tactics are also known as the infamous Russian 'energy weapon'. It is unlikely that Russia would employ such tactics against major European clients, as this would prompt large financial losses. It would also instantaneously render Russia an extremely unreliable energy partner to such countries, and future energy deals and negotiations would not be entered into as easily and as quickly as beforehand. The fact that Russia dares to flex its geopolitical muscles using the energy weapon by suddenly heavily increasing gas prices for the Baltic countries, can be seen as worrisome at best and downright aggressive at worst. Conceivably, Russia wanted to see to what extent European and NATO partners would react to this, but that is merely speculation. I will revisit the idea of Russia using its energy as a weapon of foreign policy in this chapter's conclusion, as well as more detailedly in the next chapter (in subsection 5.3.5 to be specific).

## 4.6. How does the EU see the current state of implementation of the Energy Union?

Now that the levels of energy security have been thoroughly measured aided by Baumann's theoretical framework on energy security, this penultimate sub-chapter (not counting the sub-chapter's conclusion) is dedicated to looking into the current state of implementation of the EU Energy Union. For this, I will use the first, second and third *State of the Energy Union* reports issued by the EU in 2015 and 2017, respectively.

### 4.6.1. Energy Union implementation: considering the first *State of the Energy Union* (2015)

The first *State of the Energy Union* document speaks about moving away from a carbon-concentrated to a low-carbon economy, for which *"(…) emissions trading, renewables, and further investments in low carbon technologies and energy efficiency"* are necessary and in which renewables are *"(…) becoming a mainstream source of energy"* (*State of the Energy Union* 2015, p.2). Aside from noting its successes, the EU also mentions obstacles and challenges ahead in this report. Regarding the opening of electricity and gas markets, the EU asks for greater citizen responsibility in order to succeed: *"[t]he electricity and gas markets are still not performing as they should. For the transition towards a low-carbon economy and society to be successful and socially fair, citizens should take more ownership, benefit from new technologies and more competition to reduce their bills, and participate more actively in the market"* (*State of the Energy Union* 2015, p.1). However, the document does not make clear exactly what EU citizens ought to do or how they should go about 'taking more ownership'. Placing a relatively large portion of the responsibility of the failure or success of the integration of the electricity and gas markets into the hands of the European population (as far as one can speak of a truly European populace) without concrete economic stimulation policies, seems a rather vague solution. Another point raised in the first *State of the Energy Union* concerning renewables notes the following: *"[t]hey* [renewables] *already cater for the needs of 78 million Europeans, and the EU as such is on track to meet its target of 20% final energy consumption from renewable sources by 2020"* (*State of the Energy Union* 2015, p.2).

As we can see, the official EU discourse states that MS are on track to fulfilling the aims of the EU 2020 goals in time. Yet when looking at the hard numbers, only four states have as of yet reached the 20% mark, six countries are between 15% and 20% reduction, five more Member States show reductions under 15%, and a staggering thirteen EU states actually present increases in emissions (European Union: Annex 2 – Overview of Europe 2020 targets). To provide some context here, it is worthwhile to note that some countries have been allowed by the EU to increase their emission levels, which are Greece, Hungary, Croatia, Bulgaria, Portugal and Romania. This is because they were already emitting less in 2014 than permitted in 2030, based on the 2005 point of departure (Darby, 22 July 2016). In regard to energy efficiency, which also holds a 20% reduction aim for 2020, sixteen states have reached the target, while twelve have not (European Union: Annex 2 – Overview of Europe 2020 targets). Interestingly, there are large differences between MS: for example, Denmark and France have increased their energy efficiency levels with 276,6% and 236,3% respectively, while Malta and Cyprus lag behind with 0,825% and 2,2% respectively (European Union: Annex 2 – Overview of Europe 2020 targets). This shows us that just because the EU is on track in general and on average with regards to Energy Union (the EU's core tool

aimed at greater energy security and curbing dependency via a common energy policy) and 20-20-20 goals' implementation, does not mean the respective Member States are too.

I decided to ask Professor Adaramola about these ostensibly large differences between countries and whether – and if so, to what extent, this could be seen as potentially, or actually problematic in the EU's quest for a streamlined fuel mix with increasing space for renewables. My exact question was as follows: *"[h]ow would you see the fact that the European Union Member States are at very diverse levels, as you just mentioned, with regards to implementation of the EU 20-20-20 goals, and what do you think can be done about this? Does this pose a risk or liability?"* Professor Adaramola replied: *"[w]ell, it depends. It could be a risk in a way, but it depends on how – again, we discussed yesterday – how the Commission's able to encourage with the Member States. So, it could be a risk, and it could also be a benefit. So it all depends on the ways it is being handled properly – if it's handled properly, then it could benefit. Because the diversity is there, so we can share that, so we have to find a way to get something good out of the diversity."* Interviewer: *"[s]o, it's the fact that some countries are not really implementing the 20-20-20 goals – that, in itself, is not a liability? But the fact that the Commission may not be very well communicating with the Member States – that's the issue?"*

Professor Adaramola said: *"[n]o, I did not say liability, like I said if for sometimes before you come: 'do agree on this 20-20-20?' The question is: how much input from the Member States do Westerners think that the Member States voluntarily – at least not forced to agree. Sometimes, some of them are forced to agree with some of these decisions. The question is: what's in there different from not trying to do that? Because when you force them, it means that they don't really have* [a] *choice. Well, in the implementation is a difficult thing to do."* Interviewer: *"[s]o: rather not put Directives that force people, but rather this kind of Directives that are more like guidelines."*[40] Professor Adaramola: *"[y]es, yeah; more like guidelines. (…) So, it's more like a guideline in a way, that, you know, sometimes the… that 'this is what we want, and this is what has to be done.' And sometimes it's not always good. And another, actually I remembered too, was something people at Member States' level: they elected their leaders. And so, they made that promise the masses something, which probably might be something different from what the EU wants them to do, so that… So they will rather go for what their masses want, than listen to the Commission. I think it makes sense."*

Interviewer: *"[h]ow do you think that can be resolved?"* Professor Adaramola: *"[w]ell, everything has to be in the form of a negotiation, discussion. Like I said yesterday: open discussion, sincere discussion. So: listen to what the people are saying, listen to what the government is saying, and what – and the government listens to what the masses are saying. So, then we can have a better solution for the problem. I mean, if you look at what happened recently in the US when Obama, the President, tried to make a law directive about solar – some of the renewable energy. Some of the states went to court to challenge the decision of the President, and the news that came out during this week; the states – the Supreme Court is supporting the states. So, sometimes the same thing with the Commission, unfortunately* [with] *Commission, like* [in the] *US the states can go to Supreme Court, probably that opportunity is not there in the EU, where some of these things can be resolved. Even though, the Federal government of the US wants*

[40] By the first mentioning of the word 'Directives', I meant to say 'Regulations'. Regulations are a stricter way for the EU to have Member States implement legislation, whereas Directives allow for more leniency and often set 'goal post' norms within which marginal space exists to operate and for interpretation at the Member States' discretion.

*this, but the states have said: 'we have our strength, we have our economy that they pay on subsidy, energy resources. What do you want us to do with these people? We want you or them to close down the co-opening, and if closed down, or probably be of many people, so they would be jobless'.*[41] *So I think if they said* [unintelligible] *some other Member States too, or because it's more like forcing them. So they don't say as they should, so they* [unintelligible] *basically if we get to the Directive level. I mean there is no punishment I think; you can't punish a state for not meeting the deadline. So you only pray them; you only persuade them."* Interviewer: *"[y]eah, that's true – there's still sovereignty, national integrity. It would only alienate people further from the European Union."*

Professor Adaramola advises the EU Commission to work with the Member States, not against them, and to see the diversity of supply resources across the EU as a positive thing. If a country does not wish to adhere to the standards put forth by the Commission, it should not – and cannot – be forced to do so, the professor maintains. This ultimately comes down to the discussion between Regulations and EU law signed by Member States on the one hand, and the subsidiarity and proportionality principles on the other that prevent the EU from overstepping its boundaries and meddling in business the Member States are fit to handle and decide on the national level (Eurlex, Proportionality principle; Eurlex, Subsidiarity). This is debate that cannot be taken into account in this thesis. What can be concluded, however, is the following: when the common energy policy and Energy Union are negotiated in terms of goals for renewables and interconnections, this must be an open and fair co-operative process between the EU and the MS based on transparency. This is not just of the utmost importance for the national governments, but also for the citizenry. The electorate must be aware of the plans to connect national energy grids to each other across the entire Union. The masses must be in agreement with these ideas and plans, so that they do not turn against the EU and their national leaders. This is also important for the democratic legitimacy and accountability of the EU as a supranational institution. Professor Adaramola's point is valid and important, as it touches upon the very fabric of values of which the EU claims to be made.

The above considerations are of a rather political nature. I wanted to know how the EU was actually performing with regards to the current policy direction it was taking. It was clear that I needed the wisdoms of a political expert to give an accurate view and weighed measurement of the Union's performance up till now. Thus, I turned to H.E. Steen Hommel, the Danish Ambassador to Poland to find out his views on this topic. The question posed was as follows: *"[b]ased on this* [your] *definition,*[42] *how would you judge or rank the EU's energy security policy? Do you see any notable strengths or weaknesses?"* The Ambassador answered as follows: *"[p]ure statistics, that we import, I think it's more than 50% of our energy needs in the raw material, our energy needs and resources. We are not the most energy secure place in the world – from pure statistics. That being said, our co-operation between countries and within the whole Union is one of our strengths, and I think our agility to adjust to needs – at least in the mid-term, maybe not short-term – we have quite good opportunities to address energy security issues."* Interviewer: *"[a]nd what you say would be the weaknesses of this, or are there no weaknesses?"* His Excellency: *"[t]here*

[41] This quote might not portray all words spoken by Professor Adaramola fully accurately. I have tried my very best to understand what the Professor says. Readers are more than welcome to listen to the recordings of the interview. My apologies for any misunderstood or misinterpreted words.

[42] The definition mentioned here refers to the Ambassador's definition of energy security.

*are many weaknesses, of course. No doubt, the European Union is a great project, but of course it has challenges whenever you need 28 countries to agree. So the weaknesses would be that we have many national positions. And you could take 28 technicians, technocrats in a room and they could more or less identify how to do this in an efficient manner. But once you have to mix this with the national priorities and local elections and so on, this is where the change got off… I think more or less everyone would agree to this huge energy market: energy flowing freely across the borders. Any energy available – cleanest and cheapest would go to ways needed, but this is of course in a test tube. You can say this, you can mix it with Polish elections and coal miners and many other stuff and other countries have other issues. So this is what makes it complex and why it's not a quick fix, whatever we do. So, there's no way around it: we need the co-operation for the benefit of all of us, but there is of course also the weakness that we have to agree – all of us."* The Ambassador certainly highlights what this research has also been uncovering: that the EU's strength and motto 'unity through diversity' is at times also its weakness when looking from the perspective of national political priorities and policies inspired by domestic ideas and convictions. We will next turn to the second *State of the Energy Union* report.

### 4.6.2. Energy Union implementation: considering the second *State of the Energy Union* (2017)

Taking into account the state of implementation of the second *State of the Energy Union*, we see that a lot has been achieved: from initiatives regarding security of supply and energy diplomacy with Russia and Ukraine during trilateral negotiations, to the Paris Climate Agreement and the development of the Clean Energy Package (Hoffmann, 3 February 2017). The Clean Energy Package is a major deal that lays out the foundational blueprint of the Energy Union's implementation post-2020. If and when signed and adopted, the Commission writes that roughly 80% of the Energy Union roadmap will have been accomplished (Hoffmann, 3 February 2017). This makes it seem as if the Energy Union is nearly up for finalisation. This seems as an overly optimistic estimate, because, as a matter of fact, some states are nowhere near this target: *"Vice-President Šefčovič expressed his satisfaction with new projects although 11 Member States are not on track to reach the 10 percent interconnection target set by the Commission for 2020"* (Hoffmann, 3 February 2017).

Taking the recognisable importance of the Clean Energy Package into consideration and combining this with the goal to form a single EU energy policy, I wondered if the Union would not do well to streamline renewable efforts across the Member States – or would that be too much micromanaging and pressure? I posed Professor Adaramola this question: *"[i]f we look at it from the European Union point of view, is it at all possible to increase the use of renewable energy as a European Union programme or policy on the Union level, or would it be better to let the Member States handle this themselves – the energy mix that they want?"* Professor Adaramola replied: *"[w]ell, I think a combination of the two would be better, because sometimes, you know, if you don't have coal that might be difficult. So, the... first, I mean, before the idea of a common decision, I guess, there should be more consultation ability of each state. I mean, the ability to work on what to achieve. Based on their resources, they can decide 'this is our limit'."* Interviewer: *"[s]o, you're saying that the consultation process with the Member States should be stronger; that they would have a stronger voice. That the Commission basically takes a step back?"* Professor Adaramola: *"[y]es that is how it should be, because you can't force them to do things when you know that it might not be possible for them. So, there should be more interaction and openness; sincere*

*interaction between the two sides, that 'this is what we think', so that at least they can say 'this is my ability, this is my resources: this is what I can do. And again: if I want to go and… if I go back to infrastructure, to... because if I want to go into renewable energy, which is also for treating, you know: it's variable'. You have sun now, suddenly you know how to take it. The wind will blow and stop, so you need resources. And some other issues that* [unintelligible] *Member State or EU is investment in battery systems – energy storage. And it's expensive. So, for now… for better planning it's probably at least* [a] *stronger interaction between the EU Commission and the Member States."* The professor makes a few important points: firstly, that there should be a synthesis between overhead planning and implementation by the Commission in its policy proposals and proper consultation with the Member States. That it should neither be the Commission nor the MS dictating the entire process one-sidedly. And secondly, how this consultation should look like in Professor Adaramola's expert opinion: open, sincere, transparent: with both sides really listening to each other's wishes and the EU respecting the limited abilities and possibilities of the Member States.

Turning back to the second *State of the Energy Union* report, we see that Denmark, the only net oil exporting country in the EU, also became a net energy importer in 2013 (Second Report on the *State of the Energy Union* 2017, p.32-33). It is subsequently remarked that all Member States have become net importers, while Denmark and the Netherlands also function as the EU's sole two gas exporters (Second Report on the *State of the Energy Union* 2017, p.32, 34). In regard to oil, the second *State of the Energy Union* report tells us that exports have decreased by 35% over the past decade, while net import dependency rates are reportedly over 90% in sixteen MS with eight having 100% dependency rates (Second Report on the *State of the Energy Union* 2017, p.34-35).[43] Conversely, my calculations in Chapter 3 show six Member States to hold around 90%-100% dependency rates for gas, and three for oil on Russia alone. Concerning gas, the report writes that dependency increased from 57,1% in 2005 to 67,4% in 2014 and while absolute imports declined by 9% this was counteracted by the fact that EU-based gas production plummeted by almost 40% (Second Report on the *State of the Energy Union* 2017, p.33). *"In eight Member States, net import dependency decreased between 2005 and 2014 but in most cases only marginally. Two producing countries, the Netherlands and Romania, recorded a significant improvement: although their gas output decreased in this period, this was offset by a bigger decrease in consumption. In 17 Member States, net import dependency increased in this period. This group includes the other two major gas producers: Denmark and the UK. Both countries experienced a nearly 60 % decline of gas output, leading to a significant deterioration of import dependency. Among all fuels, the EU's import dependency is the greatest for crude oil and NGL; this increased from 81.3% in 2005 to 87.9 % in 2014. In this period, indigenous oil production fell by almost a half. As a result of falling consumption, net oil imports also decreased (by 12%) but imports cover a growing proportion of demand"* (Second Report on the *State of the Energy Union* 2017, p.34).

In spite of this, the report mentions net import dependency actually dwindled between 2005 and 2014 in 22 MS, either attributable to higher national production or to lower consumption levels (Second Report on the *State of the Energy Union* 2017, p.33). With this, the EU confirms my findings stating that when it comes to import dependency of energy in general, dependency rates strongly vary per Member State, yet notes that both oil dependence and gas dependence are over 90% (Second Report on the *State*

[43] It does not become clear what mathematical equation the report has used to obtain the mentioned percentages.

*of the Energy Union* 2017, p.32). This could well be true: total dependency on all supplier states is not part of this research, as I solely concentrate on the dependency rates pertaining to one supplier. To draw strong conclusions from this report proves rather challenging, as certain statements therein seem to contradict each other. Yet the fact that energy dependency rates remain high, is uncontested. Whether it is or is not on track with the implementation of the Energy Union remains to a large extent a national decision.

In connection to this, it could be interesting to ask the representative of a Member State (H.E. the Danish Ambassador to Poland in this case) about his views on what could be done by EU leaders to improve the current situation as well as his take on where the Energy Unions stands currently and is headed in the short- to medium-term. To be precise, my question was: *"[i]n your opinion, what should policy-makers in Brussels be looking at in terms of their short-, medium-, and long-term energy security needs and the goals towards* [energy] *independence?"* The Ambassador replied as follows: *"[w]ell, we should start by saying that we should always have a look at the long-term perspective whenever we make medium- and short-term decisions. But then again, if there is no power on your block, it's hard to worry about long-term then; then you need power on your block. So it's again this trying to address all the issues at once. My fear would be that we – you do forget about the long-term view. So, the long-term view has to be part of the equation whenever you do of course long-term decisions but also mid- and short-term. This is a... or else you'll end up with sort of a… you could imagine a situation where all households had their own boiler and their own batteries, their own back-up systems, so if you go very short-term it can become very expensive, very inefficient, and at some point this will hamper to a severe degree our growth and competitiveness. So we have to have this long-term view of how we deal with it, so we have this complex agenda of availability of energy, of energy competitive rates that are at a price that can be paid by households and companies. And also clean energy, because we also have the risk – of course that's just strong Danish persistence, but it's recognised all over of course – that you have other security risks of misuse of energy; the climate refugee situation will maybe only be growing. When we talk about energy, this is like the fuel of any economy. You have other resources that are equally important, like water. You could talk about water security: imagine a society without access to water. Same issue. So, having a long-term view ensuring that you have all these elements included in your decision, that's important. (…) Medium term, of course, are more the tools of the long-term, they open up. This is about infrastructure. This is… you see the whole idea of the Energy Union is not that new. I know that the concept of, and how it was presented in a new way by then Prime Minister Tusk in 2014, but the whole idea of an internal market, a single market for energy, is not new. But the barriers, of course, the technical barrier* [is that] *there's simply no connections; there's no wire across the border. You can't have a market, it goes without saying, but in the mid-term you can focus on the infrastructure, connecting those from a prioritised list: where do you have the bottlenecks and the needs, and invest in those. And then of course you also have in the mid- to long-term energy efficiency: how can you lower the consumption of energy? That's an important part of the equation and toolbox also."* The fact that the Ambassador particularly stressed the significance and value of infrastructure investments was interesting to me, as this is also emphasised by Baumann in his theoretical framework on energy security.

### 4.6.3. Energy Union implementation: considering the third *State of the Energy Union* (2017)

The Third Report on the *State of the Energy Union*, which was released in November 2017, mostly seeks to stimulate momentum to engage people *("(…) citizens, cities, rural areas, companies, academia, social partners"*) in the Energy Union initiative (Third Report on the *State of the Energy Union* 2017, p.1). The argument here is that by involving a broad segment of European society, the plans will be more widely accepted and collaborated on. In an effort to expedite the process, the Commission has made the Energy Union one of its ten priorities, and plans to have it implemented by 2019 – before the end of the current's EC's term in office (Third Report on the *State of the Energy Union* 2017, p.1-2). While working on an enormous plan encompassing countless projects mostly in and some beyond the Union in the field of renewables, there is still work to be done on the completion of the internal energy market integration and infrastructure, and strengthening security of supply (Third Report on the *State of the Energy Union* 2017, p.10). This is a hefty task to undertake in such a short time span, given the fact that most of Europe largely runs on fossil fuels. What is more, the Energy Union almost exclusively focusses on renewable energy; there is little mention of fossil fuel usage or diversification away from Russian fuel sources.

One of the few paragraphs in the report that does mention this, however, takes note of the recommendation, given on 9 June 2017, to authorise negotiations with Russia on the operation of North Stream II (Third Report on the *State of the Energy Union* 2017, p.15). A new round of negotiations by the Commission on behalf of the EU and the Member States must take place, because: *"[t]he recent proposal for an amendment to the Gas Directive clarifies that pipelines to and from third countries are subject to the common rules for the internal market in natural gas up to the border of Union jurisdiction. International agreements with the third countries concerned will remain the most appropriate instrument to ensure that there is a coherent regulatory framework for the entire pipeline"* (Third Report on the *State of the Energy Union* 2017, p.15). As discussed, in order to diminish Russia's gravitational pull on energy-dependent Member States, the EU supports the construction of the Southern Gas Corridor. The report finds progress to have been made regarding construction and notes its significance in offering diversification opportunities (Third Report on the *State of the Energy Union* 2017, p.11). Aside from this, there is only little news shared by the report with regards to fossil fuels. One such piece of information concerns the plans for a *"(…) global liquefied natural gas market"* for which Memorandum of Cooperation was signed with Japan, and *"(…) more efficient use of gas storage facilities"* so as *"[t]o provide full flexibility in gas supply"* (Third Report on the *State of the Energy Union* 2017, p.11; 14). Other fossil fuel initiatives taken include collaborating with Euratom to render nuclear fusion commercially viable for the energy market, and strengthening energy cyber security, the overall security of energy infrastructure, and energy efficiency through the Energy Expert Cyber Security Platform (Third Report on the *State of the Energy Union* 2017, p.9-10).

On the one hand, the EC focusses on green energy and works towards high levels of renewables in 2050. However, on the other hand, it seems Member States are not prepared to go about this energy transition as quickly as the Commission plans and hopes. It seems somewhat strange or perhaps even tone-deaf to put this much focus on renewables in the Energy Union considering the pivotal role fossil fuels continue to play in Member States' economies, societies, as well as in national security and defence. Surely, in light of climate change, global warming, pollution-related health issues, as well as the general

finality of fossil fuels that there should be plans, projects and policies to employ ever greater amounts of green energy in European and global fuel mixes. Yet this transition is extremely costly and time-consuming. Meanwhile, national governments must pledge to follow through with these plans for many decades – and many more cabinets – to come. As stated in subsection 4.2.2 on infrastructure investments, the costs of all the integration and green energy projects that are part and parcel of the energy transition are namely gargantuan in scale. To mitigate the financial consequences for the Member States to some extent, the European Commission has made hundreds of billions of euros available in funds to incentivise actors to commit to the plans (Third Report on the *State of the Energy Union* 2017, p.11). Member States are, for example, encouraged to tap into European Structural and Investment Funds and the aforementioned EFSI fund, amongst others, which have allowed 8500 projects to be initiated in 2017 (Third Report on the *State of the Energy Union* 2017, p.11). One of the larger-scale projects is *"[t]he North Sea Power Hub, a planned artificial island with thousands of wind turbines around it"* which, according to the Commission *"(…) will bring concrete benefits for European workers and consumers"* (Third Report on the *State of the Energy Union* 2017, p.11). Another is the Nordlink HVDX interconnector between Germany and Norway, which is to ameliorate diversification options for the EU, improve supply security and continue the larger plan of electricity market integration in both countries concerned, as well as in the wider region at a cost of €150 million (Third Report on the *State of the Energy Union* 2017, p.12). Other examples of major initiatives that are part of the Energy Union include the so-called Clean Energy for All Europeans package and the Alternative Fuels Infrastructure Directive (Third Report on the *State of the Energy Union* 2017, p.9-10).

In spite of this, progress is not taking place rapidly enough in some areas, as deems the Commission: there is some criticism of Member States which encourage polluting industries to perpetuate. The Commission is mainly wary of Member States' inclinations to provide subsidies to the fossil fuel industry (coal mines in particular), which can be *"(…) capacity mechanisms for emission intensive power plants, tax relief for company cars or diesel fuel and similar measures"* (Third Report on the *State of the Energy Union* 2017, p.5-6). Therefore, the Commission uses the Clean Energy Industrial Competitiveness Forum to help give impetus to *"(…) the efforts by industry are consistent with efforts by policy-makers to support the clean energy transition in strategic sectors such as renewable energy, construction and batteries"* (Third Report on the *State of the Energy Union* 2017, p.16). Furthermore, as might be expected with a relatively large number of countries, not all Member States will reach the target of 10% interconnectivity of the electricity grid in 2020 (Third Report on the *State of the Energy Union* 2017, p.10). Regional projects have been set up for Cyprus, Poland, Spain and the United Kingdom in order to mitigate the effects of lagging behind on the integration schedule (Third Report on the *State of the Energy Union* 2017, p.10). The report seems to acknowledge this and calls for patience: it says that: *"[w]hile not everybody may benefit from the energy transition in the short term, it will, if carefully managed, ultimately benefit the entire EU economy, by creating new job opportunities, bringing savings on energy costs or improving air quality"* (Third Report on the *State of the Energy Union* 2017, p.6). The EU therefore promises job creation as well as fewer premature deaths due to pollution as the renewable sector grows (Third Report on the *State of the Energy Union* 2017, p.7).[44] The report bases itself on the 2017 Renewable

[44] There are currently 400.000 premature deaths annually in the EU due to toxic emissions, which is to be reduced by half in 2030, according to EU Energy Union plans (*Third Report on the State of the Energy Union* 2017, p.7).

Energy Progress Report, which reveals that security of supply is strengthened owing to renewables, as their use has saved sixteen billion euros in fossil fuel imports in 2015 (Renewable Energy Progress Report, 2017 in: *Third Report on the State of the Energy Union* 2017, p.3).

The main message of the Third Report on the *State of the Energy Union* seems to be that green energy is increasingly more economical in production, and that its part in the European energy mix is growing, while fossil fuel use is decreasing (*Third Report on the State of the Energy Union* 2017, p.2-3). The report boasts that thanks to greater energy efficiency, emission levels and the GDP growth rate have been decoupled: this means that economic growth (in terms of energy consumption) is no longer bound up with greater amounts of fossil fuel emissions (*Third Report on the State of the Energy Union* 2017, p.3-4). Once again, however, it seems to be the Member States that are not always as co-operative in spirit as the EU seems to be. The report somewhat frustratingly observes the following: *"[d]espite all these efforts, more could be done to bring about an investment-friendly environment. Uncoordinated and unpredictable national energy and climate policies reduce investment certainty. Until very recently, only some Member States had climate and energy plans and strategies going beyond 2020. None had a comprehensive plan across the five dimensions of the Energy Union, and only a limited number of governments considered cross-border impacts when defining national policies. Integrated national energy and climate plans will allow to potential investors to take the necessary long-term investment decisions for the post-2020 timeframe"* (*Third Report on the State of the Energy Union* 2017, p.13). Aside from involving the European population, the EC also extends its hand in co-operation to third countries by partnering up with Canada and China to encourage the use of renewables, and chairing the Mission Innovation Steering Committee (*Third Report on the State of the Energy Union* 2017, p.9). In the meantime, while the United States withdrew from the Paris Climate Accords, the European Union worked on energy diplomacy, strengthened international energy partnerships, and increased its climate defence budget to help developing states (*Third Report on the State of the Energy Union 2017*, p.14). Moreover, the EU has given €20 billion to developing countries in aid, partners up with vulnerable island nations, and co-operates with countries around the world through forums, bilateral and multilateral initiatives, and by at summits of global and international organisations Committee (*Third Report on the State of the Energy Union* 2017, p.14).

My critique of the above remains the same as in regard to the previous State of the Union reports: although the goals are admirable – as is the desire for greater public involvement and support – the average person is still unlikely to have heard of the Energy Union or to be engaged by any of these initiatives. In part, of course, these plans are presented to the populace as national policies and campaigns to combat climate change, so people may not be aware of the direct streamlining involvement of the European Union. Be that as it may, if the Commission is to reach its own 2019 deadline, and if this is accomplished by broad-based participation, then it does not reflect favourably upon the EC that only people who actively search for the Energy Union find out about it. The European Union has supposedly always had difficulties with PR and how best to prove its worth to the average person who feels distanced from the Eurocrats in Brussels. The Energy Union report itself mentions that the aforementioned policy initiatives and plans *"(…) illustrate the ability of the European Union and its institutions to deliver important achievements, when the political will is there"* (*Third Report on the State of the Energy Union* 2017, p.16).

The EU, led by the Commission with the blessing of the European Council, can only facilitate, draw up norms and regulations – and sue companies and Member States if things become seriously derailed. The initiative to engage national energy- and infrastructure companies in looking beyond national borders and excite the European populace about the Energy Union project should be orchestrated or at least buttressed by the Member States. Serious public debate on where the EU should be headed in terms of the future of energy in all its facets (energy security, national and European security, economically, regarding diversification and energy dependence, as well as in terms of combating climate change) should be elicited. This is a democratic necessity and an important prerequisite for people to feel more engaged with the EU. Teaching citizens that their country's climate initiatives are part of a greater scheme cannot fall on the EU's shoulders alone, and should be part of the national debate and narrative on renewables, energy security and combating climate change. I see too few concrete mechanisms and plans in the Energy Union report that are to bridge the gap between the EU and its citizenry in the field of energy affairs. The report does not make clear what the national governments intend to do to educate the population about the Energy Union and its regional plans. It seems, again, as if 'Brussels' has decided that there is to be an energy transition and that the Member States must follow its ambitious ideas and dreams. Yet it is the Member States who agreed to the Paris Climate Accords and ultimately drew up EU legislation on emission standards and combating pollution and climate change. It is their crucial role in the entire endeavour that can make the Energy Union or break it.

#### 4.6.4. Conclusion

The most striking finding to me was finding out that a yawning gap seems to exist between EU rhetoric on how the Member States are doing in reaching the Energy Union goals, and the factual data in percentages of reached goals. My assumption is that this is done in order not to outright embarrass states by naming and shaming them publicly in official statements by high-level EU dignitaries. Whether this is supposition is true or false cannot be tested in this thesis, yet would be interesting to look into in future research. Another piece of information in subsection 4.6.1 that stands out concerns the remarkable statement that Bulgaria, Croatia, Hungary, Portugal and Romania have been emitting less than their quotas – not for 2020, but for 2030 no less. This is surprising given that all four are countries that are not particularly known for their strong commitment to clean energy.

After all, especially Romania and Bulgaria are rather destitute states as compared to the northern and western European countries. It is possible that the less affluent countries have received relatively higher emission ceilings from the European Commission than the wealthier states, but I have found no conclusive evidence for this. Contrariwise, EurActiv reported that the EC has indicted several Member States – among which Bulgaria, Hungary, Portugal and Romania in cases regarding infringement of emission and air pollution laws (Crisp, 7 February 2017). Logically, this brings us back to the discussion on national policy preferences and priorities. To this, Professor Adaramola argues that the EC should not come across too strongly with strict regulations, court cases and lump sums for reparation of damages. The EU seems to find itself in a difficult, perhaps even contradictory position between acting when Member States do not abide by emission laws, and encouraging them to 'keep up the good work' with warm words. As noted above, drawing conclusions from subsections 4.6.2 and 4.6.3 on the second and third *State of the Energy Union*, published in 2017, is not a straightforward task. It genuinely seems as if the data do not match – or sometimes even outright contradict – other reports, including the computation

of energy dependency I made using Eurostat statistics. I have no clear explanation for this and unfortunately cannot delve into the issue further.

## 4.7. What are the interviewed experts' thoughts on energy, energy security, the EU Energy Union and its implementation?

### 4.7.1. Introduction

Having dived into Baumann's theoretical framework and measured fact against theory, I decided to ask several specialists from different disciplines and areas of expertise to reflect on the Energy Union, its implementation, the overall feasibility of the endeavour, and its chances of success. The questions are in light of the general wish to diminish Russian influence and overweight in the European Union made possible by continued energy dependence.

### 4.7.2. Mr Maciej Kowalski – petrochemical expert at Weatherford Poland

To begin, I asked petroleum expert Mr Maciej Kowalski about his take on the sheer viability of the Energy Union project and the main tenets behind the endeavour. Interviewer: *"[a]bout the ideas behind founding an Energy Union – is that at all possible? Because we don't have the infrastructure – how do we get gas from Spain to Sweden, or from Bulgaria to England etcetera?"* Mr Kowalski: *"[w]ell, the most… there are two ways of transporting gas, for example: one is pipelines, gas pipelines, and the other one is LNG. Both have their pros and cons. We are 100% reliant, virtually 100% reliant on pipelines, and LNG is a very small sector. That might change with the Świnoujście LNG terminal, of course. If it's possible, it's a loaded question and there's a lot of stakeholders who'd have a say in that. A lot of people would gain and a lot of people would lose, if such a Union was put in place. I think it's a – I'm a pro-market person, so I think it'd be a good idea to lift some barriers to trade and to interconnect the countries, in Europe for sure. Poland, of course, when it comes to the energy security, is dependent on the number of interconnectors with neighbouring countries and it should be our top priority to make us as integrated with our neighbours and with the European market as possible. I'm sure you know that, for example, Spain has several LNG plants available that are working at 15% capacity or less. How do we use that? How do we get it from Spain to Poland? That is a very difficult question. I think liberalisation of the market is the first step to go, but that liberalisation would probably raise the prices in the short term, so it wouldn't be very popular – especially in an election year. I think it would liberalise the market a little bit and let more players buy and sell gas and, more freely, I think that would – opportunities would arise by themselves and then people's private investors would like to invest in that and that infrastructure and in interconnectors as well. But you know, that's just my private view."* Interviewer: *"[o]k so you're saying, that we should take it out of governmental hands, basically, and that private investors can do this more efficiently?"* Mr Maciej Kowalski: *"[v]ery much so. The more private investors that deal with any aspect in that – from downstream to upstream, it's everything. It's better. At every level."* Before we continue, it is at this point imperative that we get a good understanding of what 'upstream', 'midstream', and 'downstream' means and what the differences between these terms are. In the interview I checked the veracity of my limited knowledge with Mr Kowalski and said: *"[o]k so, basically, upstream is drilling and fracking, midstream is transporting it to different countries, and then downstream is going to the consumers?"* Mr Kowalski replied: *"[y]es, refining it and selling to consumers, yeah."* For argument's sake, it is important to add here that Mr Kowalski stated that the terminal in Świnoujście is for deliquification only; this means it can only receive LNG and gasify it for national use (interview with Mr Kowalski). According to Mr Maciej, Poland does not have an LNG liquefaction station as of yet: the expert pointed out that Poland does not export LNG or any gas

whatsoever (interview with Mr Kowalski). Where gas is concerned, Poland only serves as a conduit for Russian gas via the Yamal pipeline (as discussed in subsection 3.3.4.c) bound for the German market (interview with Mr Kowalski).

### 4.7.3. Mr Steen Hommel – diplomat and (former) Ambassador of the Kingdom of Denmark to the Republic of Poland

Now, prior to drawing any conclusions, I should like to present the fact that a similar question on this topic was posed to the Danish Ambassador to Poland, His Excellency Steen Hommel: *"[a]ccording to you, what should be the key policy instruments to support intra-Union co-operation and integration in the field of energy security?"* The Ambassador responded: *"I think the elements of the Energy Union are very appropriate, are very much about implementation, but to highlight the elements, I think the energy efficiency is an obvious starting point: use less energy. It's very basic. And it's definitely global, and I think so many analyses have pointed to that this is actually efficient, sort of, to do so that is to - you can compare either using less, or providing more energy. And the cost of providing more energy is much higher than reducing energy needs through efficiency. So, more or less, not all but many calculations will show that it's cheaper to lower the consumption of energy. So energy efficiency is an important tool, and here again we have so many examples. We're not waiting for the future's technology to do this; it's very basic to do this. In a city like Copenhagen, I think over the last twenty years or so the economic growth has been 50% or 60%, and the consumption of energy has gone down by 50%. (…)*

*Those examples, they are sometimes rejected 'uhm, cannot be done', but they can. This is very obvious. I think, if you take those best available technologies, you could lower Polish consumption like this – of course it's not like a snap of the fingers, but by 40%. And 40% less energy consumed has a big impact on how you supply your energy. And of course not only the energy put into the pipes or wires or whatever; it's also the investment in your infrastructure* [that] *would be less, use less energy. So: energy efficiency would be always a great starting point and the energy not spent is not imported, it's not transported, it's not processed, and it's not polluting. So energy efficiency by all means is an important tool that is also included in the 2030 targets, and it's included in the energy… Then, focussing on the internal market and the market mechanisms for using the energy we've got efficiently, I would say is maybe the next step. Our experience from co-operating in the Nordic Nord pool – with Norway, Sweden, all and Germany and so on, is very positive: that you simply by basic market mechanisms by the cheapest available energy, at any part in time and be at the same time cleanest, so we have a preference to use the cleanest energy first to avoid the negative impact of energy use. So by using, in that Nord pool – we have a Nord pool spot exchange where we do daily training on energy and we seem to buy the cheapest and the cleanest – this is very efficient. But of course this is linked to stakeholders' part of such a market being willing to be part of the market, and that the infrastructure is available. So for Denmark, crucial has been that we've had these international connections. We have an in-and-out capacity of 40% of our needs – which is very high. You know, when we discuss target for interconnections in the EU, it's 10% or 15% that's discussed. And we have already 40%. Then we can export and import into our grid or our energy needs. That's very high. (…) So, back to the market: we need the connections, to have a physical infrastructure that can deal with an internal market, that the energy can actually be transferred – gas, electricity, basically, across the whole of the Union at some point. And we need stakeholders in the market that are willing to trade; that you do not have national boundaries to trading, for instance: that it is freely flowing – not only the electrons, but*

*also rules, regulations and willingness, you could say. In Poland, I think it's 85% of electricity that's traded, but it's traded in Poland. And of course, that limits competition. And it's traded between the same companies: the companies are polluters and distributors. So, the distributor is the same company as is the polluter.*

*It's only the transformation that's being unbundled. So, I'm sure they have great competition within, but just to say: you have even more competition than you have foreign players and imports, and often the same companies are involved. So, market efficiency and the market. The effect of having the big market is: the bigger a market, the bigger* [the] *stability. The bigger the market, the more sort of… if you use the case of wind – if the wind is not blowing in Denmark, most likely will be blowing in Spain. The bigger the market, also in terms of various resources available – if there's no wind blowing, then you have hydropower from Norway in our case. So the diversity will grow with a bigger market, and the likelihood of somebody using less; allowing somebody to use more, will be bigger in a bigger market. So the bigger an internal market will be, the more efficient an internal market is managed, basically through market mechanisms; the more energy secure we'll be. (…) The bigger portfolio of opportunity, diversity of input and area, the more stable we are. And then going from energy efficiency to market and magnitude of the market and diversity in the market – then of course also looking at the diversity of input into the market, the sources of energy. And the more diverse, the more channels we have from where we can buy originating energy and raw materials (gas, oil, electricity), again: the better off we are. In terms of energy prices, of course, that's competitiveness. But also of security: nobody has got a, sort of, a monopoly on supplying energy for Europe. So all these elements play very well together, and in all of this, we very strongly emphasise the renewable energy in this. This has the benefit, of course, of being indigenous – that's part of European resources.*

*And it's not only wind, it's many things: in Denmark it's wind, it's biomass, it's biogas; it's very much hyper power apart from Norway. So we see this as an obvious opportunity that's already well-documented and approved. And pricewise, for us in Denmark right now, because of our other investments, wind energy on land is cheaper than any other resource. So if we were to forget anything about climate and environment, we would still build the windmills. It's cheaper than importing coal from Poland. And then putting it into our coal furnaces which we still have. And then biomass of course for waste: waste to energy is a big thing in Denmark. Which is part of the reason why we have very little put on our sites; three percent of our waste is a dump site. And in Poland it's more than 80% of dump sites. So actually, you're throwing resources away in Poland that could be part of your energy security. So that's part of it, and then you of course have the climate impact, which is real, and short-term, well yeah, the $CO_2$ emitted will not cause damage to you tomorrow, but in the long-term perspective, this will. This is about climate change, of course, and we see some of these severe weather phenomena already (…) but we do see an increasing number of these extreme weather situations. We see drafts in countries and migration flows being pushed by, well, situations, and migration flows.*

*We all know how it looks at in the Balkans and the Mediterranean and so on right now. This is definitely a security issue. So by maybe* [unintelligible] *putting on a blindfold – only looking at the short-term, we might miss the opportunity to deal with the long-term also, which is very much kind. And then the loss... and thus we also have it of course* [unintelligible] *this is also part of the Energy Union; it's part of our 2030 decision of last year. (…) Maybe another point you could also consider here is that all these… looking ahead, of course – a thing like batteries will be very interesting: the bigger batteries, for actually*

*storing energy. In reserve stock, you could say, is one point. But also definitely very much in managing these more flexible sources that will be put into it. If you have the perfect battery with very low energy loss, that would definitely be a reason for going even more a solution ahead – that is of course very interesting. But also looking at what you consume: if you only had one source of energy, and one consumption of energy, it would be easier to benefit from a bigger market. Once you have gas, oil, coal, electricity… imagine if all cars, all households, all heating – everything was on electricity, you only had, sort of, the complexity would go down. You couldn't have too much gas* [unintelligible] *it would all be electricity, used the way it was needed. So you can also look at the sources how you use it, and we've seen a trend in the market go more into electricity, so we can focus on reducing electricity from whatever means we need, we have, but only using the electricity or more and more of electricity. That also makes us more agile. So any shock to gas can then use coal or wind or biomass instead. We're not depending on the gas as much; only as some kind of input into our electricity production. So how you… it's just to say, it is technically complicated but also need is taking the many opportunities on how to do better, on this"* (interview with Mr Hommel).

#### 4.7.4. Mr Brigham McCown – (fossil fuel) energy (infrastructure) specialist and former senior executive at the US Department of Transportation

Next, I posed Mr McCown this question: *"[d]o you think that the founding of a possible European Union Energy Union – would that be a clever policy goal?"* Mr McCown replied: *"I think that would be a very good goal. And, you know, to have an energy union, is probably not very popular right now, talking about it in the same context as a currency union – but really that's what you're trying to achieve. And to some extent the euro's been fairly successful; you know, with many of the Member Countries you need a similar programme, like the Current Union, rolled out as an Energy Union. And… but there have to be allowances as well, so just like Members have joined the EU with the goal of transition to the euro:* [for] *some countries that was easier to do,* [for] *some countries that's harder to do. That's, you know, why many countries haven't done it. But you have to start somewhere, and so, you know, an Energy Union between the Scandinavian states and Northern Europe would be easier to accomplish first, and then you could, it could then spread east and south over a period of time... And again, the goal is that it's better for everyone. And how is it better? It's reliable, it's stable, and it's less expensive. (…) Frankly, to placate some of the domestic industries like coal in Poland: you're going to have to be able to still use coal for the foreseeable future. And if making electricity were looked at as the way a carpenter uses… You know, does the carpenter have one tool, is it a hammer? Or do they have lots of different tools because they need different tools to do different things: screwdrivers, hammers? Energy policy should be about using all of the tools in your toolkit, and that means allowing countries to still have some say in the fuel that's used. But the common approach has to be – the Energy Union if you will – has to start with being able to deliver that product anywhere around the EU. And… the difficulty thus far has been, I think, that Brussels has been very focussed and fixed on the need to reduce greenhouse gas emissions. And they need more of a balanced policy that considers long-term emissions of also the reality of shorter term needs. Because I'll disagree a little bit with the Ambassador – and he and I joke about this all the time that, you know… The US and the EU have both reduced greenhouse gas emissions by the same point. Except, we've* [the United States] *done it by simply moving from coal to natural gas and have done nothing else; the EU has spent billions and billions of dollars to try to come up with renewables. We have very cheap electricity and a lot of the renewables are still very*

*expensive, because the technology – the green technology – isn't as efficient as fossil fuels. So, care must be taken not to be so focussed on reducing greenhouse gas emissions that the energy becomes so expensive nobody can afford it. And then it results in difficulties for the economy as well."*

### 4.7.5. Professor Adaramola – renewable and sustainable energy expert

The first question I posed the professor concerned his views regarding whether the EU currently applies the, in the professor's view, optimal method to decide what share of which type of renewable energy a Member State ought generate. *"You just mentioned that the European Union says 'ok, so this country X has these kinds of resources, country Y has these kinds of resources, so they use that they have'. Do you think that that is a good indicator – is that the optimal way to indicate the share of renewables in the energy mix of the European Union and of the Member States?"* Professor Adaramola said: *"[o]verall, I think the new regulation is trying… or the European Union trying to form a direct regulation for 2030, or something – close to that. The idea is to look at the overall share, because it's difficult to maintain the specific country, because each country has different resources. So the overall share is 'ok, we want Europe to have thirty percent'. So that would be on average – so that would be… that level… So it's... I think that's where the Europeans are moving to, because, like I said: not every country has the same resources that can meet the requirement. Some countries would believe that it cannot be fair for them, because if they have to buy, then this will also cost money. And not how the country is building the country inside Europe* [the southern and eastern EU states]*, they're not actually rich compared with the counties of Western Europe. So that co-creates imbalances too. So that's why some of the countries, you know, is complaining that 'the Italians are given to do' by the EU based on 2020, 2030 cannot be met; that is not possible for them. Unless if somebody can put the money on the table."* Interviewer: *"[s]o you mean more investments by the European Union?"* Professor Adaramola: *"[y]eah, I mean, if you want every country to have* [unintelligible]*, well, some countries will have to give some countries some assistance."* Recapitulating, the Professor concludes that in spite of the fact that the EU can impose norms or suggest goals by means of regulations, as long as there is no genuine solidarity with the less affluent Member States in terms of concrete financial support, those goals are bound to remain unmet in certain countries. From this flows the idea that if some Member States will not meet their quotas for 2020 or 2030, that this phenomenon could, to some extent, be seen as a failure of the EU itself to streamline renewable efforts around the Union.

I continued with the next question pertaining to the larger topic of whether the EU is deemed successful in its quest towards a common energy policy. Interviewer: *"[t]he EU 20-20-20 goals are feasible in this respect? If, for example, Poland is very much dependent upon coal, and in the Netherlands, we have wind energy, but it's just a small percentage. And so, Union Member States like Germany, Denmark, Sweden, Finland; they all also operate a lot with renewables, but it's not – like you said: there's a big imbalance. So do you think that this* [the EU 20-20-20 goals and building an EU Energy Union with a common energy policy] *even makes sense – is there feasibility here?"* Prof Adaramola said: *"[w]ell, from a personal point of view, it's difficult. Well, it makes sense a little bit for at least… I guess before the EU reached the agreement. There is an input from other Member States. 'This is our ability, this is what we can do'. Then – probably that might be ok, yeah, but you can put it to be more, so that, at least, you can get it up. So like I said, it is difficult to force some countries, because some countries have the resources to invest in some of this renewable energy, and some countries don't have that investment, so it would be*

*difficult for each country to meet that, and that's why the* [unintelligible]. *The EU is trying to get a uniform number that, irrespective of the environment: 'but in the EU, we want this amount of energy from renewable energy systems.' So that it won't be like: 'ok, Poland, you have to mandatory get this right.' Or that's that your fortune. What's commutatively, this is what we have; so which way some Member States will have more like Germany now: they are thinking that by 2050, they should have up to eighty percent from renewable energy. And Norway, even if Norway is not an EU Member State, Norway is also going to probably go one hundred percent carbon neutral. And similarly: Sweden, Denmark, they also have the same goal. (…) So, Denmark: Denmark is looking at one hundred percent renewables in the future. So… and sometimes, this issue to – like I already discussed with students – there are basically three reasons why people do this: one, you want energy access, so in every country you have, energy; access to energy. Which is not a major problem in Europe.*

*The other part is that Europe wants energy security, so they per se don't want to depend on foreign, imported higher, imported everything… you want to have your resources. Even though there's an issue; we don't want to depend on Russian gas, you don't want to depend on Algerian gas, and maybe in between the US wants to fill the gap. What then? Tomorrow, we don't want to depend on US gas. We want to be independent, because when you depend on somebody to survive, any guy can control your life."* This argument given by Prof Adaramola is probably the strongest political and security argument presented in favour of the case of the importance of energy security. It can be seen as a call for energy self-sufficiency. The argument can to some extent even be in favour of a high level of diversification, so as not to be dependent upon any supplier state for an amount of energy influx great enough to potentially pose a threat regarding control. It would make sense to diversify, not only from a European perspective, but also from a Russian standpoint: Mert Bilgin (2009) theorises that as consumption levels rise, neither domestic (European) energy generation, nor imports from Russia will be sufficient (Bilgin 2009, p.4491). Gas will have to be imported from the Caspian Region (Azerbaijan) and Central Asia (Kazakhstan and Turkmenistan – and perchance even Iraq and Iran), not just to appease European apprehensions regarding energy security, but also because Russia's demand is rising (Bilgin 2009, p.4491). In addition, Russia's traditional gas fields at Yamburg, Urengoy and Medvezhye have been observed to lower their production levels (Bilgin 2009, p.4491). Ironically, as we saw in subsection 3.3.2, these are the same gas fields that have laid the groundwork for the dependence of many European countries on Russian gas. Wherever the EU diversifies towards, however, it has to be done in harmony with those Member States to whom this issue concerns.

Professor Adaramola has repeated the importance of solidarity among the Member States and how crucial it is to help those that cannot initiate a serious national renewable power plan without the help of the other countries and the Union as a supranational organisation. Taking this into account, a logical follow-up question was: *"[w]hat do you think needs to be on the European Union level, and on the level of the Member States, to increase the contribution of renewable energy in the energy mix, taking into account the following aspects: political, legal, technical, and environmental?"* Professor Adaramola answered: *"[t]he first thing is: we need to reduce our energy use; so energy efficiency is very important. So that has to be addressed. So, then there needs to be political will to address openly and sincerely, see as a common problem that needs to be addressed; not as a left or right political wings. Then, there should be investment, but unfortunately to investment to – because the money is coming from the masses – the masses pay tax, taxpayer money, so it also depends on 'how much can you gain?' So, investments will have*

*to be done, I mean, so you have to invest, and make – so you probably will have to educate the masses. Educate them in terms of why we need this renewable energy, you need to educate them* [on] *why we need to reduce your energy consumption. We need to educate people, I mean, we have to create a habit, trained as an engineer or as a lawyer; as different groups for* [unintelligible]. *So you have to educate them* [on] *why we are moving away from this region, because we, most importantly: we want energy security. So, and then: I mean, like I say, you know the plan is to make some treaty, to make some laws, to make some decisions, that when – more like: force people, or the Member States, I will go into… The law should be on legal basis, it should be like – more like a directive: an encouragement that forces them to do that. So the laws should be flexible enough to take into consideration the ability of each of the Member States."*

Interviewer: *"[a]nd what about the technical and environmental aspects?"* Professor Adaramola: *"[w]ell, the environment benefits indirectly: so, because, like, if we don't do this, this will costs more: environmental issues, we want a temperature not to be a rise of more than two degrees. But if we reduce our energy consumption, which is number one, and we – what I say, we try to invest reasonably in renewable energy; the environment will benefit indirectly. So that's… and that's one of the challenges that people feel, because it's more like the government advertising for a COP21 in France, it was more like a government to government. But every country has a different agenda: it's all about energy security. It's all about the economy. So, but if you focus, if you go into their line, like I say: you go into their line, you secure your energy within your border, you see renewable energy,* [and] *you reduce your energy consumption, then the environment benefits indirectly."* Interviewer: *"[a]nd on the technical aspect, it's about infrastructure?"* Professor Adaramola: *"[i]t's about infrastructure, it's about training people, educate people that… about the new skills, about new jobs, about new opportunities."*

#### 4.7.6. Mr Martin Vladimirov – energy security analyst at the Center for the Study of Democracy

I posed Mr Vladimirov the following question regarding the Energy Union in connection to increased energy security through collective bargaining: *"[t]o what extent do you think that a possible implementation of the European Union Energy Union would actually help to get more leverage for the EU and get joint bargaining power vis-à-vis Russia; do you think it would help?"* Mr Vladimirov answered: *"(…) so you know that Poland suggested the idea of a common bargaining mechanism for gas; so an aggregate of gas demand. This option fell apart and it was a way to actually elevate Poland's* – [the] *Polish position in the determination of* [a] *common energy policy in Europe. This failed, and what was left is a much murkier version of what is to happen. It is a bit more of the same, so nothing too new in the Energy Union Package. But a good start would be to just implement the Third Energy Package, because in many cases it is still not implemented fully; and not just legalistically implemented, but also enforced. Enforcement of the Third Energy Package is difficult. And second of all: if you want to move on a low-carbon future path, there must be some incentive provided to countries like Poland – and not only Poland; France, whatever – that changes their energy policy dimension towards renewable energy and more energy efficiency. And this cannot happen by just talking to people: you need to actually create incentives. So, a better link between the structural funds the European Union gives to its poorer Members; and the European energy policy needs to be built, I think. Also, there must be requirements for cutting emissions and for increasing renewable energy in the mix – need to be enforced, enforceable. The most recent targets for 2030 are no longer enforceable: they're only recommendations. And it's very difficult for these recommendations to be*

*enforced: there is no actual policy mechanism to punish countries or to reward them. We are facing now actually a case with Holland. Holland is not be able to fulfil its quota for renewable energy, and it is facing a lawsuit from the European Commission. So we'll see whether it is going to be able to get away with it, so to speak. And if it does, then it will be the end of* [the] *common energy policy in Europe. North Stream also."*

It is clear that Mr Vladimirov deems something has got to give: states cannot have their cake and eat it. The Polish wish in favour of a collective bargaining shows the urgency of the situation Poland sees in the matter of energy trade with Russia. The fact that the Polish bid for greater co-operation was unsuccessful, proves that states are not ready or willing to forego possible preferential trade deals with this supplier. In sum, the EU finds itself at a crossroads and has to decide what is more important: cheaper gas for its country, or greater energy security for the community. Whatever they decide, the European states will see the consequences of their policy – or policies – in the near- to medium-term future. In a world where fossil fuels someday cease to exist and levels of pollution are deteriorating, one could wonder how much longer it would be a wise policy goal not to curb fossil fuel dependency in favour of low prices. As I asked Mr Vladimirov: *"[s]till, the alternative fuel is basically where we're headed towards?"* Mr Vladimirov: *"[y]eah."* Interviewer: *"[a]nd geopolitically speaking we can get stronger if we implement the Energy Union? You are not worried about the political repercussions of this? Because right now, there is a democratic deficit in the EU. You don't think that there's little political will for more EU integration?"* Mr Vladimirov: *"[i]f we want to have a common energy policy, some of the Member States need to give up part of their sovereignty on this. Otherwise, we cannot have a functioning internal energy market; otherwise we'll just have what we had before."*

#### 4.7.7. Conclusion

We have seen Mr Kowalski argue in favour of market mechanisms, saying that less governmental interfere would be desirable, since the market will naturally always find the optimal, cheapest and most cost effective way of transporting gas from one region in the EU to another. Mr Kowalski is thus in favour of greater liberalisation of gas markets – which is in line with EU policy goals under the Third Energy Package. Mr Hommel, on the other hand, while also stressing the importance of the market, emphasises energy efficiency in particular. He places the key of success of the Energy Union in the hands of the Member States in the context of interstate co-operation. Meanwhile, Mr McCown would like to see less focus on renewables and more on natural gas as a more economical way to relieve the environment. Where Mr Kowalski places the market as a condition sine qua non for the EU Energy Union infrastructure project, Mr Hommel argues that infrastructure constructed via close EU collaboration is instrumental in building a truly integrated and unified EU energy market. Mr McCown stresses the importance of the MS and that 'Brussels' should provide impetus and opportunity, rather than force the MS to adopt certain measures or fuel mixes of which they may not be in favour.

Essentially, this is the chicken or the egg conundrum, as it focusses on causality. The above can also be seen as the debate between the fédéralistes and the libre échangistes, wherein Mr Hommel seeks more integration via international cooperation between states, while Mr Kowalski and Mr McCown would rather see this endeavour taking shape via an open market wherein many competitors drive the price down; a level-playing field. Looking at both points of view from a critical perspective, I would argue that the two need not necessarily exclude one another. As a matter of fact, it remains to be seen to what

extent a genuine level-playing field with respect to the European energy market can be created at all without further integration. As long as there is neither a European grid, nor a large group of European energy companies that operate in most of – if not all, EU states, then there is no actual European energy market that can fix itself or balance itself out. Where jobs in the energy sector are concerned: Mr Kowalski deems the petrochemical industry remains of vital importance, as we have understood from his statement in subsection 4.3.3, Ambassador Hommel sees a smooth transition in the energy industry, pointing out that many people who once worked in for an oil- or a gas company now work in renewable energy, as we saw in 3.2.4. Professor Adaramola notes the following on this topic: *"[a]nother thing is jobs: most countries need to create jobs, and they see investment in renewable energy as an opportunity to create jobs – to link their economy. Then, I mean, the common issue is about environment: pollution, to reduce the greenhouse gas. But indirectly, when you focus on energy security, you focus on creating jobs using renewable energy.* [The] *environment benefits indirectly."* This is actually in line with the third dimension of the Energy Union goals, which states that *"(…) improved energy efficiency will reduce dependence on energy imports, lower emissions, and drive jobs and growth"* (website of the European Commission, Priorities, Priority, Energy Union and Climate: *Making energy more secure, affordable and sustainable*). The professor does not deem such a shift of people working in the energy sector transitioning from the fossil fuel industry into the green energy industry, will go quite so naturally and smoothly; in fact, he reckons it will take years to retrain people.

Another difference between the views of fossil fuel expert Mr McCown and renewable energy expert Professor Adaramola, concerns the cost of energy. Mr McCown sees that: *"(…) a lot of the renewables are still very expensive, because the technology – the green technology – isn't as efficient as fossil fuels."* Conversely, Professor Adaramola notes that not using renewables actually costs more, arguing: *"(…) well, the environment benefits indirectly: so, because, like, if we don't do this, this will costs more: environmental issues, we want a temperature not to be a rise of more than two degrees."* Even though it may seem as if one person is correct and the other is not, but I think they are both right: Mr McCown fairly judges that for almost all of the world's countries, fossil fuel usage is still overall cheaper than using renewables. Nevertheless, Professor Adaramola aptly concludes that sooner or later we will have make our economies 'green', because if we do not, it will end up costing us a lot more than if we do. Professor Adaramola advocates for a flexible EU regime based on directives, not a one-size-fits-all plan. The voluntary nature of this system combined with education campaigns for the national populations ought to augment support on both the governmental level as well as the popular level, which in turn will allow for higher investments in the renewable sector without public outrage. Professor Adaramola advises to really engage the populace in the switch towards renewable energy, rather than merely try to retrain people to prevent job loss. But most of all: moderation in the usage of energy. On this, he certainly agrees with Mr McCown, who also feels that 'Brussels' should not push the Member States around too much.

Meanwhile, Mr Vladimirov warns about the fact that Russia can set Member States against each other by charging different prices per client state and excluding certain countries from pipeline projects. Russian division of the European market in an 'eastern' and a 'western' branch can indeed be seen as harmful to European unity. Where Professor Adaramola and former senior executive at the United States Department of Transportation McCown prefer a modest EU wherein the Member States take the lead, Mr Vladimirov argues for greater EU oversight to help facilitate ideas such as collective bargaining. He contends that the Member States must choose between short-term national interest and longer-term

collective interest when it comes to securing their energy supply. Academicians among whom Correljé and Van der Linde agree with this: in 2006, two years after the EU enlargement towards Central and Eastern Europe, they wrote that the lacking of a joint direction on *"political-strategic issues"* such as energy in favour of *"(…) a static singular approach"* could jeopardise EU energy (supply) security due to *"(…) the dynamics of international political and economic relations"* (Correljé and Van der Linde 2006, p.542). It is up to the Member States to decide on the future of EU energy – be it in regard to the desirable degree of integration and infrastructure, relations with third-party suppliers, or any other political, financial, economic, environmental and scientific aspect of this. The first step, according to Mr Vladimirov is to fully implement every aspect of the Third Energy Package (Directive 2009/73/EC) expeditiously. Chiefly, this concerns the completion of the internal electricity- and gas market, the removal of any obstacles in national legislation that hamper this, greater transparency and open access to infrastructure. Total implementation of the Third Energy Package would effectively merge all EU energy markets into one, as utility companies would then be able to freely compete in any Member State. This seems a logical and necessary step if the end goal is a common energy policy where collective bargaining in international trade can successfully take place. Yet this is not all: Kaveshnikov (2010) finds that: *"[i]mplementation of the Third Package provisions (in particular, 'the third party clause') would question the presence of Gazprom and its affiliates in the EU retail market, including the assets already purchased by Gazprom"* (Kaveshnikov 2010, p.599-600). This would severely complicate Russia's moves on the chessboard that is the European energy market. It is thus no wonder that Russia is opposed to the implementation of the Third Energy Package (Sherr 2012 in: Forsberg 2013, p.27).

In conclusion, whether, and if so, to what extent, the Energy Union could create a favourable job environment, remains to be seen. Although no-one doubts that as the level of renewables is rising, so are the related job opportunities – the petrochemical industry remains extremely powerful as both employers and lobby groups. If the industry cannot embrace or incorporate renewable energy in any way, chances are they will rally support against the green energy industry and lobby national governments and try to remain the dominant provider. What this means in terms of future jobs in the energy industry on a whole is of yet unclear, but the EU will have to play a comprehensive role in uniting all Member States if any joint transition from fossil fuels to green energy is going to take place in an effective and efficient manner. To end this subsection, Energy Commissioner Miguel Arias Cañete presents the EU rhetoric on the topic of why renewables are important in the views of the EU and how they can, in fact, be major job creators.

Mr Cañete has said: *"[f]or us in Europe, the wider use of renewable energies, the further efforts at energy efficiency and the increasing involvement of energy consumers as active players through demand response, self-consumption or storage will help to mitigate our import dependency for oil and gas. Increased electrification and new technologies will be a key element in this transition. This is not just about the way electricity is produced but also about how it is used, with further progress required in making heating and transport more electricity based. The "Clean Energy for All Europeans" proposals that the Commission presented in November 2016 are designed to keep the European Union competitive as the clean energy transition is changing global energy markets. These proposals are designed to ensure that we can reach our binding EU targets of reducing domestic greenhouse gas emissions by at least 40% by 2030 compared to 1990. In this context we will notably have to find an agreement on the level of the targets for renewables and energy efficiency for 2030, where the Parliament is pushing for a higher level of ambition compared to our proposals of 27% for renewables and 30% for efficiency. The significant cost*

*decreases for renewables technologies, in particular for solar PV and off-shore wind, are an important factor that should be fully acknowledged when discussing the level of our 2030 EU target. We will have the occasion to discuss this in depth with Ministers during the informal Energy Council in Sofia next week. Overall, good progress is being made in the discussions with the Council and the Parliament on the Clean Energy package proposals and I expect them to be adopted before the end of this year. In this context, I particularly compliment the strong commitment and efficient work of the Bulgarian Presidency. The implementation of the resulting legislative framework will not only facilitate our energy transition in Europe but, at the same time, make the EU's energy supply more resilient and decrease dependencies"* (Speech by Commissioner Miguel Arias Cañete on 12 April 2018, p.3). Mr Cañete's rhetoric has clear goals without vagueness, an optimistic tone, and seeks to involve national energy ministers for discussions, rather than opaque Union-led solutions. The Energy Commissioner seems to share Professor Adaramola's viewpoint on involvement.

## 4.8. Conclusion Chapter 4

In this chapter, I have attempted to measure energy security by applying Baumann's theoretical framework onto the case of EU energy security and its various sub-topics from the perspective of its four interrelated and to some extent complementary dimensions. In sub-chapter 4.2 for instance, I looked at the internal policy dimension of EU energy. The EU put forth binding guidelines on the construction of interconnectors, intra-Union pipelines between Member States and other types of infrastructure, contingency plans and energy efficiency standards in the effort to build a genuine common energy policy in the form of the wider Energy Union project. The outcome of the measurement of energy security in the EU has established that although in some areas certain Member States are on schedule in terms of securing EU-wide energy resources and imports, others lag behind in terms of integration. *"The report on progress in implementing the 2020 energy efficiency target of 20% by 2020, accompanying this Communication, shows that despite significant progress made, collective efforts of Member States correspond to only 17.6% primary energy savings compared to projections for 2020. However, the Commission remains optimistic that the 20% target can be achieved if existing EU legislation is correctly and fully implemented. Member States should increase ambition and investment conditions so that energy efficiency continues to improve in Europe"* (*State of the Energy Union* 2015, p.5). The precise way in which the above plans and goals are to be realised and attained concretely, is not completely clear – nor does the EU offer a solution to rekindle the flame of political will for more EU integration in the field of energy. Generally speaking, one of the main difficulties in regard to EU energy security I have encountered time and again in this chapter concerns the dissimilarities amongst the MS with regards to energy mix, policy, stance towards Russia, compliance with EU norms, and co-operative efforts with other Member States. The recurring problem is namely that the Member States appear to be dragging their feet when it comes to EU integration and harmonisation. Despite the EU's undoubtedly noble intentions of seeking to raise energy security levels in all regions and parts of the Union; if Member States do not see the merit of a certain integration effort, it is extremely unlikely to take place. Looking at it from this perspective, the saying 'a chain is only as strong as its weakest link' seems appropriate: although EU leaders often purport that the Union is more than the sum of its parts, this statement may well be up for debate.[45]

Another matter connected to the perpetual desire to exert sovereignty in energy affairs affecting the state which we have seen in this chapter, is that of bi-, tri- and multilateral energy deals with Russia. Closing lucrative deals that undermine the level of energy security or even state security of the Member States excluded by such agreements due to intrusions in territorial waters or by bypassing these states, has three negative side-effects. First of all, it deteriorates inter-state relations between the MS, since those negatively affected do not wish to veto the projects or lodge a formal complaint so as not to anger the EU project partners, yet hope the EU would launch an investigation and subsequently demand the cessation of the project. Second of all, overall EU energy security remains weak owing to these deals. As the countries find themselves in one metaphorical boat that is the EU, if there is a hole in one side, all passengers of the vessel will suffer. We need only to remember the financial crisis in the southern European states to know this logically also affected the north. Bearing this in mind, poor energy security

[45] Such a topic of debate goes beyond the scope of this research, however, and will not be looking into further. It would however present an interesting opportunity for further research in the field of EU energy politics.

in one part of the EU equals weakened overall energy security in the entire Union in light of integration efforts such as a common energy policy with all that this entails. Finally, the structural integrity of the EU is impaired by these initiatives as well. This is because the EU is actively trying to diversify away from Russia and downscaling its status as a key exporter of energy to Europe. Undermining this endeavour shows third countries that the EU has no real power of its own and that the power it does hold can be counteracted and diminished by the Member States, thus damaging the EU's agency abroad in negotiations and as a member or observer of international organisations. After North Stream II, there are already loose plans for the construction of North Stream III and IV. Apparently unwilling to step on any toes, the Commission takes a rather neutral perspective of the possibility of follow-up North Stream projects: *"[t]he Commission takes note of the plans of commercial companies to build further pipelines connecting Russia and Germany through the Baltic Sea. If built, Nord Stream 3 and 4 would not give access to a new source of supply and would further increase transmission capacity from Russia to the EU, while even now this is only used at 50% rate. These pipelines will have to comply fully with EU law. The Commission will assess any such project against the European regulatory framework on its own merits"* (*State of the Energy Union* 2015, p.11).

To weigh theoretical and factual information against the insightful opinion of experts, I decided to pose Mr Brigham McCown this question: *"[w]hat would you say would be the main strengths and weaknesses of the European Union policy?"* Mr McCown replied to this: *"[w]ell, for me, I think the strength is in having a policy that has common goals, and again, my perception of the EU energy policy is to force a reduction of greenhouse gas emissions. To that end, that desire will naturally drive energy policy in Europe away from coal and oil. Let me just talk about electricity for minute: so that would naturally drive the EU away from, you know, carbon-intensive types of electric production which really means coal and oil and more toward, you know, lower reductions. That of itself will over time force consolidation of the energy market in the EU. You know, Poland's a great example, and we alluded it to today where the lack of an integrated electric market means that, you know, Poland relies upon it national electric generating capacity that has largely generated coal or fuel oil. And, you know, coal and fuel oil, those plants have to remain at some level of operation even if they're not really needed. So, they're constantly churning or bubbling at a lower percent and that requires an on-going commitment all the time even if you don't have peak energy, because you can't just turn on a coal or oil-heated power plant very easily like you can nuclear or national gas plants. So that I think is a little bit of an issue, and the diversions: I guess another weakness would be the diversions of the national interests between the different EU countries. You know whenever you come out with a policy, typically you find that you have to reach consensus, and so, to get everybody to agree – if you start up here with something, to get everybody to agree, you'll end up down here – because you can't get as high up as you would like because you can't get everybody to agree. And so, you know, having, you know, so many different countries with voices sometimes makes it hard to get together on something. But I think another strength of the EU system is the fact that many of its Member Countries, like Denmark, like Norway, and to some extent Germany, although – I'll talk about Germany if you want, I don't think they know what they're doing right now but, is, you have family members; if you think of the EU as a big family – you have family members that are experienced with high technology, with doing electric differently. And so, those are great resources that the other family members could learn from. And so the experiences I think ultimately have strengthened the EU."* Interviewer: *"[t]hat we're a big family, that's the main strength* [of the EU]*?"* Mr McCown: *"[y]eah, I think that, well, I think the main strength is*

*the policy behind the goals to reduce greenhouse gas emissions and the second main strength is that you have a family membership of different experiences that you can draw on."* Former senior executive at the United States Department of Transportation Mr McCown has made it clear that there is both strength and weakness in numbers: the EU can be seen as one big family, but if it is divided by differing policy goals and holds diverse (national) paths to solving European solutions, then it will remain rather difficult to really construct an Energy Union with a common energy policy and grid. From this perspective, it will be up to the Member States to either keep the EU as an instrument whence to gain financially, or to render it more than the sum of its parts. The discussion on whether nation-states are still the most important actors at present and in the future, or if they are slowly becoming increasingly obsolete and we are entering a post-nation-state era, continues. This debate, however, goes beyond the possible realm of this thesis and cannot be discussed further. Nevertheless, it would certainly be an interesting topic of further research. Meanwhile, Ambassador Hommel sees the creation of emergency warning mechanisms as the short-term priority for the EU in terms of energy policy, the development of a trans-European grid (infrastructure) as medium-term priority, and energy efficiency and lowering consumption as a long-term goal. Here, his opinion differs with that of Professor Adaramola on the subject, who deems boosting efficiency and lowering energy consumption to be a short-term urgency.

As a final point, we turn to the matter of interdependency and the risk of the employment of the so-called 'energy weapon'. Having seen that Western European dependency on Russian oil, and later gas, grew, Soviet Russian dependency on the West increased at the same pace, or perhaps even more so. This interdependence seems to weaken the oft-presented argument that Russia may use energy as a tool of foreign policy against the EU and its Member States – the risks of doing so in a highly interdependent relationship seem likely to be too risky for Russia, as this would mean gambling with over half of its own GDP. That being noted, this does not mean that there is no reason for worry whatsoever: Russia has indeed used energy as a pawn on the political chessboard to encourage those it sees as favourable and discourage those deemed unfavourable regimes. Examples are Belarus, the Baltic countries, Poland, Moldova, Georgia, Abkhazia and South Ossetia. The chance of this happening to the EU are greatly diminished as we see, yet are therefore not unthinkable. According to Proedrou: *"[t]wo factors can push the interdependent parties towards conflict. The first is their great sensitivity. The fear that the benefits that one offers the other through their interdependent relationship may be reduced can lead them to moves that will lighten their dependence on the other. These moves provoke the reactions of the other party and account for the underlying conflict"* (Proedrou 2007, p.341).

Proedrou's argument underlines that conflicts arise when one of the parties seeks to diminish its dependency levels, thus seeking to alter the status quo. The fact that the EU wishes to diversify away from Russia does not sit well with Russian leadership, and we have seen the outcomes of this via the price rises in the Baltics and Poland, as well as in the bypassing of several states in the North Stream projects. All-out war between EU states and Russia is practically unthinkable, but playing states against each other, carrying out cyberattacks on European infrastructure, finding ways to keep European dependence up, and employing other such tactics, have been established not to be beyond Russia's capabilities and wilfully employed tactics. Now, some level of dependence on Russia will always exist and need not be deemed harmful, especially when the weighed outcome between dependency, security and leverage over Russia is positive. Yet the EU does deem high dependency at differing costs as something to be wary of. The key here are the Member States and whether they would put EU solidarity before national gain. Their ideas

differ on this as is reflected in their energy mixes. In the next chapter, we will see how the national debates that lie at the basis of national policy preferences in energy affairs vary. What is clear, however, is that dependency rates remain high in some Member States while much lower in others, which negatively affects EU cohesion as the energy trade that is beneficial to some, infringes upon national security in others.

# Chapter 5. Research question 3 – How is energy security and particularly the dependence on Russia perceived on the national level, and what consequences does this bear for the common EU energy policy?

## Juxtaposing the Polish and German cases against one another

*"Dealing with Russia has probably been the biggest failure in the attempt to make European foreign policy"* – Chris Patten, former European Commissioner for External Affairs (Patten 2009 in: Forsberg 2013, p.4)

*"The Energy Union, however, began to function as a popular buzzword. Several countries issued their non-papers, each reflecting national priorities and (self)interest"* (Szulecki et al. 2016, p.552)

### 5.1. Introduction Chapter 5

Current energy dependency rates on Russia seem to at least partially be a national policy choice. During the Cold War, however, the former Soviet satellite states had no option but to purchase oil and gas from Russia. Although those beyond the Iron Curtain did, we have seen in Chapter 3 that many decided to engage in energy trade deals despite warnings by the United States of looming dependence and the potentially negative political consequences this bears. In fact, when it was in their interest, the group of Western European states downplayed the ideological dissimilarities with the Soviet Union, which created a decade of détente in the 1960s and better general political relations between the two blocks (Proedrou 2012, p.17). It even led to increased co-operation in the 1980s, so that *"(…) energy consideration played a reinforcing role"* (Proedrou 2012, p.17). We can see that policy decisions were made upon weighing the upsides of economical energy from a supplier state in geographic proximity against the downsides of possible undermined energy security due to heightened levels of dependency. Today, all EU Member States have the political freedom of choice (not) to engage in further economic intertwinement with Russia through energy deals. Nevertheless, the aforementioned deliberation to diversify may not be as straightforward as it seems, as we have already briefly seen taking into consideration increased imports from the United States, in subsection 4.3.3.

Based on their policy preferences and respective background situations, different Member States make different decisions where national energy security – in general, but also in the contemporary context of climate agreements – is concerned. Climate change and political apprehensions over energy dependence on Russia appear to go hand in hand as diversification and defossilisation attempts, in that they both seek to lessen European dependence on and consumption of fossil fuels. Proedrou (2007) notes that *"(...) EU sensitivity leads member-states to attempts to increase the share of alternative resources in their energy mix"*, the catalyst of which being the 2006 crisis in Ukraine (Proedrou 2007, p.343). The overarching goals are the same: diversification away from Russia and overall less dependence on fossil fuel in European energy mixes. Yet the approaches taken by the MS to reach these goals are different. For instance, in 2007, the Baltic countries, Finland, France, Germany and the UK considered constructing new power plants, sparking public debate, while Sweden announced its plans to be fully fossil free in 2020 (Proedrou 2007, p.343). Where does this leave the implementation of the Energy Union? Germany is the strongest economy in the Energy Union, and since it is not keen on pushing common EU energy security

forward (most probably because Germany itself feels rather energy secure as we shall see in this chapter), it has major leverage in the Energy Union negotiations (c.f.; Szulecki et al. 2016, p.562). Poland, on the other hand, as the largest economy of the smaller Central and Eastern European (CEE) countries, represents these less powerful states in their hopes of increasing their energy security levels through protection of the larger energy security 'umbrella' found in EU collaboration (c.f.; Szulecki et al. 2016, p.562). Szulecki et al. (2016) note the apparent irony of this: while Poland is notorious for blocking any EU co-operative proposes on climate, it does stand for increased integration now that energy security is a chip on the political playing table (Szulecki et al. 2016, p.562). Germany, for its part, has always been in favour of Europeanising the on-going energy transformation and fighting for joint decarbonisation, while currently unwilling to join the integratory coalition (Szulecki et al. 2016, p.562). This is possibly because of Germany's stake in North Stream, which is very high. Yet where does this leave the EU and its integration efforts regarding a common energy policy? Szulecki et al. (2016) conclude that *"(…) although the goals of Western (e.g. Germany) and CEE (e.g. Poland) MS are different, the result – strengthening the Commission's competences in general energy policy issues – can be the same"* (Szulecki et al. 2016, p.562).

I asked His Excellency about EU solidarity as follows: *"[d]o you think that, the policy-makers in Brussels are paying enough attention to these points that you just raised?"*[46] His Excellency said: *"I think so. The Energy Union includes more or less these elements. Again, in the test tube, everybody agrees. When it comes to implementation, this is where we have the challenge. This is where the energy companies will be facing competition. They used to be shielded by the wires not being connected. This where you will, you can no longer protect culturally based activity from harsh competition from the neighbour. This is where you no longer can point fingers at loopholes and so on. In the implementation – that's why we did managed so far – because the ideas have been on tape for many, many years; those are the stumbling blocks. Maybe the pressure from the situation that the security elements, the hard political… the new political security element has put to the forefront now making the push that we can make those changes, and that we will allow adjustments of local systems. So I think the difference is now – there's a big push. The burning platform is warmer. And looking back over time, even way, way back in history: energy security or security of resource supply and so on has been sort of a due political issue. Then maybe from the '90s it became less and less geopolitical and more a sort of a technical issue: access to and more focus on the price – sort of get the price down. And then of course with the Ukraine, then the geopolitical element of energy security has been put to the forefront again. But it's always been around. And some countries have had a lot more focus on this than others. And in this concept, I guess Denmark is in the league of those for many years not considering due politics as a big concern, but very much on efficiency, and connections and technical issues, whereas Poland has always had a focus on the geopolitical elements of... and it paid, I guess, a lot more attention to interruptions in 2009 – and not only what happened in '14."*

In the previous chapters we have already seen brief snippets of geopolitical context. It is this context that in part shapes the national debates regarding energy security. In this chapter, we will look into these societal debates lying at the core of energy policy decisions. They will namely help to highlight and clarify the differences between Member States and with these, the reasons for the proven suboptimal state of EU energy security as a whole. The EU for its part seeks to increase Union-wide energy security

[46] The points raised by the Ambassador were: the need for infrastructure, co-operation on emergency mechanisms, and the national division among the 28 Member States (please see subsection 4.7.3 for the full answer).

by integrating and forming a single energy policy (with a single voice in energy negotiations with third countries), diversifying away from Russia (and exploring the options offered by other suppliers), as well as increasing the amounts of renewable energy used in the national energy mixes of the Member States. To really understand how the debates taking place at the national level leading to certain policy goals and decisions are structured, I have selected two EU Member States – Germany and Poland – as case studies. Naturally, there is no 'average' Member State, nor would it be possible in this thesis to investigate all 28 countries. These two Member States (MS) were selected for three reasons:

- To depict the energy mix profile and dependency on fossil fuels (Poland is known to use a lot of coal due to major reserves, while Germany has put in place large wind turbine parks);
- To portray the energy security debates on the national level (the debate in Poland revolves mostly around principles such as geopolitics, sovereignty and lessening dependency, while the debate in Germany focusses chiefly on practicalities such as co-operation with other states and obtaining low energy prices);
- To demonstrate the differences in national debates between the Member States themselves and between the MS and the EU (the Member States concentrate on which outcome benefits their respective nation the most, oftentimes without much concern for other states, while the EU looks out for all states yet is to some extent powerless in the face of both sovereignty and of national initiatives that could harm other MS).

The following quote makes very clear the interesting differences between these two states: *"Germany and Poland are both prominent in the EU's energy debates. Although they face similar energy security challenges on many occasions, they often opt for diverging interpretations and policy solutions. While Germany has decided to phase out nuclear power stations and promote renewable energy instead, Poland is sceptical of the potential of renewables and considers construction of the country's first nuclear power station. Similarly, Poland was enthusiastic about the potential of shale gas to increase energy security by reducing the dependence on energy imports, especially from Russia. Germany on the contrary has just passed legislation which is seen as putting the development of shale gas on hold in reaction to environmental concerns"* (Heinrich et al., 9 November 2016). For more elaborate information on why I selected Germany and Poland as case studies, please see the section on Methodology at the beginning of the thesis. We will begin this chapter by orientating ourselves on the cases of Germany and Poland: their national debates regarding energy security are highlighted in 5.2, followed their relationships with the EU and with Russia regarding energy in 5.3, to end with the intra-EU integration regarding Energy Union implementation and the tension between the national and the European levels in terms of energy policy in sub-chapter 5.4.

## 5.2. What are the backgrounds and core considerations of the socio-political energy debates in Germany and Poland?

### 5.2.1. Introduction

In this second sub-chapter of the final chapter, I will firstly look into the contemporary societal and political discussions in Germany and Poland on energy debate (5.2.2 regarding Germany, and 5.2.3 concerning Poland). Then, in 5.2.4, we look at Germany's power mix – what does it contain today and what is the ideal energy mix Germany is striving towards? This is also done for Poland in subsection 5.2.5, where we find that what a power mix contains directly influences its level of energy security. These two subsections will also entail elucidations of Germany's and Poland's respective emission levels (in the context of global and European norms). A separate subsection – 5.2.6 – is dedicated to the perception Poland has of its bilateral political energy relations with Russia, from the perspective of Russian gas prices on the Polish energy market.

### 5.2.2. The energy debate in Germany: the Energiewende

The main societal and political debate regarding the national energy systems in Germany concerns the so-called Energiewende, which entered into force in January 2017 (Pescia and Ichiyanagi 2017, p.30). Specifically and more detailedly: *"[t]he main challenges for and public debates in German energy policy at the moment seem to be threefold: First, the German government wants to achieve a 40% GHG mitigation target by 2020 compared with 1990. Since the country is not on track so far, either a strengthening of instruments at EU level or new national instruments are needed. Second, a debate about the introduction of capacity mechanisms was sparked in 2013, an idea the government has so far resisted. Third, the resistance to capacity markets is based on the assumption of open European markets that could provide some backup capacity and at the same time could consume Germany's temporary electricity surplus"* (Szulecki et al. 2016, p.554).

Germany is working to fundamentally alter its energy systems through the Energiewende, or 'energy transition', including its energy market and energy mix. This long-term norm-changing climate policy process chiefly entails the decarbonisation of the economy, while the energy mix is altered from a coal- and nuclear based one, to a system wherein solar and wind energy will become the main contributors to powering the German economy (Pescia and Ichiyanagi 2017, p.1). The Energiewende started in the 1950s when opposition to the employment of nuclear in the West-German energy mix rose among the populace (Pescia and Ichiyanagi 2017, p.4). By the 1970s-1980s, the resistance to nuclear energy had not disappeared and the government caved under strong societal pressure, abandoning the construction of several planned nuclear facilities (Pescia and Ichiyanagi 2017, p.4). The catastrophe at the Chernobyl facility in Ukraine in 1986 marked the first major policy shift which resulted in the cancellation all further nuclear facilities (Pescia and Ichiyanagi 2017, p.4). Although the German government had launched a scheme in 2002 to phase out nuclear power by 2022, it delayed the phase-out till 2036 in 2010 after a highly controversial debate – yet this policy was withdrawn momentarily upon the 2011 Fukushima disaster in an exceptional occurrence of cross-party agreement on the matter (Pescia and Ichiyanagi 2017, p.4). The Renewable Energy Act (Erneuerbare Energien Gesetz or EEG) that was subsequently adopted went hand in hand with (the so-called 'Energiekonzept': a long-term energy strategy which seeks to eliminate fossil fuels from the German energy mix by 2050 (Pescia and Ichiyanagi 2017, p.4). This trend is

also remarked by Mr Brigham McCown, who notes the following on this matter: *"(…) I think some of the difficulties known in some of the Member States – let's talk about Germany for a minute – you know the Germans just have a hatred of nuclear power. Of all things nuclear; whether it's nuclear weapons or nuclear power. So, in some respects, this backlash of… against nuclear power following the Fukushima Japanese reactor has resulted in some policies that are not well-thought-out; you know, Germany's in the middle of building ten brand-new coal-fired reactors. That's really a step backwards, you know, in a way. And a truly integrated energy policy would include nuclear"* (interview with Mr McCown).

Academic researchers Fischer et al. (2016) have determined that the political debate and critiques of the Energiewende concentrate not so much the long-term notion of a decarbonised economy, but more so on the obstacles and challenges on the road towards it: the efficiency and effectiveness of the mechanisms in place to properly facilitate the transition (Fischer et al. 2016, p.1581). They argue that the energy conversion is taking place too suddenly for utility companies and industry to accept and adapt to the new situation, as warnings of increasingly frequent power cuts emerge (Fischer et al. 2016, p.1580-1581). When looking at the actual aims in numbers, we see that greenhouse gas emissions are to be reduced by 40% in 2020, by at least 55% in 2030, by at least 70% 2040 and by 80–95% in 2050 (considering 1990 benchmark levels). Unsurprisingly therefore, Pescia and Ichiyanagi (2017) conclude that: *"[t]he key debates in German energy policy concern the future role of coal and natural gas and the different policy options that are available on the road towards an economy based on renewable energy"* (Pescia and Ichiyanagi 2017, p.4).

The German citizenry holds strong support for the Energiewende: although polls say roughly half of the population deem the energy shift ill-managed, over 90% agree it is an important or even a very important step that must be taken and agree that solar and wind energy should become the backbone of the German power system (Pescia and Ichiyanagi 2017, p.25-26). According to polls conducted, around 48% of the German people feel that the Energiewende is on track, while 55% argue change is happening at too slow a pace system (Pescia and Ichiyanagi 2017, p.26). Conversely, despite the laudable ambition of the endeavour, critical voices in the energy debate point out that the radical decarbonisation of the economy is taking place too rapidly. Fischer et al. (2016) emphasise that the undertaking is to be seen as an evolution, rather than a revolution (Fischer et al. 2016, p.1581). To prevent the large majority of costs to be borne by a small group of private consumers, they argue that it would have been a preferred outcome had all taxpayers been taxed a relatively smaller portion of the total cost (Fischer et al. 2016, p.1588-1589). Nevertheless, energy prices are estimated to spike in the effort of the transition: *"[u]tility association BDEW said recently German households would pay a record of more than 35 billion euros in taxes and levies with their electricity bills in 2017, while wholesale power prices continue to fall. (…) But the continued rise of the levy puts a burden on German consumers' power bills, and many believe this year's broad introduction of competitive auctions to determine renewable payments won't do enough to lower costs"* (Amelang and Wettengel, 23 February 2017). To present the exact numbers: in 2014, Minister of Economic Affairs, Mr Sigmar Gabriel *"(…) calculated that private consumers currently pay 24 billion euros ($30.6 billion) in higher electricity bills per year to finance Germany's push to renewables"* (Fuchs, 30 January 2014). What is more, not only will energy become – at least temporarily – more expensive; Fischer et al. (2016) underline that the application and institutionalisation of the Energiewende *"(…) remain a challenging task from a technical, political and from an economic perspective"* with regards to ensuring the continuation of the supply of electricity, as *"(…) increasing the share of renewables 'makes*

*security of supply a commodity, for which there is no price in the current electricity market'"* (Fischer et al. 2016, p.1588).

This basically uncovers the problematic and conflictive nature between the integration of renewable energy types and decarbonisation in the Energiewende on the one hand, and the rising market prices for energy due to higher costs of the energy system as a whole on the other, while decarbonisation and the nuclear phase-out take place simultaneously (Fischer et al. 2016, p.1588). Due to this divide, it remains to be seen how the public debate will take shape in the coming years while the country will possibly be faced with frequent power cuts and higher energy prices as the Energiewende progresses. Mr Vladimirov comments as follows on the situation: *"[i]n addition to the fact that some countries in Europe, like Germany, have been phasing out nuclear energy, is putting additional strain on the energy system. Replacing the nuclear capacity with renewable is simply impossible at the moment: a) it would cost a lot of money above the decommissioning of the plants, which is – I saw an estimate of around fifty billion dollars for the decommissioning of the nuclear power plants. And also, additional investment in renewables if that's the case. So, as I said: one of the bridge fuels, one of the transition fuels between the full energy transition to renewable energy and to low carbon energy, could be natural gas, because natural gas emits three times less $CO_2$ than coal and is currently cheaper. And it's available, I mean there are many – the amount of reserves of natural gas, especially after* [the] *shale gas revolution, basically are going to last for hundreds of years. And the Russian problem, the Russian dependence can be alleviated through smart methods, like diversifying sources, building interconnectors, improving storage capacity, opening Europe to LNG. Because currently, there is overcapacity of LNG regasification, but few suppliers. LNG is still not competitive to European… to competitors in Europe, like Norway and Russia. This needs to change if we want to have a global gas market; a global gas market would change these lock-ins between supplier and consumer. And that is still the status quo in Europe, so basically, having a long-term contract with a fixed supplier"* (interview with Mr Vladimirov). This quote portrays the speedbumps states may encounter in the energy transition that is to take place over the coming decades. The idea of introducing one or more gateway energy types that are to bridge the conversion from fossil fuel-based economies and societies to renewable-based ones, could form a good stepping stone. The risk is that dependence is then formed on the transitory fuel system, rendering it even more complex and expensive to create yet another Energiewende so to speak. Nevertheless, ceasing the usage of strong pollutants like lignite (also known as brown coal) in favour of the less polluting natural gas, would certainly be a step in the right direction where the environment and European as well as worldwide agreements on $CO_2$ reduction are concerned. Another benefit, according to Mr Vladimirov, constitutes the diminishment in energy dependence brought by diversification towards such transition fuels.

To conclude, we have seen that the debate on energy and energy security revolves around renewable energy, the latter being seen not as undermining the security situation, but rather as strengthening it and in essence as the key way to ensure higher levels of energy security in the future (Heinrich et al., 9 November 2016). This sentiment is fuelled by the idea that the more Germany generates its own energy, the less it will be dependent upon other states for its supply. Germany thus pursues a rigorous and fundamental alteration of its entire energy system. The main strategy through which to accomplish this being the Energiewende, which has been shaping policy and public opinion for decades.

### 5.2.3. The energy debate in Poland: geopolitics & fossil fuels

Seeing as the Polish political landscape, norms, values and culture are different to those in Germany in part due to very dissimilar historical backgrounds, it should come as no surprise that the on-going energy debate in Poland varies substantially from that of its neighbour to the west. In Poland, energy security is namely first and foremost seen as a geopolitical affair (c.f.; Heinrich et al., 9 November 2016). To thus decrease dependence and increase energy security, Poland seeks to conduct source diversification – as does Germany. Yet the fundamental difference lies in the fact that Poland wants to diversify towards other fossil fuels; Poland sees an increase in domestic production of various types of fossil fuels (coal in particular) as the cornerstone solution in the energy debate. We can see the great importance of coal for Poland in the national energy mix in Figure 6 below: the first pie chart shows the Polish energy mix, while the second portrays the average energy mix of the 28 European Union Member States. The differences are rather striking: Poland truly employs a lot more coal and other solid fossil fuels than the other Member States. As the figures indicate, 53,7% of the Polish energy mix consisted of coal and similar energy resources as opposed to 17% for the average EU28 in 2013 (see Figure 6). Conversely, Poland utilises fewer gas and other petroleum products among which oil, less renewable energy than the EU28, and no nuclear energy whatsoever – which is because Poland does not currently have any nuclear facilities. We will see below why this is.

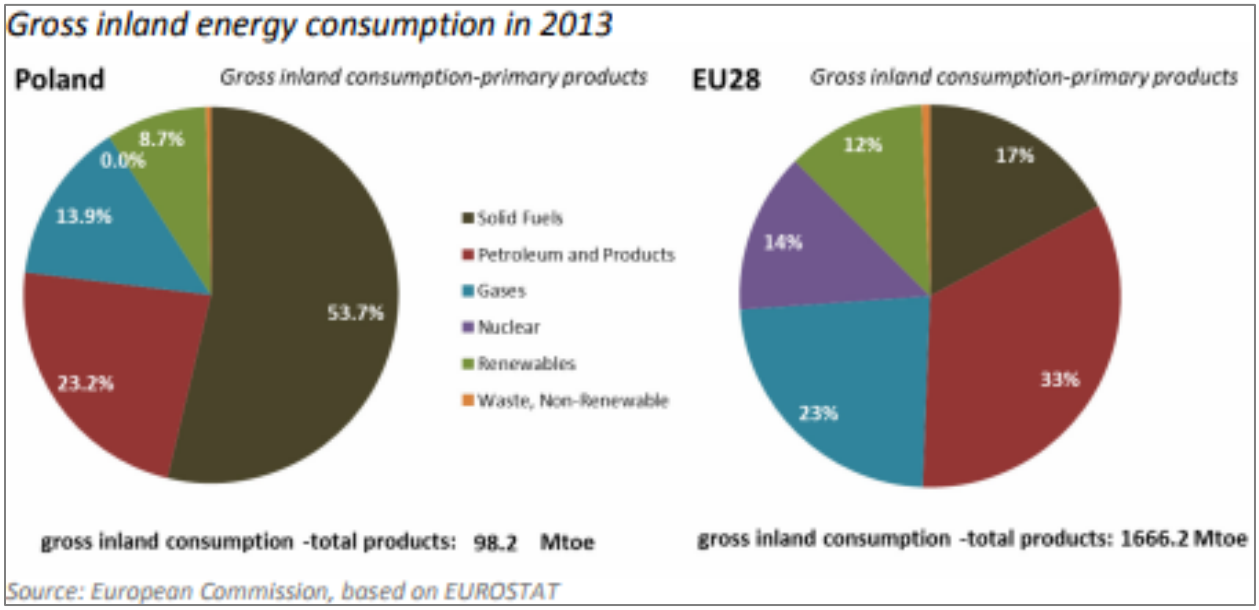
Continuing the explanation pertaining to diversification efforts of energy resources, the following is noted: aside from coal, the liquefied natural gas (LNG) station in Świnoujście is cited as exemplary by LNG research centre Copernicus on the road toward greater energy security – despite its delays in construction (Polskie LNG Centrum Nauki Kopernik: *Bezpieczeństwo energetyczne Polski*).[47] The above proves that the Polish State consumes its reserves of both coal and gas so as to keep energy dependence on Russia lower than it would have been without. Another energy resource is mineral oil: the Polish Press Agency hails the in 2014 constructed refined mineral oil terminal in Gdańsk as an important step in the diversification efforts and argues it helps to increase the level of energy security in Poland (Polska Agencja Prasowa (Polish Press Agency): *Debata: ropa, a bezpieczeństwo energetyczne Polski*[48], 16 January 2014). As we can see, Poland tries to diversify away from Russian gas by harvesting fossil fuels on its national territory. To popularise this idea, we see that (state) media as well as at least one research centre show positive discourse towards the employment of various types of fossil fuels in the energy mix to lessen oil and gas dependence on Russia. Aside from discourse, there is the Polish link between energy and geopolitics: while Germany is wary of the possible social safety repercussions of nuclear power and shale gas specifically, Poland here too accentuates the geopolitical value of domestic energy production and security of supply (Heinrich et al., 9 November 2016). Regarding shale products and similar fuel types that are found in subterranean rock formations that are difficult to reach, the OECD warns and recommends the following: *"[i]f Poland is to tap its potential shale and tight gas resources, it will be vital to build the needed infrastructure and put the necessary legal and regulatory framework in place to support production and to allow non-discriminated access to transmission capacity"* (International Energy Agency website: *Executive Summary and Key Recommendations OECD/IEA* 2011, p.10).

[47] The title of the article, *"Bezpieczeństwo energetyczne Polski"*, means: *"Poland's energy security"*.

[48] The title of the article, *"Debata: ropa, a bezpieczeństwo energetyczne Polski"*, means: *"Debate: oil, and Poland's energy security"*.

In view of long-term gas contracts with Russia and aside from its aforementioned vast coal reserves, Poland is considering to construct its first nuclear reactor (Heinrich et al., 9 November 2016). Interestingly enough, as we know, this comes right at a time when Germany is planning to close all its nuclear power plants. The plans to construct a nuclear power facility in Poland are not new: plans made in the late 1970s in what was then the Polish People's Republic, were put into effect in the early 1980s (Heinrich et al., 9 November 2016). However, after the Chernobyl disaster, construction was ceased due to public protest (Heinrich et al., 9 November 2016). Plans were, however, revived in 2005 with the institutionalisation of the Polish Nuclear Programme, which laid the groundwork for future construction of two nuclear facilities by the mid-2020s (Heinrich et al., 9 November 2016). To encourage a positive image of nuclear energy in the minds of its citizens, the Polish government had the media portray the nuclear option as a criterion sine qua non for energy security and warned against the political repercussions of dependency on Russia, thus framing nuclear power as indispensable to negate harmful dependence (Heinrich et al., 9 November 2016). This might sound somewhat suspicious, but it is essentially no different from the way in which German government campaigns in the media to foster support for renewable energy.

**Figure 6: Poland's energy mix and the EU-28 average energy mix in 2013**




SOURCE: COMMISSION STAFF WORKING DOCUMENT: COUNTRY FACTSHEET POLAND 2015, P.2

Where renewables are concerned, Poland is somewhat divided on the issue and lacks the general support for green energy that Germany enjoys. Although some people and societal groups are in favour of renewable energy, the majority of the populace see a rise in such energy types as possibly harmful or even undermining the state of energy security in Poland (Heinrich et al., 9 November 2016). This is because from the Polish perspective, fossil fuels have been a reliable certainty throughout the ages. They provide a major employment force (the coal industry alone employs 100.000 people), which if dissolved would undoubtedly spark general outrage over unemployment (Heinrich et al., 9 November 2016). Moreover, *"(…) not only are renewable energy sources considered expensive, unreliable and volatile, particularly relative to coal, but greater dependence on renewables is perceived as perpetuating Poland's energy dependence on foreign countries. Given its longstanding dependence on Russian gas and oil supplies, many*

*in Poland are wary of developing new dependencies on foreign technologies (e.g., from Germany), particularly if the deployment of renewables disadvantages incumbent domestic actors"* (Heinrich et al., 9 November 2016).

I should like to introduce here a quote by Mr Maciej Kowalski, who said: *"(…) well, I'm trying to relate what we do to strictly to energy security and what you're looking for. And I guess, you know, the more resources we develop here in Poland, the better for Poland, I guess – a more secure Polish economy if we can develop something locally and leave the money here in Poland, rather than purchase something from Russia or Norway or wherever else – I think that's for the better. But that being said, Polish hydrocarbons are limited in their scope and for a while there some people thought that the shale gas might turn around, might turn the tables here; it didn't, so far. Some people, including me, are still optimistic – right now, at least the gas industry: it looks like we're consuming around sixteen billion cubic metres a year. And out if that Poland is producing 45 billion. So roughly one-third of the gas we're consuming here in Poland is coming from our Polish sources. And all of the rest, virtually all of the rest is Russian gas – either imported straight from Russia or reimported from Germany."*

Here, Mr Maciej Kowalski raises a few important points I would like to emphasise: on the one hand, he says that resource development in Poland will strengthen the Polish economy, as it boosts employment and curbs the need for foreign supplies and thus keeps energy dependence at a low level. This is precisely why Poland focusses on fossil fuels. On the other hand, he acknowledges that the shale gas revolution as seen in the US did not occur in Poland and that Polish hydrocarbon resources are limited and thus finite. Another argument Mr Kowalski brings to the forefront is that despite high production, Poland is still very much dependent on foreign sources – particularly on Russia, which brings us back to the negative perception Poland has of this state and the geopolitical tug-of-war that goes along with this situation.

Aside from the energy debate being redirected to geopolitics and focussed on diversification towards other fossil fuels that can to some extent be generated domestically, Poland seems to be rather sceptical about interstate co-operation – not just with Russia, but also with other EU states among which Germany: *"(…) any cross-border infrastructure raises more concerns and political worries on the Polish side, evoking debates over the potential use of energy infrastructure for fostering political goals and increasing Poland's dependence on other countries"* (Heinrich et al., 9 November 2016). To briefly explain the matter of low interconnection in Poland due to political apprehensions: this is not to say that Poland has no interconnectors whatsoever. According to the European Union evaluation of key energy security indicators in the second *State of the Energy Union* report, *"(…)* [Poland] *increased its interconnection level (to 4%), thanks to the LitPol Link. The indicator remains below the 10 % target in 11 Member States"* (*State of the Energy Union report 2017*, p.45). To clarify: the LitPol Link is an interconnector between Poland and Lithuania. Mr Kowalski adds to this: *"Gas System is the Polish semi state-owned company (…) and it basically runs virtually all the gas pipelines in Poland. And they invest in new pipelines, they maintain the ones we have, they make sure that the market for gas is growing. They're building those interconnectors that are there to connect our grid to, for example, Germany's grid or Czech Republic's grid, or, you know, Lithuania's grid. So we have a few* [interconnectors]*; the largest we have is of course the Yamal – a gas pipeline which is also an interconnector in the strict sense, because it connects two countries. But you'd have to check the number, but I think they're able to transfer 30 billion cubic metres a year through that pipeline or even more, I'm not sure. (…) Thirty, yeah, we* [Poland] *use sixteen."* Mr Kowalski is right: as seen

in subsection 3.3.3, the Yamal pipeline transports 33 billion cubic metres of natural gas per year, to be exact. Now, academically speaking, the conclusion we can draw here is as follows: it is evident that Poland's stance runs counter to the integratory and cooperative aims set forth by the EC, such as the interconnectivity goal. This is rather representative of the notion that European Union views and goals on the one hand, and those of the Member States on the other not only diverge, but at times even somewhat bluntly oppose one another. Furthermore, as we can distil from the investigation of our two country cases, this also holds true for Member States amongst each other. Perhaps redundant to conclude: this matter heavily complicates integration efforts, and from this perspective it is indeed no wonder that the Energy Union with its fully-fledged common energy policy has yet to be implemented and institutionalised.

In essence and to conclude, fossil fuels are seen as the backbone of the Polish economy as well as a dependable and consistent way to fuel society. Another reason why fossil fuels remain more popular than renewables, is that precisely because Poland is so focussed on and economically as well as socially intertwined with fossil fuels, the perpetuation of their usage logically becomes a self-fulfilling prophecy. Since Poland has given relatively (when compared to other EU states) little attention to renewables over the past decades, the Polish energy infrastructure system is not equipped to handle, transport or store such energy resources. This is because different kinds of infrastructure facilities are required for fossil fuels than for renewables. It would therefore take massive investments over an extended period of time to fundamentally alter the entire network of energy systems in order for it to be prepped for green energy. According to the EU, some infrastructure investments have been taking place already: in line with the EU Cohesion Policy, it is said that *"(…) at least EUR 453 million is foreseen for investments in R&I and adoption of low-carbon technologies"* between 2014 and 2020 (Commission staff working document 2015: *Country Factsheet Poland*, p.12).[49] However, since the political and energy policy focus are not on renewables as key sources to sustain the Polish future, I remain rather sceptical of these investments. They could namely also merely be political window dressing to appease Brussels. It will however not be possible for me to find out the truth behind this matter. Nevertheless, what can be said, in a nutshell, is that Poland's emphasis on geopolitics in energy security and media rhetoric illustrate its foreign policy concerns, the shape of its political landscape, and the priorities it places in the pursuit of energy security.

### 5.2.4. Germany: energy mix and emission levels

Before the Energiewende had commenced, the German energy mix traditionally consisted of nationally supplied hard coal, lignite and nuclear (Pescia and Ichiyanagi 2017, p.6). Yet today, as the prices of renewables are down and green energy takes up a growing portion of the energy mix, renewable energy accounts for roughly 30% of Germany's domestic power generation (in 2016) and is increasingly becoming a key resource (Pescia and Ichiyanagi 2017, p.5). This policy has already started to bear fruit: the BDEW (der Bundesverband der Energie- und Wasserwirtschaft e.V. – the German utility association) reports that despite the fact that Germany currently still is the European Union's largest importer of oil and natural gas, the country has since recently become a net exporting state of electricity, owing to the boost in usage of renewables (from 16% in 2009 to 27% in 2014) (BDEW, 2015 in: Szulecki et al. 2016, p.554). Please see Figure 7 on the next page for a graphic display of Germany's current energy mix by Pescia and Ichiyanagi (2017).

[49] R&I stands for 'Research and Innovation'.

Interestingly, and one might even say paradoxically, the usage of coal in the German energy mix is still surprisingly high. Even though I argued in Chapter 3 that the consumption of coal has been declining, this does not mean it is barely in use at all today. As my application of Skinner's formula to calculate energy dependence has proven: dependency of the EU28 states on coal in general is rising.

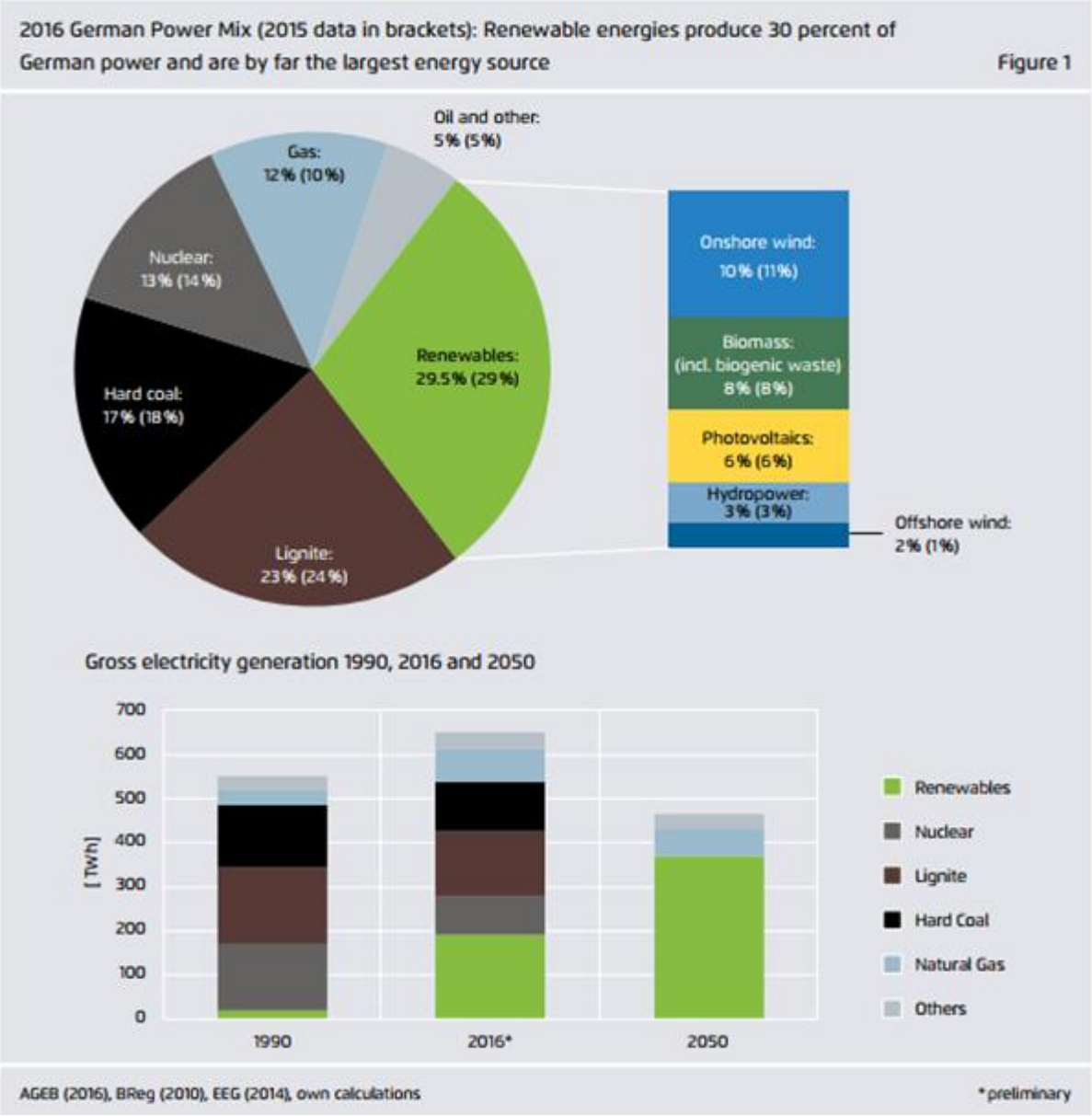
There are three reasons as to why Germany still consumes large amounts of coal in spite of its Engeriewende: firstly, coal is quite economical – both nationally mined and imported. In fact, Germany produced 217.144 tonnes of coal in 2012, rendering it the second coal producer on the European continent (after Russia, which produced 390.152 tonnes in the same year) (Actualitix – World Atlas: *Europe - Coal - Production (1000 Metric Ton)*). Poland took the third place and as such, surprisingly so: Germany uses more coal than Poland. The amount of coal Germany consumed in 2012 is roughly the same as preceding years, owing to a continued lower price level. Secondly, as we have seen in 5.2.2, Germany is diversifying away from nuclear power. To be precise, the declining use of nuclear amounted to -55.7 TWh (terawatt hours) between 2010 and 2016 (Pescia and Ichiyanagi 2017, p.9). Now, although the power production from renewables grew with 87.2 TWh and general energy consumption declined with 22 TWh over the same period, coal continues to form an indispensable part of the German energy mix to fill the gap left by the nuclear phase-out (Pescia and Ichiyanagi 2017, p.9). Thirdly and finally, despite the EU reporting a 60% drop in oil prices since 2014, as well as a 50% drop in gas prices Pescia and Ichiyanagi (2017) note gas prices to be high at the time of writing (c.f.; European Commission website, Energy, Data & analysis: *Market analysis*; Pescia and Ichiyanagi 2017, p.9). Traditionally speaking, gas prices were tied directly to oil prices. Yet since 2009, the European Central Bank (ECB) has been recording a gradual decoupling of gas prices from oil prices, the consequence of which being that gas prices rose much less over the period of 2009-2011, than did oil prices (ECB Monthly Bulletin October 2014, p.34). Oil prices rise and fall with agreed upon production output, whether or not there is an economic crisis, general trust in the economy, or many other such variables; they are not extremely prone to sudden fluctuations – notwithstanding a few exceptions. Both statements by the EC and by Pescia and Ichiyanagi (2017) are accurate. Then, with coal also still actively in use, this brings us to German emission levels. On the one hand, the strict emission reduction quotas imposed by the Energiewende policies have helped to scale back greenhouse gas emissions to a 27% reduction in 2016 (based on 1990 benchmark levels) (Pescia and Ichiyanagi 2017, p.14).

On the other hand, however, these same researchers have remarked a marginal increase in total greenhouse gas emissions over the time span of 2014-2017 – which is mainly owing to the continued use of coal (emissions were 306 Mt $CO_2$, amounting to roughly 40% of total greenhouse gases emitted by Germany in 2016) (Pescia and Ichiyanagi 2017, p.14). The preceding is termed the 'Energiewende paradox'. This paradox is likely to lessen as renewables increase, because logically speaking the more green energy is used, the less coal is needed to fill the aforementioned gap left by Germany's nuclear stop – thus lowering $CO_2$ emissions. According to research institute Fraunhofer IWES,[50] rather than focussing on energy reduction, Germany ought to concentrate on providing buildings with better insulation (seeing as the majority of consumed gas is allocated to heating systems) – this initiative would provide for the possibility to do away with Germany's energy dependence on Russia by 2030 (Fraunhofer IWES in: Amelang and Wettengel, 8 March 2018). A European Union strategy on energy security – mentioned also

[50] The full name of this research institute is 'Fraunhofer-Institut für Windenergiesysteme'.

by this research in subsection 4.5.2 – also put forth this solution (Amelang and Wettengel, 8 March 2018). Concretely, Amelang and Wettengel (2018) estimate that this idea *"(…) would require insulating two percent of its houses annually, exchanging gas heating units with electric-powered heat pumps and accelerating the roll-out of wind and solar power"* (Amelang and Wettengel, 8 March 2018).

**Figure 7: The contemporary German energy mix**




SOURCE: PESCIA AND ICHIYANAGI 2017, P.5

Nevertheless, insulation and employing greater amounts of green energy in the power mix, is not a miracle fix: owing to the generally diminishing output by European gas producers such as the Netherlands, Norway and the United Kingdom – Germany would not lessen dependence on Russia by merely decreasing consumption (Amelang and Wettengel, 8 March 2018). *"Friedbert Pflüger, former state secretary in the Ministry of Defence and now Director of the European Centre for Energy and Resource Security at London's*

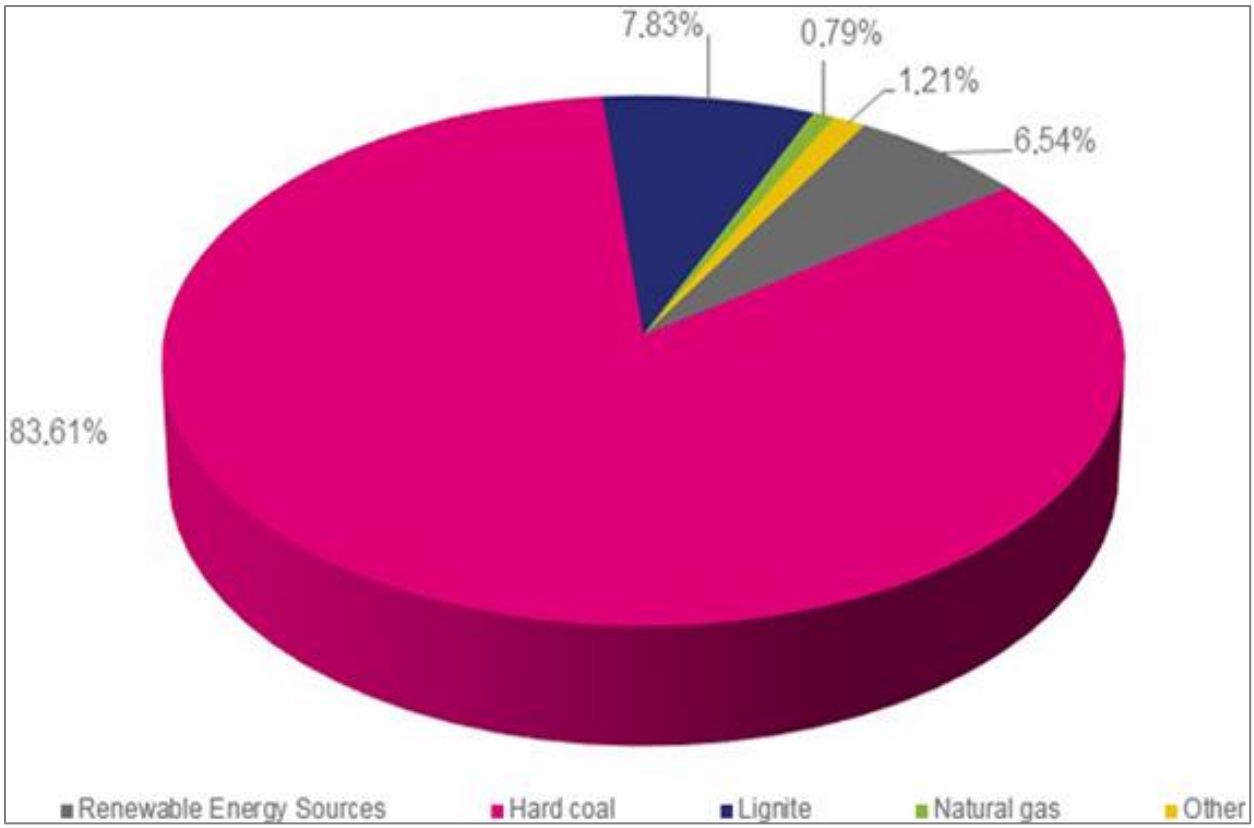
*Kings College, agrees boosting efficiency and renewables might reduce demand for gas in Europe. But this still might not make a dent in imports because domestic production will fall as European fields are depleted. "I can't rule out that we will import more gas from Russia ten years from now," Pflüger said at the Energy Security Summit. He said the development of real alternatives – for example imports from Iran, Iraq, and also US shale gas, will require a lot of time and money. The Economist magazine also concluded in an extensive analysis of European gas dependency that a significant emancipation from Russian gas, also by increasing renewables, will "(…) take political will, money and the best part of a decade""* (Friedbert Pflüger, and The Economist in: Amelang and Wettengel, 8 March 2018).

### 5.2.5. Poland: energy mix and emission levels

As seen above, as Poland's primary energy resource is coal, and the fact that it needs not import this fuel, its energy mix differs to a great extent from the EU28 which means that the country needs not import large amounts of this resource. As Pichola et al. (2016) confirm: *"Poland's energy mix differs considerably from that of other EU Member States, because as much as 87% of the country's electricity is produced by burning coal. Hard coal, which has a higher calorific value than lignite coal, alone accounts for 50%. Hard coal is mostly mined domestically, whereas other EU Member States heavily rely on imports. Hard coal is a key resource from which Poland generates heat (about 75% share in 2012)"* (Pichola et al. 2016, p.23). That being said, in spite of Poland's impressive resources and its former status as the largest coal exporting country on the European continent, the Polish Republic became a marginal net importer of coal in 2014 (*State of the Energy Union report* 2017, p.35). Above in Figure 8, we see the energy mix as supplied by Tauron Polska Energia S.A., a Polish energy company in which, at the time of writing, the Polish government holds a minority share (30,06% to be exact) (Tauron, About TAURON, Investor Relations: Shareholder Structure). As the Polish State is a major shareholder of Tauron Polska Energia S.A., this means that it is highly plausible that the government influences and supports Tauron's policy direction – effectively rendering it exemplary for Polish energy policy and the national energy mix. When comparing it with the national energy mix to test whether Polish utility companies show the same energy trends as the national power mix, we can confirm this to be true.

Before moving on, I found it intriguing to find out how Mr Kowalski's viewpoint regarding green energy would, considering his background in the fossil fuel industry. My question was as follows: *"[y]ou just mentioned, for a moment, the windmills. What is your stance, how do you feel about renewable energy?"* Mr Kowalski: *"(…) I know we produce anything between ten and twelve percent of energy from wind in Poland, but it's a part of an energy mix that needs to be there. But on a cold, windless night you still want to have your TV on, right?"* Interviewer: *"[o]k, but what about the solar collectors for example or the hydropower plants, or the tide coming in – tidal energy. Do you see any future with that, do you see any opportunities?"* Mr Kowalski replied: *"[n]o, no of course, I think if you can make money on it, why not? Yeah, of course."* Interviewer: *"[b]ut there's not really a market for yet, you're saying?"* Mr Kowalski said: *"[t]here is somewhat: they use subsidies, I think you can do it and people do it of course. Poland doesn't have rivers big enough, or the Baltics don't have strong enough tides for us to use this energy. And we're not Spain, we can only get this much out of the sun. And I don't want to go into environmental impacts of putting up windmills or how you produce those possible tech cells to get that energy out of the sun – so I really, really don't know. But it's – everything needs to be considered, but I think oil and gas deserve to have its shot. Also in Europe."*

**Figure 8: Energy mix as supplied by Tauron Polska Energia S.A. in 2015**




SOURCE: TAURON WEBSITE, ABOUT TAURON: FUEL MIX

Although his estimates of the amounts of renewables in Poland's energy mix seem overly optimistic, Mr Kowalski's position on the continued significance of fossil fuels as central to the Polish energy supply and usage mirrors that of the Polish government, as we have seen. As long as this thinking does not change, neither will national energy policies.

To prove and highlight this point, let us next briefly consider the second fossil fuel vital to the Polish economy and to its society: natural gas. Where this energy type is concerned, preliminary estimates indicate that Poland may be sitting on roughly 5,3 tcm (trillion cubic meters) of unconventional gas reserves (Kovács et al. 2011, p.57). The Polish government seeks to slowly but surely expand the share taken up by natural gas in the national energy mix from 12% in 2006 to 15% in 2025, by increasing consumption from 14,5 bcm (billion cubic metres) in 2006 to 20,2 bcm in 2030; a plan that is to be realised both by increasing national production as well via cumulative imports (*Polish energy policy until 2030* in: Kovács et al. 2011, p.57). If these imports are to be in co-operation with Russia (where most gas on the Polish market currently originates from as we have seen), this would render the level of energy dependency stronger and would thus signify a deterioration in the state of Polish national energy security. Conversely, where national production is concerned: since part of the total reserves are found in unconventional gas pockets – which means that they are not easily accessible via conventional drilling practices – it is likely that this given will serve as an impetus to incentivise shale gas drilling techniques. Meanwhile, the enthusiasm to strengthen the role of gas in the energy mix can also be seen in national rhetoric: *"Minister Mikołaj Budzanowski stressed that in the process of optimizing gas prices, development*

*of new technologies for exploration and extraction of shale gas will be extremely important, as well as the construction of transmission network, LNG terminal, and new cross-border connections, e.g. with Lithuania"* (Sawa, 6 September 2012; revised on 13 September 2012). This is yet another dissimilarity with Germany, which mostly sees environmental hazards in shale gas extraction and exploitation. Be that as it may, the main hurdle to subsequently be taken will concern the rules and regulations of EU environmental policy, to which Poland is legally bound as a Member State (Kovács et al. 2011, p.57).

On a final note in this subsection: when juxtaposing the Polish and German ideas on renewables against each other, we notice that the Polish media do not frequently highlight the positive side to renewable energy as is done in Germany (c.f.; Heinrich et al., 9 November 2016). In essence, renewable sources of energy do not form an indispensable part of Polish energy policy, nor of the national and corporate energy mixes as we can see. Tauron shows a 6,54% consumption rate of green energy in Figure 8. Here too, the Polish Government and corporate community are somewhat distrustful of the German state, which is best characterised by the following quote: *"[a]t the national level and in the business community, however, there is concern that Germany is interested in spreading its transition as a way to promote its own industries and to further its technological dominance. From the Polish perspective, a transition to renewables would be more feasible if Germany – and the EU – took greater consideration of Poland's political, economic and social conditions and helped to ameliorate any negative consequences. For experts in both countries, a transition to renewables would be facilitated by greater policy coordination – both within national borders and across them"* (Heinrich et al., 9 November 2016). We see that the political obstacles present are not insurmountable. Yet for fair and open dialogue to take place, trust needs to grow between the two states as well as between the EU and the Polish Republic. Albeit fascinating to think about how such trust-building could take place and which policies and strategies could be employed to set Poland on the path toward green energy, this topic is, unfortunately, beyond the scope of this research and I cannot investigate it further.

### 5.2.6. Perception and the matter of Russian gas prices in Poland

Finally, before we embark upon the next sub-chapter, there one intriguing matter related to politics and perception that I wish to bring forth: the perceived notion that Poland pays too much for Russian gas; more than Germany. A side note to this is that since this perception does not exist in Germany, it is not necessary to have a separate subsection on the German side of this case. This perception is not just quantifiable in absolute terms, but also relatively speaking: a simple web search finds dozens of hits claiming that Poland pays more for the same amounts of gas purchased from Russia than does Germany. These are not merely the voices of anti-Russian bloggers or conspiracy theorists: whether true or false, both mainstream media outlets and media on the margins frequently report on this story, and it has even been officially confirmed by the Polish Minister of Foreign Affairs, Mr. Witold Waszczykowski.

On 15 April 2014, the Polish pro-governmental TV-station TVP Telewizja Polska S.A (Polish Television Incorporated), wrote an article that started with the following headline and introduction: *"Polska płaci za rosyjski gaz najwięcej ze wszystkich państw UE. Już w roku 2011, Polska płaciła za rosyjski gaz najwięcej ze wszystkich państw UE – 420 dol. za 1000 m3. Podczas, gdy Niemcy 279 dol. Rekordowo dużo płaciliśmy w 2012 roku – 526 dol. Niemcy – 279"* (translation: *"Poland pays more for Russian gas than any other EU state. In 2011 already, Poland paid more for Russian gas than any other EU state – 420* [US] *dollar for 1000 m3. Meanwhile, Germany paid 279* [US] *dollar. We paid a record amount in 2012 –*

*526* [US] *dollar. Germany – 279* [US dollar]*”*) (*Uniezależnienie Polski od rosyjskiego gazu w analizie “Po prostu”* (*Poland’s dependence on Russian gas under analysis in “Just”*), TVP Television 15 April 2014).[51] The fact that a leading medium such as TVP would report so concretely, in principle accusing Russia of unfair or perhaps even politically motivated pricing (this is not specified in the article) is a strong statement in and of itself. TVP presented the following numbers in the video of a brief news segment (see below). As we can see, according to TVP, Poland paid $420 for 1000 m3 of natural gas from Russia in 2011 and $526 for the same amount, while Germany paid $379 for this same quantity in both 2011 and 2012 (*“Uniezależnienie Polski od rosyjskiego gazu w analizie “Po prostu”” (“Polish dependence on Russian gas under analysis in “Just””*), TVP Television 15 April 2014).

Before turning to the Minister of Foreign Affairs, it should be noted that international media such as the Financial Times, which wrote the following in a 2012 article: *“Poland pays some of the highest prices in Europe, despite being one of Gazprom’s largest customers, according to a study by Interfax and Vedomosti (The FT’s sister Russian paper). Poland pays $420 per 1,000 cubic metres of gas, compared to $410 for Italy, $379 for Germany and $333 for Slovakia”* (Cienski, 21 June 2012).

**Figure 9: Polish and German fees paid for Russian gas in 2011 and 2012 according to TVP Polish TV**

SOURCE: UNIEZALEŻNIENIE POLSKI OD ROSYJSKIEGO GAZU W ANALIZIE *„PO PROSTU”* (POLISH DEPENDENCE ON RUSSIAN GAS UNDER ANALYSIS IN *“JUST”*), TVP TELEVISION 15 APRIL 2014).

This means renowned international media do back up the claims of the Polish media. What is more – as hinted above; the Polish Minister of Foreign Affairs is also convinced Poland pays more than Germany for the same amount of Russian gas. He plans to fully diversify away from Russian gas after 2022, when the current bilateral gas contract with Russia draws to a close. A direct quote of Mr Waszczykowski headed the article: *“Szef MSZ: ‘Po 2022 r. chcemy uniezależnić się od dostaw rosyjskiego gazu. Płacimy za niego*

[51] I have done all translations from other languages into English myself. This is possible thanks to knowledge of the Polish and German languages. No automatic translator was used. I take full responsibility for any and all translations in this thesis and have not asked any other person to translate for me.

*więcej niż Niemcy'" ("Chief of Ministry of Foreign Affairs: 'After the year 2022, we want to acquire independence from the Russian gas supply. We are paying more for it than Germany'"*) (wPolityce.pl website, 22 September 2017). Conversely, despite the apparent veracity to Poland paying more for equal amounts of gas than Germany, not everyone agrees: Goldthau (2008) wrote that Poland paid roughly €150 per thousand cubic metres in 2006, while Germany paid €250 in that same year (Goldthau 2008, p.687). He adds to this that the Czech Republic also paid more than Poland (€170 per tcm), while the Batlic states pay only around €105 (or €140 if one includes transportation costs) (Goldthau 2008, p.687). Goldthau (2008) does concede that although gas prices in Central Europe are lower, they have been rising considerably in the past years – noting at most annual price rises of thirty percent– meant to level prices of Central Europe with those paid by Western European countries (Goldthau 2008, p.687). Now, with the steep annual price increases mentioned by Goldthau (2008), the prices he mentions and those given by Polish media in 2012 are not necessarily at odds. A quick calculation shows that if Poland paid €170 in 2006, and we continuously apply the steepest price rise Goldthau (2008) has found – which is thirty percent – then Poland's fees for Russian gas (the starting point being €170 per tcm in 2006) would be as follows: €221 in 2007, €287 in 2008, €373 in 2009, €484 in 2010, €629 in 2011, and €818 in 2012.

Clearly, Poland's price rises remain well below the thirty percent mark. If Germany paid €360 per tcm in 2012, it would make sense for Poland's €170 per tcm in 2006 to undergo continuous increases so as to level with German price levels. If Poland does pay more than Germany at this point, it can be either because Russia charges Germany relatively lower prices to keep relations positive, or it could indeed be a political towards the Poles (seeing as Poland is geographically closer to Russia, transportation costs could not be higher for Poland than for Germany). These allegations remain unconfirmed, and since this research has been proven that perception plays a more decisive role than do facts, the actual gas prices matter less than the grievances and perceptions held by Poland over this situation. That being said, it would naturally be interesting for continued research to look into gas prices per European state (both EU and non-EU) to see to what extent gas prices affect perception. Russia made high profits until 2006 by purchasing gas from countries in Central Asia at rates varying between $45 (US) and $65 (US) per tcm and subsequently selling this on the Western European markets for roughly $230 (US) per tcm (Baran 2007, p.137). Zeyno Baran (2007) offers two explanations for this enormous price difference: she firstly notes that Gazprom is extremely inefficient, and secondly, reminds us of the near monopoly position Russia holds (Baran 2007, p.137). Indeed, countries like Kyrgyzstan, Turkmenistan, Uzbekistan and Kazakhstan cannot reach Europe with their gas on their own. Extending the Southern Gas Corridor might change this to some extent in the future, but for now, Russia is their main transit country to reach European client states. Baran (2007) gives two alternative reasons for why this is not happening: firstly, because of the poor human rights track records of these Central Asian states, and secondly, because Russia is blocking any such infrastructure projects (Baran 2007, p.137). It surely is fortunate for Russia that the Nabucco pipeline project was abandoned. Baran's judgement is that gas prices charged by Russia are certainly politically motivated, as she gives the oft cited example of Georgia, which pays $230 (US) per tcm (Baran 2007, p.137).

Turning back to the issue at hand, and to render this research more complete, I also looked at the international webpage of the Ministry of Foreign Affairs of Poland on this topic, which contained this policy statement: *"[i]n five years Poland would like to completely cut off natural gas supply from Russia. Such is the political will"* Foreign Minister Waszczykowski said on the last day of his visit to the United

States during a meeting with journalists. The year 2022 marks the end of Poland's natural gas supply contract with Russia. *"We are aiming towards being able to import gas from other politically safe areas at that time, which will not make us prone to political, instrumental actions on the part of Russia, which in previous years has been the case for Ukraine and Belarus"* the head of the Polish Ministry of Foreign Affairs said. *"I assume that by then the LNG terminal in Świnoujście will be fully operational and expanded. We will also build a Baltic Sea Pipeline into the waters of the North Sea"* he added. The Foreign Minister stressed that if the United States offered favourable prices, Poland would be able to import gas from across the Atlantic. In his opinion, the gas Poland is currently importing from Russia is too expensive. "*We pay far more than Germany,"* he said. The head of Polish diplomacy said that after 2022 Poland would be able to sell gas to other countries. *"We will even be able to distribute this gas imported into Poland to other neighbouring countries in our part of Europe," he stressed in an interview given to Polish journalists in Washington"* (Ministry of Foreign Affairs, Republic of Poland, Polish FM Witold Waszczykowski on Poland's energy security, 2012).[52] The notion that Poland wishes to diversify away from Russia so quickly is interesting, but how this endeavour is to take place cannot be looked into here, and will be considered in the context of the Energy Union in sub-chapter 5.4.

There is a lot to unpack from this quote: firstly, it is clear that Poland holds grievances regarding the supposed higher gas fees it pays Russia than does Germany for the same amount of fuel – be these perceived or true. Secondly, in the quote, the Minister implies that the higher prices are politically motivated and that Russia exerts political influence via other states' dependency levels. Nevertheless, below in subsection 5.3.5, we will see that this research is, unable to irrefutably prove a conclusive correlation with – let alone causality of – political motivation. This claim remains plausible, yet unconfirmed, and could be the focal point of more specific research. Thirdly, while Mr Waszczykowski wishes to start importing LNG from the United States, the Danish Ambassador has reasoned in subsection 4.3.3 – that this would not be a cheaper option. Ambassador Hommel points out that a combination of the liquefaction and deliquification processes of LNG, transportation (taking time and costing money), rising LNG prices, and the lack of operational LNG terminals in Europe, keep the LNG market in Europe modest. That being said, as Reymond (2007) has calculated above, the greater the distance whence gas has to come, the relatively lower the prices are for LNG. The duration of getting these shipments from the US to Polish households and companies would take quite a lot more time. As for security of supply: not taking into account possible intentional gas cuts, supply security could ironically decrease a little owing the long and logistically complicated journey this gas has to embark upon. Nevertheless, Energy Commissioner Miguel Arias Cañete has similar reasoning and would like LNG from the US to play a role in EU energy diversification efforts, arguing the following: *"(…) the rapid expansion of the LNG market that is already contributing to our security of supply in a positive manner. Better access to LNG can reinforce our energy resilience by enhancing supply optionality and flexibility, by allowing the EU to draw upon a global rather than just a regional supply of gas. In this context, the appearance of the US as a major energy exporter on the global market is an important development. And while we very much appreciate the US LNG that has so far been delivered to Europe, we believe that we have an attractive, large and competitive*

[52] It is worth mentioning that although the year 2012 is indicated at the bottom of the webpage, the press statement itself has no exact date.

*market that can attract more US companies to actively compete with their gas on our market"* (Speech by Commissioner Miguel Arias Cañete on 12 April 2018, p.2).

Looking at the problem as well as the solution put forth in Mr Waszczykowski's quote, we see that the fears of, and grievances towards Russia go hand in hand with an energy policy that wishes to diversify, yet not to decrease overall dependence. Mr Cañete uses similar reasoning, although he does not mention Russia in particular. There are two explanations imaginable for this rhetoric: firstly, as has been noted above, LNG can be transported in a very economical and safe manner over greater distances, which signifies that the only real investments that need to be made are the construction of liquefying and regasification stations. Secondly, we learn that the wish to lessen energy dependence on Russia is placed so high on the political agenda that LNG imports are initiated, despite the higher start-up due to lacking critical infrastructure and interconnectors in most EU countries. When push comes to shove, this is the reality of the strength and persistence of perception in politics: the cheapest and nearest option is not always the safest, best or most logical one. Politics and policy-making remain a human endeavour wherein perception of the 'other' is key: when the narrative is compelling enough, perception can quite easily outweigh and overrule hard facts, logic and rationality.

Finally, it is of course vital to look at the facts: how much do Poland and Germany actually pay for Russian gas? In all honesty, I must with great regret admit that I was unable to find conclusive evidence for and answers to this question. Knowing that I could not take the media's word for this, I searched in books, academic magazines and scientific articles, as well as EU sources, think tank websites and research reports, but I cannot with certainty confirm or deny that the numbers presented by TVP and the Financial Times are true. I will, however, assume that Mr Waszczykowski's statement – spoken in an official manner and on the record – noting that Poland pays more than Germany for Russian gas, is correct, since international repercussions would be grave if this were a falsehood. Yet in the end, it does not actually matter, because even if it is not true, the perception Poland has of the situation stands firm, and with the Minister's words – so does public opinion. In any case, Poland signed a gas deal with Russia in October 2010 agreeing on imports of this fuel type until 2022 – a date which is closing in rapidly (International Energy Agency website, *Executive Summary and Key Recommendations OECD/IEA* 2011, p.10). The OECD advises the Polish government to *"(…) seriously take into account the expected growth in gas demand and ensure that future gas supplies meet this growing demand"*, in order to safeguard and guarantee energy security in the near to medium-term future (International Energy Agency website, *Executive Summary and Key Recommendations OECD/IEA* 2011, p.10). The gas deal signed with Russia must not undermine in any way Polish initiatives to *"(…) diversify supply sources and to develop domestic resources"* (International Energy Agency website, *Executive Summary and Key Recommendations OECD/IEA* 2011, p.10).

### 5.2.7. Conclusion

In 5.1.1 and 5.1.2, we have seen that both Germany and Poland are highly dependent on Russian oil and gas. Germany's Energiewende, which is to decrease energy dependence, amongst others, is largely seen as positive by the general population. Fischer et al. (2016) point out the main problem Germany faces in its transition towards a renewable energy-based society. This concerns the lacking of funds due to missed income from the lower amounts of nuclear energy and traditional fossil fuels used, while the Energiewende in itself is a costly endeavour (Fischer et al. 2016, p.1588). High oil and gas prices complicate

matters further for Germany, that pays for the 30% renewables in its energy mix by being the largest consumer of coal in the EU; a rather ironic contradiction with its clean energy goals.

Poland, for its part, seeks to diversify towards other fossil fuels in order to move away from dependence on Russia. Political factors and historical grievances place a pivotal role in the debate on energy security in Poland. A country that does not trust either Russia or Germany and 'Brussels', Poland mainly focusses on resources found in its own national territory. Looking at the situation from the perspective of these sentiments, combined with a sceptical outlook on the effectiveness and efficiency of renewable energy, we can conclude that it is logical Poland would be interested in initiating energy projects such as shale gas extraction, LNG, and constructing nuclear facilities. Notwithstanding its richness in gas and coal combined with its mining aspirations, Poland has become a net importer of coal. Unsurprisingly, the above leaves very little for renewable energy. This fact is bound up with negative governmental rhetoric and media statements with regards to green energy, which strengthen and perpetuate popular aversion to renewables and convince the electorate of the importance and reliability of fossil fuels. Poland sees Germany's push for renewable energy on its country as a subterfuge for Germany to *"(…) promote its own industries and to further its technological dominance"* (Heinrich et al., 9 November 2016).

In spite of this acrimony and lack of trust, Heinrich et al. (2016) deem it possible for transcendence of the situation to take place by a genuine will to understand matters more from a Polish point of view, coupled with increased coordinative policy efforts domestically as well as bilaterally between Germany and Poland (Heinrich et al., 9 November 2016). Be that a possible strategy for a rapprochement in the near future, Poland genuinely believes it is worse off than Germany in terms of energy tariffs from Russia. Leading popular news outlets broadcast on the topic of these grievances, and even the Polish government has officially taken quite strong a position in the debate, influencing public opinion, and shaping the Polish narrative in international (energy) relations. It is not up to me to qualify the claims made, and I shall refrain from taking a side. What can be said, however, is that the situation at hand causes friction between these two larger, neighbouring EU Member States. Such incongruence between allies in a trade block is detrimental to the internal cohesiveness of European internal energy relations. It could well be that this was just an unintentional side-effect of North Stream and Russia's warmer relations with Germany. Conversely, it may have been Russia's objective to set the Member States against one another all along: as a conscious move of power play behind the scenes to weaken the structural integrity of the Union as a whole – this we shall not find out.

## 5.3. What are the differences between the cases of Germany and Poland vis-à-vis their respective energy relationships with Russia?

### 5.3.1. Introduction

How does a high level of energy dependence influence bilateral energy relations? Does more dependency equal a better or worse relationship with the supplier, or is there no correlation? In order to answer this question, I will look into the state of energy dependence on Russia and the political energy relations with said supplier state, which will be done for both countries I am investigating in this case study. To take a concrete example with which to work, I will use that of the aforementioned controversial pipeline project entitled North Stream II to illustrate the energy relations Germany and Poland respectively entertain with Russia. The purpose of the incorporation into the research of the topics presented in this sub-chapter (subsections 5.3.2 and 5.3.3) is to highlight the different approaches and situations of the Member States: this is to showcase the rather complicated situation wherein the EU as a whole has hitherto found itself with regards to energy affairs, -politics, and -diplomacy. The second part of this sub-chapter (subsections 5.3.4 and 5.3.5) helps to expound how Russia is viewed and what the core aspects are in the bilateral energy relations, on the example of North Stream II.

### 5.3.2. Germany: the state of energy dependence on Russia

Having discussed the German Energiewende in subsection 5.2.2, one could be inclined to think that Germany is well on its way to becoming autarkic in the field of energy. This, however, is not the case as we have already briefly seen: reality is indeed more complicated. There are two principal reasons for German energy dependence on Russia: firstly, because the former's national reserves are either largely depleted or too costly to exploit cost-efficiently (Amelang, 11 February 2016). And secondly, because as we have seen in sub-chapter 5.2, Germany is closing its nuclear reactors, while its generation of renewable energy is not yet at a level that it can sustain country-wide consumption levels. The reason why the state is dependent upon Russia of all suppliers, is a rather banal one, as explained by the following quote from a leading energy expert: *"'[t]here are not many other places apart from Russia where Germany can get a lot of gas quickly,' said Jonathan Stern, chairman and senior research fellow at the Natural Gas Research Programme of the Oxford Institute for Energy Studies"* (Zha and Shiryaevskaya, 4 July 2017). Strengthening the above argument is Germany's overall energy dependency[53] percentage: while average energy import dependence in the European Union was 53,4% in 2014, Germany's dependence levels amounted to 61,4% in the same year (Amelang, 11 February 2016). Concerning oil for example, Germany imports from over 30 supplier states (Amelang, 11 February 2016). This makes it seem as if the country has diversified quite well. Yet upon a closer look, Amelang (2016) notes that 35% of German oil imports (total imports being 97,2% of consumption) came from Russia, which amounted to 31.4 mtoe out of the total of 90.4 mtoe imported (Amelang, 11 February 2016). Where gas is concerned, Russia is once again Germany's primary supplier state with 39% of the total German gas consumption imported from this supplier state in 2013 (Amelang, 11 February 2016). To recapitulate: Germany is quite heavily dependent upon Russia, the latter

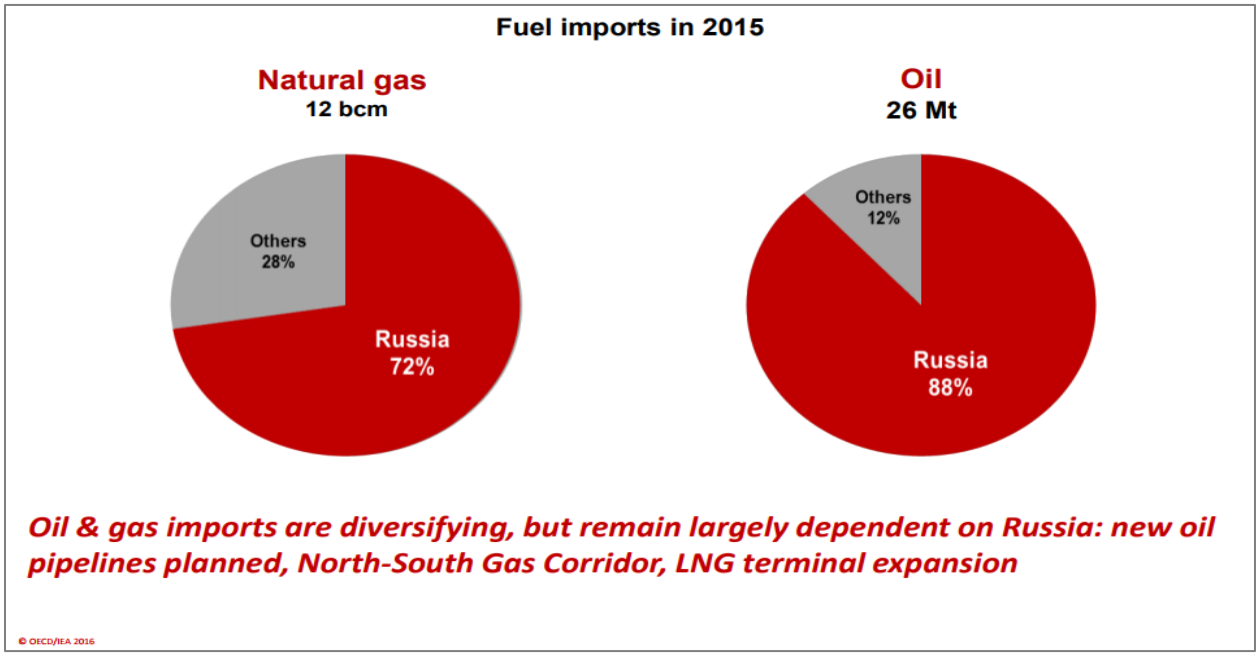
[53] By overall dependence I mean the dependence Germany may have on any and all countries, rather than just on Russia.

being the most important supplier of the oil and gas the former consumes. Next, I will turn to looking at how dependent Poland is on Russia for the same fossil fuel types.

### 5.3.3. Poland: the state of energy dependence on Russia

Poland imports the bulk of its oil and gas – and does so from Russia. To see how much is actually imported, let us turn to Figure 10 below for a schematic look. In a joint report by the International Energy Agency (IEA) and the Organisation for Economic Co-operation and Development (OECD), it is written that Poland imports 95% of its crude oil demand and roughly 66% of its gas demand, which means that the state is highly dependent in regard to both resources (OECD/IEA 2011, p.10). Perhaps unsurprisingly at this point, the report goes on to say that more than 94% of the total Polish oil imports and over 80% of its gas imports are Russian in origin (OECD/IEA 2011, p.10). The high state of energy dependency in Poland regarding Russia since the beginning of the Cold War is argued to be inextricably linked to the strong negative views held vis-à-vis this supplier state. We will look into this more in subsection 5.3.5.

**Figure 10: Poland's import dependency on Russia regarding gas and oil**




SOURCE: OECD/IEA: WORLD ENERGY OUTLOOK 2016

### 5.3.4. Germany's view of its energy relations with Russia on the example of North Stream

In this subsection and the next, I will compare Germany's and Poland's political energy relations with Russia using the example of the North Stream pipelines. This is done, firstly, because it reveals the differences between how two Member States go about their largely comparable situations of energy dependence on Russia. Secondly, it unveils a rather problematic reality for the Union as a whole: national policies lacking of EU solidarity. These are the making of policies and energy deals that will benefit one or some Member States, yet prove negative, or even detrimental to others. But before initiating the comparison by turning to the state of Russo-German energy relations, it would first be interesting to see why the latter engages itself in the North Stream and North Stream II plans at all.

Germany and Russia are the two main players when it comes to these pipeline projects. In fact, as we have seen in the preceding chapters, they are the only players, as the conduits lead straight from Russia to Germany (although this of course does not mean they are the only states affected by the projects). The main reason why Germany has initiated either North Stream project, is obviously to purchase Russian gas at a lower cost. Gergely Molnar, analyst at Wood Mackenzie, estimates the transportation costs of gas via North Stream to be roughly 40% more economical than the current pipeline-based solutions that run via Ukraine (Molnar in: Zha and Shiryaevskaya, 4 July 2017). Aside from this, there is of course also the reduced security risk: the chance of accidental or deliberate tampering with, or destruction of, infrastructure is greatly reduced when the conduits are laid on the bottom of the sea. Another reason for reduced security risks is found in the lack of transit states: when Ukraine, Belarus or Poland are cut out as middleman, both risk as well as additional costs (in terms of transit fees) are reduced.

Now, regarding energy relations between Russia and Germany: in sum, from the looks of it they fare quite well. Generally speaking, political relations between Germany and Russia are much better than between Poland and Russia. This is not to say, however, that there is no mutual distrust, or that these states are closely befriended: Germany's membership of the EU and of NATO are obvious testaments to this. Yet businesswise, the countries are able to find each other and strike common ground. One important reason why Germany and Russia entertain reasonably good political (energy) relations, is their bilateral alliance dating back to the Ostpolitik policies mentioned in Chapter 3 (c.f.; Dempsey, 10 December 2015). German policy towards Russia namely used to be grounded in a state of close economic cooperation in the hope that this could help to inspire stability in Russia and minimise the risk of assertive Russian foreign policies towards European states (Javor, 27 February 2015). Mr Vladimirov notes this on the topic of the political energy relations between Germany and Russia and why Germany continues to renew its energy deals with this supplier state: *"[i]t* [Gazprom] *will also, of course, increase the supply to Germany. Germany has a special connection with Russia, as you know. And German businesses like the way things are now, because they're receiving a discount on their natural gas imports – actually paying less than most other countries in Europe. And since Germany is a country with large energy-intensive, gas-intensive manufacturing companies, like BASF and Mercados,*[54] *it needs all the gas to sustain its edge – its export edge"* (interview with Mr Vladimirov).

Another reason for their warm partnership and collaboration, which is not unimportant in itself, concerns the fact that their two state leaders share a common background in their upbringing in Communism, and therefore a certain level of understanding. Ironically, the same shared Communist history between Russia and Poland severely strains political relationships between the two states to this day. Be that as it may, this does not mean that no-one is sceptical where the Russo-German bilateral relationship is concerned; particularly when taking into account North Stream and the EU. Henry Helén (2010) notes the following: *"the Russo-German relationship, the closest bilateral relationship, and a prime example of how 'economic nationalism' combined with Moscow's 'divide and rule' strategy undermines the EU's efforts to construct a cohesive energy security policy, and its most significant outcome – the Nord Stream gas pipeline – with potentially extremely significant geopolitical consequences (…)"* (Helén 2010, p.3). Germany may be the de facto leader of the EU advocating for closer integration; the state

[54] Mercados EMI is an energy consultancy firm based in India (Mercados website: About us: *Company overview*).

nonetheless puts its own interests before that of the Union's common cause – as other EU states have been inclined and observed to do.

### 5.3.5. Poland's view of its energy relations with Russia on the example of North Stream

As noted earlier in the research, Poland is not part of either of the North Stream projects. The geopolitical lens through which Poland perceives energy security in general, coupled with its grim view of Russia, its limited trust of Germany, and the perception of being left out of these gas projects on purpose combined, make for the fact that Poland takes a strongly negative stance against North Stream. It has gotten to the point that Poland even lodged a formal procedure before the ECJ to have a decision of the EC appealed. This decision regarded the lifting of a cap of Russian gas by Gazprom flowing through the Opal pipeline which Poland sought to prevent (Sartori and Colantoni, 20 March 2017, p.4). The ECJ approved Poland's claim and Energy Union chief Mr Šefčovič openly blamed Russia for the debacle: *"[t]he European Court of Justice (ECJ) accepts the Polish appeal over the European Commission decision of the 23rd of October to lift the cap on Gazprom usage of the Opal pipeline. It has thus suspended the execution of the decision, which allowed the company to use up to 90% of the transmission capacity of the pipeline carrying gas from Nord Stream (23 December, here). VP Šefčovič explains the complexity that characterizes the Nord Stream project, initially conceived as a project of common interest in 2009, highlighting that further cooperation was undermined by the Russian side"* (Sartori and Colantoni, 20 March 2017, p.4). The Opal line runs from the Baltic Sea in northern Germany where it connects directly to the North Stream conduits towards the south, where it joins with the Czech interconnector. Map 14 below portrays the Opal line in pink, and shows us that a twin line is planned, just like is the case with North Stream II.

The North Stream II conduit is by far the most heated matter between Germany and Poland when it comes to bilateral energy relations. This is sentiment is very much reflected in Polish national rhetoric of the highest level on topic: due to the fact that Poland is excluded from participation in the project as transit state, former Minister of Defence of Poland, Mr Radosław Sikorski, made a direct comparison between the North Stream pipelines and the Molotov-Ribbentrop pact – wherein Germany and the then Soviet Union agreed to attack and divide the territory of Poland amongst themselves (Heinrich et al., 9 November 2016). The Polish denouncement of German co-operation with Russia on North Stream II which, at the time of writing is still under construction, namely received yet another sharp edge in 2016, when *"(…) at a meeting with German Chancellor Angela Merkel in June 2016, the Polish Prime Minister Beata Szydło explained that the Nord Stream extension is 'an investment that will lead to a division of Europe'. Polish anti-trust proceedings later prevented EU companies from forming a joint venture with Russia for the Nord Stream II project"* (Heinrich et al., 9 November 2016). This quote shows that Polish rhetoric regarding North Stream II and its suspicious stance on the Russian involvement therein do not merely constitute disgruntlement over being omitted. From a Polish perspective, the wider regional energy security situation in Central Europe is actually put at risk by Germany's wishes to obtain (Russian) gas more economically: *"'Germany's dependence on Russian gas may effectively decrease Europe's sovereignty. I have no doubts about that,' Prime Minister Donald Tusk told a news conference"* (Krajewski, (edited by Goettig and Boulton), 10 March 2014).

**Map 14: Yamal and North Stream gas pipelines connect Central Europe to Russia**

SOURCE: S&P GLOBAL PLATTS: RECORD RUSSIAN NATURAL GAS FLOWS VIA NORD STREAM 1 FALL AFTER OPAL INJUNCTION

Coupling geopolitics to the Polish traditionally sceptical point of view towards the employment of renewables in the energy mix as decreed by the EU, Mr Tusk continued to say: *"[i]ncreasingly more expensive energy in Europe due to exorbitant climate and environmental ambitions may also mean greater dependence in Russian energy sources...Hence, I will talk (to Merkel) primarily about how Germany is able to correct some economic actions so that dependence on Russian gas doesn't paralyse Europe when it needs...a decisive stance"* (Krajewski, (edited by Goettig and Boulton), 10 March 2014). Logically speaking, one of Poland's main concerns is higher energy prices when it will no longer be an indispensable transit state. It is certainly worth reminding that Russia can (and at times does) raise energy prices. Indeed, it has been proven by several social scientists that the price a state pays for Russian gas is directly correlated to said country's foreign policy stance towards this supplier (Abdelal 2004; Bruce 2007; Jaffe and Soligo 2008; Myers 2006 in: Stegen 2011, p.6509). For example, Georgia, a West-looking country, paid $325 US per

thousand cubic metres of gas, while Belarus – which has a pro-Russian government – only paid $46 US for the same amount of gas in the same year (Stegen 2011, p.6509-6510).

The above speaks of an implicit rather than an overt use of the Russian energy weapon. As briefly argued in Chapter 4 based on the principle of interdependence, Russia will most probably never go as far as to temporarily cease the energy flow to any EU Member State. Goldthau (2008) expounds why the energy weapon is highly unlikely to be applied: firstly, he argues that Russia would need to have enormous amounts of gas that could just be reduced at will, while *"[i]n fact, there is serious doubt on Gazprom's ability to even meet its export commitments—let alone to artificially reduce supplies for political reasons"* (Goldthau 2008, p.690). Secondly, Goldthau (2008) argues that *"(…) any attempt of Gazprom to use energy deliveries for political leverage would immediately result in painful revenue cuts, given the fact that Gazprom earns all of its profits on European markets"* (Goldthau 2008, p.690). This effect is intensified by the dual pricing scheme Russia has set up: the fact that natural gas is sold extremely economically at home, renders it highly unprofitable (Haghighi 2007, p.276; Goldthau 2008, p.690). This policy choice exacerbates Russian monetary dependence on European Member States as crucial clientele – the fate of Russian financial survival is in large part tied to Europe in that it depends on the revenues yielded by the fossil fuel trade with the Europeans. Goldthau (2008) concludes that this is ultimately why countries that are part of the Commonwealth of Independent States (CIS) have been encountering price rises in recent years, which made for political conflicts between Russia and pro-Russian countries like Belarus (Goldthau 2008, p.690). The Commonwealth of Independent States is an international organisation focussed mostly on free trade between twelve former Communist satellite states, these being Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and Ukraine (CIS website: *About the Commonwealth of Independent States*).

Goldthau (2008) argues against there being an actual energy weapon, and says that the price increases are part of a police move to *"(…) compensate for a loss-generating home market"*; he also denies a geopolitical game is played to increase Russian influence on European gas markets (Goldthau 2008, p.690). Goldthau (2008) proceeds to conclude that *"(…) the real threats to European energy security in natural gas lie in insecure investments activities and in the future development of the domestic Russian gas market. In a nutshell: European households could in fact remain cold during one of the upcoming winters; this will however not be the result of Russia's use of a 'gas weapon', but rather due to a serious lack of upstream investments and a persistently inefficient Russian use of gas"* (Goldthau 2008, p.690-691). Kaveshnikov (2010) agrees, stating that: *"[t]he crucial factor of instability of the Russian energy sector is the need to make enormous investments. Reduction of capital investment in the Russian energy sector in the 1990s caused serious problems"* (Kaveshnikov 2010, p.596). Possibly, if European energy companies invested in Russian upstream infrastructure this would help both Russia prevent gas cuts, and lessen European fears of Russian market domination. It is, however, not at all a given that the Russian government would permit such European investments to take place. Kaveshnikov (2010) knows that such investments already take place, yet disputes that this alleviates worries over EU energy dependence, stating: *"(…) the EU is a monopolistic client to a greater extent than Russia is a monopolistic supplier. Russia and the EU both carry on diversification strategies, but they can hardly diminish existing interdependence. Interdependence shows itself not just in trade. The EU is the principal investor in the Russian economy, including the energy sector. EU companies possess technologies required to develop*

*Russian offshore deposits and might facilitate access to final consumers"* (Kaveshnikov 2010, 598). Indeed, investing only increases interdependence – yet it also increases oversight and control.

Let us return to the issue of the energy weapon: we have looked into the arguments surrounding the plausibility of energy weapon application onto the European gas market(s). But what about the CIS states: could these 'weaker' countries that do not benefit from protection of the European Union be at risk of having Russia's energy weapon used against them? In light of the Kremlin's desire to increase foreign gas revenues to offset domestic unprofitability, and considering the gas cuts made in a few such states, what do scientists believe? Even these 'weaker' states which do not hold positions of leverage over Russia, Stegen (2011) concludes that the employment of the energy weapon has a negligible impact on the foreign policy directions of the states at the receiving end of it, arguably owing to some degree of assistance from the West (Stegen 2011, p.6510). In addition, the risks Russia runs by employing the energy weapon are arguably too great: the economic cost in terms of lost revenue and damaged trust could well outweigh the political gain of a supply cut, simply because the EU is too large and important a market for Russia to lose its foothold on. Monaghan and Montanaro-Jankovski (2006) note that: *"(…) it seems unlikely that Russia will seek to use its energy resources against the EU in a politically-motivated attack or as a diplomatic lever in the short to medium term, although this cannot be ruled out completely. The use of energy (particularly oil, but also gas) as a weapon is often counterproductive and, as Russia has discovered, damages its reputation as a reliable supplier. Russia needs the income from its hydrocarbon exports to sustain its economic growth. Europe is its main market and thus the main source of this income. For the foreseeable future, Russia is a 'captive source' as there is considerable infrastructure linking Russia and the EU. It would be extremely costly for Russia to diversify exports away from the Union"* (Monaghan and Montanaro-Jankovski 2006, p.24). This last prediction did not come: Russia has indeed initiated diversification initiatives away from Europe: Russia forged a major gas deal with China on 21 May 2014, wherein it would supply 38 bcm / 1.34 (Tcf) over a timespan of thirty years, for the value of 400 billion US dollars (Nakano and Chow, 2014; Luhn and Macalister, 21 May 2014).

Nevertheless, this fact does not eliminate Poland's apprehensive stance over North Stream II, mostly because as we have seen, foreign policy direction (and following from it, national rhetoric) is based rather on perception than on facts. To conclude, it is therefore plausible to say that Poland's cold stance towards North Stream II is less than likely to warm up anytime soon – whether serious geopolitical concern is warranted or not.

### 5.3.6. Conclusion

In the introduction to this sub-chapter, I asked whether a relation could be found between a country's energy dependence and the political relations it has with its supplier. Such a correlation between the level of energy dependence and the diplomatic relationship with the main energy providing state was not discovered by my research. We have namely seen that while Germany and Poland are highly dependent upon Russia, their political energy relations with said supplier differ greatly. The comparisons in energy dependence are easy to make: both states are quite highly energy dependent – although there are states that are even more strongly dependent. Of their dependence, both countries indicate Russia to be their chief supplier, yet relative to their respective consumption levels, Poland is more dependent upon Russia than Germany. Other dissimilarities are of a more fundamental nature: while to Poland is wary of Russia as a key supplier on account of historical animosity, we have seen that between Germany and Russia it's

all about profitability. These two countries may have differing perspectives on a variety of topics, yet when it comes to energy, pragmatic business opportunities take priority over ideological differences. When this happens and such business deals are made, the EU seems to respond rather weakly, unless of course EU law is infringed upon in some way. However, the EU can do more when MS implore it to, as we will see in the ensuing subsection. It is clear that although the Union leaders are involved in the negotiations, Union rhetoric remains rather vague on the topic – arguably so as not to frustrate any states involved, nor undermine the negotiating process. The following is said by the EU pertaining to North Stream II discussions: *"[t]he still-unresolved question of the doubling of Nord Stream 2 has again seen a strong involvement of the Vice President: even if the Commission cannot claim victory on the issue, the project remains blocked after the 2016 exit of the European partners, already a half-success for Brussels"* (Sartori and Colantoni, 20 March 2017, p.2). Just the term 'half-success' shows us the Union's ambivalence towards the subject: this way, a step in almost any direction could be seen as half-success for the EU. The most probable reason for this can be found in the diverging national views of the North Stream projects. Germany's excited attitude towards North Stream is the polar opposite of Poland's critical assessment of it; as we have seen, Poland even went as far as to go to the European Court of Justice to fight against lifting the Russian flow cap on the Opal line (Sartori and Colantoni, 20 March 2017, p.4). When the Member States, the actual engine of the EU, do not see eye to eye on fundamental issues such as (energy) security, the Union as an organisation is stifled and indecisive in its policy direction.

## 5.4. Germany vs Poland: How do these Member States tackle intra-EU integration on the example of Energy Union implementation?

### 5.4.1. Introduction

In this sub-chapter, we will look into the physical reality on the ground with regards to the implementation of the Energy Union; the EU's most comprehensive and concrete manifestation of a common energy policy. Since the Energy Packages have been issued and to some extent implemented, and the Energy Union has officially been founded over a decade ago, why is de facto implementation stalling? The logical conclusion would be to think that the Member States are dragging their feet and do not really want its implementation, as I have concluded at various previous places in the research. Yet is this also correct in the cases of Poland and Germany? How far along is actual execution of the joint European energy plans on the ground? We will once again use our country case studies – Germany in subsection 5.4.2 and Poland in subsection 5.4.3. The sub-chapter will end with an elucidation of the perceived tension between the national and the European level in terms of energy policy in subsection 5.4.4. This context should help to clarify why the Third Energy Package has yet to be fully put into practice.

### 5.4.2. German implementation of the Energy Union

As seen in Chapter 3, the Energy Union has five pillars upon which efficacious implementation rests: energy security (mostly seen in the context of Russia as a primary energy supplier), the internal energy market, energy efficiency, decarbonisation, and research and innovation. According to the European Commission, Germany is well on track regarding three out of five pillars: energy security, decarbonisation, and research and innovation (European Commission: *Towards an Energy Union – Germany*). The assessment of the European Commission notes that concerning energy security, Germany is well-prepared for possible supply shortages thanks to diversification efforts and the number of interconnectors in place (European Commission: *Towards an Energy Union – Germany*). Still, Mr Maroš Šefčovič, the Energy Union chief, warned that this is not enough, as he stated the following in a speech he gave in 2015: *"[t]he ongoing instability on our eastern borders has sent an alarming reminder that our energy security is unsafe as long as we don't diversify our energy sources and supply routes (with a third of German gas currently being imported from Russia)"* (European Commission, Maroš Šefčovič, Announcements, *Energy Union: Speech at the German Institute for Economic Research* (Deutsches Institut für Wirtschaftsforschung - DIW); Berlin 24 June 2015). When it comes to decarbonisation, Germany's Energiewende efforts are mentioned: the level of renewable energy resources in the energy mix is rising and Germany is making good strides in regard to meeting its 2020 targets (European Commission: *Towards an Energy Union – Germany*). In their research report, Pescia and Ichiyanagi (2017) confirm this, concluding that *"(…) at current growth rates, renewable energy sources will be able to more than compensate for the phase-out of nuclear by 2022"* (Pescia and Ichiyanagi 2017, p.7). Moreover, Germany is lauded for its advances as a frontrunner in the field of low-carbon and renewable technologies in the pillar research and innovation (European Commission: *Towards an Energy Union – Germany*).

Nevertheless, regarding the other two pillars – the internal energy market and energy efficiency, Germany is not doing well in the greater framework of Energy Union implementation. The aforementioned assessment writes that energy prices range among the highest of the entire continent, due to the surcharge on renewables as well as Germany's continued strong reliance on coal (European

Commission: *Towards an Energy Union – Germany*). The same is true of the state of energy efficiency: Germany is not on track to meet its required energy efficiency levels, despite the successes booked in the field of decarbonisation (European Commission: *Towards an Energy Union – Germany*). The German policy transformation (the Energiewende) has not yet started to bear fruit in this area, a fact underscored in Pescia and Ichiyanagi's 2017 research: *"(…) progress in the area of energy efficiency has been more moderate, as power consumption is only 4 percent below its 2008 levels"* (Pescia and Ichiyanagi 2017, p.5). Germany has as such still has some work to do before it reaches its 2020 Energy Union goals. The above are the matters the EC wishes Germany to achieve. According to the German Federal Government, Germany itself seeks to accomplish the following three objectives from Energy Union implementation:

- *"create a functioning internal market for electricity and gas that creates the necessary investment incentives and works at the same time as a backup for and as a consumer of German electricity supply. A strong regional cooperation dimension would be in line with a process recently started by the German government to cooperate with neighbouring states on electricity market design. The internal market also serves as the key answer to most energy security concerns brought up in the debate;*
- *make the 2030 Framework the core of the Energy Union by putting special emphasis on climate protection, renewable energy support and energy efficiency measures. Though it opted for more ambitious national targets, Germany now tries to make the most out of the binding 27% EU-wide target. To make it work, the Commission should develop a governance framework that forces MS to act on renewable energy policies while at the same time leaving support mechanisms widely under national control;*
- *prevent Commission action that supports nuclear or fossil fuel activities or uses state aid rules to influence national decisions on the energy transformation. Although this turns out to be a defensive proposal, it safeguards Germany's Energiewende from EU intervention in the name of the Energy union*" (Szulecki et al. 2016, p.555).

### 5.4.3. Polish implementation of the Energy Union

Measuring Poland's implementation efforts of the Energy Union in the same fashion as done with Germany; the European Commission has concluded that in both the first (energy security) and second (the internal market) pillars, Poland is lagging behind in implementation. Yet when looking at energy efficiency, Poland is not only on track; it has actually already reached its 2020 goals. In the field of decarbonisation, the Polish Republic is also on target, and when it comes to research and innovation, the Member State is set to partially meet its objectives. Firstly, taking into account energy security, we have seen that Poland's large solid fuel supplies prompt its energy mix to greatly differ from the average EU 28 energy mixes (Commission staff working document: *Country Factsheet Poland* 2015, p.2). This could logically lead one to think the level of energy security is bound to be high. Szulecki et al. (2016) confirm that: *"[i]t is thanks to coal that Poland is one of the least energy-dependent EU MS. In 2013, it imported 25.8% of energy resources (the EU average is 53%)"* (Szulecki et al. 2016, p.557). Contrariwise, as also noted that Poland is dependent upon Russia for the large majority of its oil and gas. Due to lack of past diversification efforts, Poland's level of energy security remains rather low.

When considering the second dimension; the internal energy market, the European Commission remarks that Poland's level of interconnection with other Member States is suboptimal. The interconnection level was namely 2% in 2014, whereas the EU goal set is 10% interconnection in 2020 –

which Poland is highly unlikely to reach in time based on its current policy path (Commission staff working document: *Country Factsheet Poland* 2015, p.3). That being said, there is also positive news to be shared in regard to Poland's implementation of the internal market element of the Energy Union: the country has been heavily investing in energy grids (both additional construction and modernisation of existing infrastructure), which includes the aforementioned LNG station and interconnector on the Polish-German border at Świnoujście (Commission staff working document: *Country Factsheet Poland* 2015, p.3). According to Mr Maciej Kowalski, there are two LNG stations necessary for the process of transporting liquefied gas: one that liquefies the gas and deliquefies or regasifies it, which are two very different plants and the process of which cannot take place at the same station (interview with Mr Maciej Kowalski).

Although current interconnectors are deemed indispensable for Poland's energy security in case of an energy shortage or crisis (including the aforementioned LitPol Link), the Member State is criticised for depending too heavily on Germany's power grid for the emergency measures to work diligently. *"Maintaining undisrupted supplies from neighbouring, especially the German, gas markets is a prerequisite for the stable operation of the national grid and for supplies to vulnerable consumers during potential disruptions. Availability of transmission capacity on the Polish-German interconnection points should therefore be ensured permanently and independently from internal German grid management solutions"* (Commission staff working document: *Country Factsheet Poland* 2015, p.4). This strongly reminds me of H.E. Steen Hommel's words about preventing free riders from lacking in national investments and thus practically forcing other MS to help them during emergencies in view of energy solidarity mechanisms. I would like to end with energy prices: as opposed to Germany, gas prices in Poland rank below the EU median, yet electricity prices are above average (Commission staff working document: *Country Factsheet Poland* 2015, p.4).

The next dimension up for scrutiny is energy efficiency. As briefly observed in the introduction of this subsection, Poland has more than reached its energy efficiency goals for 2020: its targets were 96.4 Mtoe in primary energy consumption and 71.6 Mtoe in final energy consumption, while primary energy consumption amounted to 93.2 Mtoe and 63.4 Mtoe in final energy consumption in 2013 (Commission staff working document: *Country Factsheet Poland* 2015, p.5). Yet due to estimated sustained levels of economic growth in the near future, it remains to be seen whether Poland will in fact reach its 2020 targets after all (Commission staff working document: *Country Factsheet Poland* 2015, p.5).

With respect to the fourth pillar; decarbonisation, Poland is projected to reach its targets and even overachieve by 2%, and is also estimated to attain its goals pertaining to the incorporated share of renewables (Commission staff working document: *Country Factsheet Poland* 2015, p.8). However, two critical side notes need to be interjected here: firstly, while we saw in Chapter 3 that the European Commission proposed a 20% increase in renewables across the Union, Poland has readjusted those markers and set its own aim for the consumption of renewables to 15% (Commission staff working document: *Country Factsheet Poland* 2015, p.8). Based on the 11,3% share of renewables that was part of the energy mix in 2013, the country is indeed set to reach its 2020 goals (Commission staff working document: *Country Factsheet Poland* 2015, p.8). The notion that Poland is to some extent decarbonising is actually more surprising than the fact that it has lowered its standards where this is concerned. This has to do with the grim view the Polish government takes of decarbonisation – and of the EU's climate policy as a whole: *"EU decarbonisation policies are very often portrayed in Polish political debates as a policy problem – an issue that has to be addressed – on par with import dependence (Ancygier & Szulecki, 2014).*

*It has been noted that climate change, although growing in importance, is not a salient political issue in Poland, and the country's political parties are almost unanimous in criticizing the EU's ambitious climate policy (Marcinkiewicz and Tosun 2015), while the German Energiewende is presented as a massive policy failure in both economic and security terms, with negative side-effects for neighbouring states (Ancygier & Szulecki, 2014)"* (Ancygier and Szulecki, 2014; and Marcinkiewicz and Tosun 2015 in: Szulecki et al. 2016, p.558). Secondly, in spite of its steadily climbing percentage of green energy in the energy mix, *"(…) carbon intensity of the Polish economy is the third highest in the EU"* (Commission staff working document: *Country Factsheet Poland* 2015, p.8). Unsurprisingly so, this is owing to the large amounts of coal burnt by Poland, rendering its renewable energy efforts a drop in the proverbial bucket.

It is therefore rather surprising that the EU somewhat proudly announced that the Polish Republic is an overachiever in terms of decarbonisation. Szulecki et al. (2016) explain how Poland managed to do this is: *"[t]he renewable sector is lagging behind, and while in the power mix the share of energy from renewable sources increased from 2% in 2004 to 10.8% in 2013, this was mostly due to biomass co-firing in coal plants"* (Szulecki et al. 2016, p.557). Lastly, in terms of the research and innovation pillar of the Energy Union, Poland ranks above the EU average regarding public support share allocated to research and innovation in the field of sustainable energy, low-carbon technologies and environment, yet far below it concerning intensity of low-carbon technologies patents (Commission staff working document: *Country Factsheet Poland* 2015, p.9). Researchers have found that this is due to the following: *"'[c]lean coal technologies' are a concession towards environmental sustainability and climate change mitigation, while renewables are perceived as a costly addition, not the foundation for future energy mixes (Ancygier, 2013; Skjærseth, 2014). That is why Poland consequently also stresses the notion of 'technology neutrality' (meaning an open window for coal, nuclear or shale gas)"* (Ancygier, 2013; and Skjærseth, 2014 in: Szulecki et al. 2016, p.557-558). Whether coal can indeed be clean (and if so, how clean in comparison to other fossil fuels), remains to be seen and is up to scientists to definitively establish.

As a final point, which was also done for Germany, I would like to briefly discuss what integration steps in the Energy Union is likely to welcome or oppose, based on the research conducted by Szulecki et al. (2016). First and foremost: *"[t]he role of sustainability is diminished, and even if the government's rhetoric denies it, the Energy Union is often seen as alternative, not complementary to the EU's climate and energy policies (Beckman, 2015). As a consequence, the Commission's major reshaping of the Energy Union agenda, which saw the replacement of 'rehabilitating hydrocarbons' with an emphasis on decarbonisation, and joint gas purchases with demand side responses, was perceived as Poland's diplomatic failure"* (Szulecki et al. 2016, p.558). Looking at the Polish stance as we have been doing, the above quote and remark is not unanticipated: Poland has considerable confidence in fossil fuels and does not believe in the trustworthiness of renewables. Poland is expected to: *"(…) continue pushing for security of supply as the driver of the Energy Union. Solidarity translated into concrete mechanisms for crisis management as well as diversification of supply will be another point. In this, assuring that European financing is available for gas infrastructure projects can play a role"* (Szulecki et al. 2016, p.558). This is right up Poland's alley for two reasons: firstly, energy crisis prevention measures will likely strengthen the level of energy security, as they allow for better warning mechanisms and interstate energy sharing in the possible event of an energy cut or shortage (be it of natural or human causes). Secondly, by encouraging diversification, Poland can show Brussels its good will in attaining Energy Union goals, while at the same time pursuing its state policies of diversifying away from Russian oil and gas and towards nationally

generated fossil fuels such as LNG and nuclear. To end this subsection with the following foreseen prediction: *"(…) Poland is likely to oppose concrete de-carbonization measures, defending clean coal technologies and technological neutrality, which would allow the country to continue its nuclear and coal (lignite) programmes"* (Szulecki et al. 2016, p.558).

### 5.4.4. The tension between the national and the European level in terms of energy policy

The above (subsections 5.4.2 and 5.4.3 in particular) is a clear testament to the fact that a schism exists between the Member States and the EC. The former wish to guard and retain national sovereignty over their energy policies (by actively pushing for measure X and attempting to obstruct the implementation of measure Y), while the latter seeks to implement a single energy policy. Yet which side is 'winning' in this high-level debate and political tug-of-war? The answer to this is not straightforward, as obviously, the EU and Member States are strongly intertwined. Based on research conclusions in preceding chapters, I can but reach the same conclusion as Wettestad et al. (2012): *"(…) 'member state governments still have a central position and policy issues where power is transferred to the EU level tend to be those where member states see such transfers as in their interest'"* (Wettestad et al., 2012, p.82 in: Szulecki et al. 2016, p.550). That being noted, the Member States' powers and aspirations to integrate if, where and when they see fit is only one side of the coin: "[e]nergy policy is still very much dominated by national policies and under the control of member states (MS), although a 'hesitant supranational turn' in that area has been visible in the last decade (Wettestad, Eikeland, & Nilsson, 2012). Since the Lisbon Treaty, energy policy is no longer a matter exclusive to national administrations, as EU institutions now play an increasing (albeit still limited) role (Maltby, 2013). Supranationalism 'gained a new foothold in energy policies' with the Third Energy Package (Eikeland, 2011, p.258) and further policy harmonization and coordination is required in order to secure a well-functioning integrated energy market (Szulecki et al. 2016, p.549).

We can conclude from this that the EU is continuing its integration efforts via the Energy Union and the Energy Packages – with the acceptance and approval of the Member States. With incremental steps, the formation of a European Union energy policy is forming and slowly but surely beginning to take shape. In this evolutionary process, the EC is applying its agenda-setting and lobby powers (in the form of pro-EU lobby groups): *"[t]he Commission is said to have 'considerable autonomy to push for EU-level solutions' (Wettestad et al., 2012, p. 82) especially through targeting industries, sub-national authorities and domestic interest groups directly, across levels of governance, to gain domestic support for its plans."* (Szulecki et al. 2016, p.551). The MS, however, still think in national terms as we have seen, which makes for a rather skewed debate taking place on different metaphorical wavelengths. Due to the post-Westphalian nation-state system as the perpetual norm in international relations, the national positions putting their own country first is a natural phenomenon and logical in itself, yet it makes for an identity crisis at the EU (energy) policy level. This is because we ultimately find 29 captains at the helm (the EC and 28 Member States) of the allegorical ship that is the Energy Union; each seeking to steer into a different direction. It goes without saying that this makes for friction between the EU and MS levels.

Meanwhile, we see that the Commission has extensive agenda-setting powers which can shape to an important degree the final version of national plans (c.f.; Szulecki et al. 2016, p.563). The starting point of each of these plans is of course the domestic situation of each respective Member State and its requests coupled with the circumstances in which finds itself finds itself (c.f.; Szulecki et al. 2016, p.563).

Yet but according to Szulecki et al. (2016), the Commission can make sure earlier agreed upon points such as renewable energy, energy efficiency and interconnectivity are placed high on the agenda of each national plan (Szulecki et al. 2016, p.563). I am somewhat sceptical about this, because this research has shown that said notion does not hold true for Poland: the EC's agenda-setting powers seem to be impaired to some extent, as this state does not alter its national views and policies. That is not to say, of course, that the statement is without merit entirely: naturally, the Commission's agenda-setting powers are a diplomatic force to be reckoned with in general.

In spite of the European Commission's persuasiveness, however, it is clear that a fully-fledged EU energy policy has yet to materialise. Szulecki et al. (2016) argue that this is at least in part because of the way in which matters pertaining to energy security are perceived on the national level: *"[e]nergy issues are heavily affected by developments at the international level such as climate summits or armed conflicts within and between states. 'EU energy policy – at least the energy-security part – can be conceived as being 'driven by events'. As a result, one expects that energy issues are places on the European policy makers' agenda when there is a specific 'triggering event' or 'focusing event' (Tosun et al., 2015, p.6; compare Bürgin, 2015). The Energy Union in particular seems to merge the regulatory legacies of existing legislation and political institutions with the impact of the external events and factors (especially the Ukraine crisis)"* (Tosun et al., 2015, p.6; and Bürgin, 2015 in: Szulecki et al. 2016, p.551).

### 5.4.5. Conclusion

We started this sub-chapter considering the extent to which Germany has – or is on track to – implement the goals of the Energy Union. Both Poland's and Germany's developments in the area of executing the Energy Union's plans are neither outstanding, nor poor. Their progress is comparable to one another's, with either country doing quite well in three out of five pillars, while found lacking in two. While Germany is – perhaps surprisingly – dropping behind in energy efficiency, Poland is not doing enough in the field of energy security. Meanwhile, both states procrastinate the implementation of the internal market, yet are found well on track or even ahead of schedule in other pillars – albeit in Poland's situation with caveats borne in mind. Looking at these points, the Polish case is interesting to highlight a bit further, because we can already see that Poland is likely to disagree with application of certain facets of the Energy Union. The internal energy market, for instance, will indeed require both investments in infrastructure, interconnectors, as well as strong interstate collaboration; which, as we have seen, are not matters Poland places on the top of its energy policy agenda. Furthermore, the same goes for the *"(…) special emphasis on climate protection, renewable energy support and energy efficiency measures"*, to which we already know Poland takes a very different perspective (c.f.; Szulecki et al. 2016, p.555). Finally, seeing as Poland intends to commence a nuclear programme and construct its first reactor, the state is highly likely to be unfavourable toward motions blocking or preventing supportive EC action.

The differences between the case study countries are considerable with regards to their perceptions of Russia and the bilateral energy relations kept with this leading supply state. The most relevant research conclusion I can draw here is that these key dissimilarities between just two of the EU's 28 Member States symbolise a major gap between policy aims and ways of thinking about energy security across the Union. As such, this thusly uncovers a crucial structural weakness of the Energy Union (and of the EU in general, but that is not our topic). Verily, as we see in this research time and again: the Member

States act in their national interests which based on their respective situations and perceptions. I will return to this matter in the chapter's concluding remarks. In the general introduction of this thesis, I argued that energy is a sensitive affair and that states prefer to keep their sovereignty in this issue area. Continuing this line of reasoning, it is certainly true that crises wherein cut-offs may occur that could directly or indirectly affect Member States, and major events such as the COP21 climate agreement, provide for fresh integrative and collaborative stimulus – the political will for which otherwise might not have materialised. However, surely waiting for such occasions to make agreements cannot be a durable or sustainable course of action when it comes to anything serious – least of all EU integration efforts. Perhaps this is in part why Russia is painted to be the bad guy with the energy weapon: this us-versus-them thinking might on a certain level help rally the Member States in support of the common cause of EU integration and the necessity of a common energy policy. This can to some extent be seen in the EU rhetoric on topic: *"Tusk emphasized that Europe should 'confront Russia's monopolistic position with a single European body charged with buying gas' in a wider effort of 'breaking up the Russian gas monopoly and restoring free market competition' (emphasis added)"* (Szulecki et al. 2016, p.553). Whether usage of such rhetoric and terms in fact does influence national policy-makers, could be an interesting topic for further research. What has been established, in any case, is that noteworthy events such as crises or high-level political occasions at least temporarily increase the political will to co-operate and integrate regarding a topic that otherwise remains guarded by the shrouds of national sovereignty.

## 5.5. Conclusion Chapter 5

It has been argued that the societal debate in a country (coupled of course to the political debate in parliament leading to policy decisions) is mostly based on interpretations of facts, rather than on facts themselves. The political bias and these perceptions that lie behind policy intentions have been reviewed from the perspectives of two Member States selected, that is to say Germany and Poland. I selected two countries to be able to juxtapose their cases against each other and this way highlight the general differences in energy mix, attitudes and policy aims between one of the former European Soviet satellite states and one EU Member State that was not part of the SU or of the Warsaw Pact.[55] This was done in the form of concise national level case studies on the topics that have to do most with how energy security is perceived on the national level: the national debates regarding energy security, the state of energy security and dependence on Russia, and finally the situation pertaining to Energy Union implementation. For the purpose of this research, the energy security situation has been framed within the geopolitical, economic and environmental context to determine whether there is a difference between the factual situation of the energy dependency, and the perceptions observed in political discourse. I have found out that this difference indeed exists: the debates and perceptions differ even when both states experience similar dependency rates with respect to Russia. The debates on energy security in Poland focus on dependence and its repercussions for state security and geopolitics, whereas those in Germany revolve around on profit-making, the matter of general dependence on fossil fuels, and the implications of fossil fuel usage on the environment.

The outcome proved that Poland and Germany differ considerably with regards to their convictions from which flow foreign policy perspectives and national policy choices and direction, energy mix, as well as their respective stances towards EU energy integration and Energy Union implementation. This notion has regional repercussions, as it means that the European Union is divided per Member State on these issues, which has been argued to a key cause of why full implementation of a common EU energy policy is stalling and remains a paper reality. Another topic the MS (on the examples of Germany and Poland) do not see eye to eye on in their national views, is whether fossil fuels should continue to be part of the energy mix of the future, and if dependency on Russia is inherently hazardous to energy security and the state of geopolitics. While Germany does not consider this a substantial danger and deepens energy co-operation with Russia on the North Stream pipeline projects, Poland sees energy dependence on Russia (and the North Stream conduits) as posing imminent geopolitical and national security threats. The EU takes a stance in the middle of these two opposing views, stating: *"[g]eopolitical challenges will not go away in 2016. The EU will need to pursue its new energy diplomacy effectively and speak with one voice vis-à-vis third countries. It will also need to develop the relevant energy diplomacy action plans so as to strengthen diversification also through foreign policy instruments"* (first *State of the Energy Union report* 2015, p.11-12). To measure political rhetoric against the insights of a security and energy expert, I asked former senior executive at the United States Department of Transportation Mr Brigham McCown whether the war between Russia and Ukraine has been a wake-up call for the EU in terms of the importance of (energy) security. I asked: *"[s]o, you do think that this has been a wake-up call also for*

[55] Naturally, it is well known that former East Germany (the German Democratic Republic) was a satellite state of the Soviet Union. For argument's sake, however, we focus on Germany as former West Germany.

*Europe, not just for the United States – you also just mentioned this paper that just came out, the American paper*[56] *– you think that is has also for Europe been a wake-up call?"* Mr McCown: *"[y]eah, I think it's been a wake-up call but you know what, so you're European, I mean the difficulty in Europe is: time is measured not in days, or weeks, or months; it's not even really in years but in decades and centuries and it is difficult… It is a wake-up call, but I think many Europeans are also sort of feeling like ''well, what can we really do about it?''"*

From the above quotes, as well as from the positions we have seen the EU take in this chapter, we can draw the following two conclusions: firstly, the EU does not seek to worry or rub any Member State the wrong way by taking a strong stance in favour or against energy co-operation and dependence on Russia. Unsurprisingly as such, the EU's stance remains somewhat vague. Secondly, and what does become clear from its rhetoric, is that whenever there is an obstacle or challenge, the EU puts forth 'more EU, and more integration' as a solution. An example of this is not just the discourse arguing in favour of the EU 'speaking with one voice' when it comes to energy negotiations, but also the entire idea of the necessity of a single energy policy and its execution: the Energy Union. The rationale behind this that the EU is built on the goal of striving towards 'an ever closer Union', as laid down in the Treaty of Rome. Amidst the poltics of fossil fuel trade and dependence, I wanted to ask Professor Adaramola if he sees the rise of renewable energy as a possible solution to remedy the situation and mitigate dependency levels to strengthen overall energy security. My question was: *"[h]ow can renewable energy contribute to the energy security situation of the European Union?"* Professor Adaramola answered: *"[w]ell, basically this: the energy arrives within the cities within the European Union. Then it's: as long as there's harmony; harmony among the Member States, they will be secured. So they don't have to depend on maybe what is happening in Syria, it won't have an impact on them. So tomorrow, maybe that's a problem to Europe and America. There won't be any issues, because the energy is within the region; so they can manage its properness. So the energy is going to appear, thence."* Interviewer: *"[s]o, you're saying that the energy is already within the region; we just need to harvest it?"* Professor Adaramola: *"[y]es. So when you have the energy with, I mean, like – when you have food in your house, then you know you are secure. But if you have to rely on somebody to supply you with the food, then, you know, the person can decide not to supply. That would be a problem along the way, and if you have a quarrel with that person too, then he might decide not to give you the food. So when you have your resources within your border, on that within your control. Then you have more security, you have more control on the resources. So definitely, it will improve the energy security in Europe."*

The Professor's answer is gives hope and lets us see that we could solve the energy question regionally, in the EU itself. This is what the EU has been advocating via a common energy policy and transnational energy networks. Nevertheless, as we have seen, the Member States' national policy aims and preferences do not always align themselves with EU goals, or with each other's for that matter. To take the examples of Poland and Germany once again: Poland does not abide by or strive to achieve the EU's Energy Union integration goals. Its disagreeing stance vis-à-vis the incorporation of increasingly higher levels of green energy into its energy mix as per EC demands goes hand in hand with its perpetual consumption of large amounts of polluting coal. This is also true for Germany, which, despite its higher

[56] The paper mentioned in the question refers to a document written by Mr McCown which he handed me during the interview.

usage of renewables owing to the Energiewende, still uses a lot of coal as an intermediate phase before renewables can serve the entire society. EU rhetoric on this topic writes: *"[c]oal consumption in countries such as Germany and Poland threatens both achieving the Paris targets and keeping a safe level of air quality—a problem the Commission has already addressed by tightening air pollution rules last December"* (Sartori and Colantoni, 20 March 2017, p.3). This shows us that the EU is indeed monitoring and working to improve public health by lowering emission standards – yet it cannot truly make a fist against those countries which continue to use oil and gas in high doses. The same goes for North Stream II; this example lends itself well to further elucidate the national differences between Polish and German foreign energy policy in co-operation with Russia. Germany's energy collaboration with Russia weakens overall Union energy security for the national benefit of economical Russian gas. Other EU Member States such as the Baltic countries, Finland, Sweden and Poland are wary or even feel directly threatened by the construction of North Stream II and the planning of additional conduits. On the one hand, Russia is often blamed for playing EU states apart, a sentiment the following quote aptly captures: *"European relations with Russia has been a difficult issue where member states interests vary considerable and reaching and holding on to common positions has been particularly challenging, but all the more important as Russia is always quick to exploit any differences to its own advantage. But even with Russia the EU has made some, or some might even say considerable, progress on better keeping its act together"* (Tuomioja 2009, p.4). On the other hand, and to mitigate this rather one-sided quote; the negative impact that the creation of North Stream II has on Polish-German bilateral relations is, albeit regrettable, not entirely Russia's doing. Even if Russia namely intends to play the EU Member States against each other through the construction of North Stream II, Germany has never been obliged to partake in this partnership. It chose to deepen collaboration in spite of the fact that North Stream I was not met with great enthusiasm from regional Member States either. We can clearly see that the MS want at least to some extent preserve their independence, sovereignty and national policies, which is demonstrated by putting national gain before Union-wide or regional advantage; leading to collaboration and integration only when it suits the state.

To conclude, the following can be noted: there are several policy divides between the EU and Member States that make for discussion and debate on both the national and supranational level. Szulecki et al. (2016) distinguish three such main cleavages: Union-wide integration as opposed maintaining national sovereignty in energy policy and affairs; security and affordability versus sustainability and renewables; and the difference between the pragmatic here-and-now thinking by MS and the long-term policy planning by the Commission (Szulecki et al. 2016, p.564). Based on my research, I should like to add to this the schism between the Member States themselves based on differing backgrounds, histories, geographical locations, and the nationally held perceptions and convictions from which energy policy goals and determinations flow. Taking into consideration the example of North Stream II, we have seen that perception and policy aims differ and that when this happens, the EU as an institution is in large part politically paralysed. As long as the Member States neither see eye to eye with each other, nor are willing to cede sovereignty so that a true single energy policy can be created, the Energy Union will remain uncompleted – regardless of small integration surges over the years. This namely goes to the molecular level of European identity. Considering the sensitive nature of a fundamental good such as energy, this wish is quite a logical one. The repercussion of this, however, is that the completion of a common energy policy and as such of Energy Union implementation have not been given a set deadline. Although states are formally bound to complete the stages towards the end goal (the 10% interconnection target for

example), we have seen that not all follow the implementation goals and stages to the letter. Meanwhile, the EU can but praise the (sometimes little) progress the MS have made lest its attention comes across as 'meddling and antagonistic orders from Brussels'. The argument in favour of the post-Westphalian nation-state paradigm wherein a European Federation was once planned to come into existence, is as such severely weakened.

# Chapter 6. Final Conclusion

We started this research in the Introduction, wherein I mainly talked about three issues: firstly, that there has been EU collaboration in many areas, but that integration in the field of energy goes much more slowly owing to the politically sensitive and security nature of the energy and energy security. Secondly, the undisputed fact that disagreements and differences of perspective exist between the European countries and Russia pertaining – among other topics – to energy politics and -relations. This complicates the already sensitive matter of energy dependence. Thirdly and finally, the existence of the layer of perception that makes the entire of EU energy security topic even more complicated, because it means that hard facts are devalued in the face of convictions that may or may not be partially or entirely truthful. Perception portrays the high level of humanness that goes into politics. Since I had not seen any research linking the above three matters together, this is what seemed most interesting to me to explore in this thesis, because, as said: the European Union and its Member States find themselves on a crossroads when it comes to energy policy integration. Having conducted this research, my take on the matter is as follows: the European Union wishes to create a common energy policy which is given shape through the Energy Union. The Energy Union plans to connect the entire EU along with Switzerland and all Balkan countries, allowing energy to flow through freely across Member States. Meanwhile, the European continent does not hold great reserves of oil and gas (aside from an apparent LNG bubble in Poland): its reserves are slowly becoming depleted. An example of this is how Russian gas is now stored in the Groningen gas field in the Netherlands. Thus, as long as diversification efforts remain meagre, it will be Russian gas flowing through these pipelines. This is because unless gas is compressed to become LNG, it cannot be easily transported overseas like oil, rendering geographic proximity crucial.

While the EU attempts to diversify towards Algeria, the Caucasus states, and Iran, Russia seems to undermine this endeavour by putting pressure on countries in its sphere of influence – particularly the Caucasus states – and making bilateral deals with EU Member States. It should come as no surprise that pipeline projects such as Nabucco, which were backed by the EU, have been abandoned. Russia can only succeed in its application of political pressure, because the EU is has shown it is not ready or willing to defend countries in Russia's sphere of influence (we note the EU's rather weak response to the war in Ukraine). Another reason why Russia is accomplished in its energy politics, is also owing to the MS: they keep the 'energy card' close to their chests, viewing it as a national state affair wherein the EU should not meddle too much and reserve the right to make bilateral, trilateral and multilateral energy deals with Russia – such as North Stream and North Stream II. This allows for two things that are rather unfavourable to the EU: first of all, it keeps dependency levels at a status quo – notwithstanding all diversification efforts, and second of all, it continues to keep the EU divided and therefore weak and subject to potential undermining. Russia may not use energy cuts as an obvious and blunt weapon of foreign policy, because due to mutual interdependence it stands to lose too much in terms of revenue and its strong market position. Nevertheless it can (and does) use its power as a key energy supplier to Europe to exert influence, strengthen its base, retain political influence and keep European energy dependence high. I do not wish to paint Russia as the bad guy in this thesis. Russia does what it can to survive, and retain political- and market power in a world slowly but surely moving away from fossil fuels.

Communication between the EU and Russia remains riddled with mutual distrust. As this thesis has endeavoured to prove, perception is very much a force to be reckoned with in the social sciences, as in the field of energy politics and energy diplomacy.

Before answering the main question of the research, let us briefly recapitulate by looking at the answers to the three sub-questions posted in Chapters 3 to 5, beginning with research question 1 in Chapter 3. This question read as follows: how have intra-EU energy co-operation as well as energy dependency on Russia developed and to what extent are the EU Member States factually dependent? We saw that EU integration with regards to energy came about after the Second World War in an effort to build trust between the Member States. It is ironic that the coal trade between then arch enemies France and West-Germany built a bridge of mutual trust between these states and led to the largest, most intricate international and supranational organisation in history, while the same trade with Russia has not even led to the signing of the Energy Charter Treaty (an energy accord also conjured up to build mutual trust and reliance). The path towards dependence on Russia's energy supply was different for the Central and Eastern European states that were former Soviet satellites, than it was for the Western European countries on the other side of the Iron Curtain. The differences in development and exposure to the outside world have also strongly influenced the perception of Russia to this day. Finally, the extent to which the EU MS are actually dependent on Russian energy varies per nation-state as well as per energy resource with the dependence on oil rising faster than that on coal, and the dependence on gas ever so slightly decreasing on average. The rather extreme differences in energy dependence make it more difficult to streamline integratory efforts, such as the creation of a single European energy policy or the Energy Union initiative.

In Chapter 3, I debunked the oft heard claims that EU energy dependency on Russia alone is reaching critical levels and that the Russian Federation is by far the EU's largest energy provider. However, Russia is not the largest supplier to such a great extent: Norway comes as a rather close second, and diversification projects that leave Russia out of Europe's energy equation are being planned, constructed and implemented. Although the data show that overall European energy dependence on Russia is indeed growing, these general dependency levels remain moderate – albeit that the differences between Member States are considerable where this is concerned. Central and Eastern EU MS indeed show extremely high levels of energy dependence on Russia, and there is no sign of these levels waning anytime soon, in part due to long-term delivery contracts and the fixed positions of pipelines. As such, these client states may be at a higher risk of political exploitation. Moreover, we have seen the might of Russia's notorious energy weapon being demystified as well. Russia is highly likely to continue seeking to influence European nations, yet energy politics have not proven a reliable tool to accomplish this. Thus, although concerns are definitely warranted, the CEE region's higher dependency levels do not in and of themselves pose higher political risks or vulnerability. As explained in the thesis, what is infinitely more troubling and harmful to EU energy security is indeed not Russia, but the Member States' own perhaps at times somewhat blasé stances towards the need for and urgency of intra-EU energy collaboration and integration.

When it comes to international politics and trade deals, Russia and the EU operate on wholly different wavelengths. Russia namely employs realist, state-centrist Realpolitik in foreign policy (including energy policy towards Europe), and seems to want to strengthen or regain its (lost) position as a major

international player, as it held during the Cold War. The EU, for its part, operates within a (neo)liberalist regime of norms, such as institutionalism, multilateralism, pluralism, and free market principles; and expects non-EU countries to conform to these rules, norms and standards. Both this mismatch regarding these modi operandi as well as the generally negative perception these two parties have towards one another exacerbate their mutual distrust. Another level of complexity is added by common- versus national interest: both Russia and the EU Member States practise economic nationalism. Bilateral gas deals between Russia and individual MS are therefore borne out of the tendency to overrule common interest in favour of national interest. Meanwhile the European Union – has to look out for the interests of many states, which complicates negotiations as what may be beneficial to one represented MS, might be detrimental to another. Moreover, as pointed out in the research, the EU itself, as an international organisation, holds no formal legitimate say in the direction of national energy policies. This makes it nearly impossible to convincingly and adequately be part of multilateral negotiations of energy deals, which in turn weakens the EU's position as a serious, independent player on the world stage rather than a paper tiger. Such political realities also cause energy integration between Member States to be deemed less effective or important in the quest to increase energy security. From this perspective, it is unsurprising that Poland's bid for a common EU bargaining position was unsuccessful.

Chapter 4 measured the EU's energy security by applying Baumann's 2008 theoretical framework. Its operationalisation helped me to answer the following question: How secure is the European Union today in terms of energy and to what extent has the EU Energy Union been de facto implemented? Seeing as energy security is such an elusive and opaque concept that is difficult to quantify, Baumann envisioned four dimensions that, put together, could measure this. Using the theoretical framework, the principal conclusion drawn is that the EU is only as energy secure as the combined strength and political will of its Member States. Without their approval, there can obviously be no serious progress concerning integration. This says a lot about the level of energy security in the EU today: national energy security is not necessarily the same as regional or Union-wide energy security. As noted, Germany feels rather energy secure purchasing gas from Russia, while Poland, in a comparable situation of dependency, does not. Another matter in regard to this topic is the differences in perception between those Member States that are highly dependent on Russia, and those that are only a very small extent, or not at all. Those countries that are highly dependent generally worry more about their situation, and about the general situation of EU energy dependence. They also feel as if not taken seriously by those Member States which have smaller dependency rates on Russia and/or feel confident about their respective situations of dependence. The primary example given of this is that of the North Stream projects. The crux is that there is little solidarity between Member States with regards to energy affairs, which in turn renders the entire EU less energy secure. The state of EU energy security (as found by this research based on the implementation of Baumann's 2008 theoretical framework) is therefore overall rather weak. Yet Russia cannot be faulted for this; it can be only for seeking to exploit this weakness for its own geopolitical gain. This research has found that energy security is not a zero-sum game: Member States do no 'lose' out on the strength and potency of their national energy security if a common energy security policy is initiated. Correspondingly, they do not 'win' if eventually no such integration takes place – such is merely the rhetoric of the democratic deficit in the Union, to which I will return below. My thesis has established that in highly integrated economies, as are those in the EU, greater energy security is a positive-sum game and

can be seen as a common goal for which to strive together. This is because a weakened state of energy security in one Member State can also form a potential risk to other Member States, precisely due to high levels of economic integration and shared energy infrastructure. The EU – and with it, the Energy Union and common energy policy – can only be more than the sum of their parts to the extent the Member States let them be.

One of the main instruments the EU seeks to increase overall energy security, is by implementing the Energy Union. In some of its issue areas, such as increasing energy efficiency and lowering consumption as well as pollution (as part of the EU 20-20-20 goals), the Member States are making a genuine effort. Not all are succeeding or will reach their targets in a timely fashion, but an effort is certainly being made. Yet this does not go for all aspects of the Energy Union: as I found out, implementation of the Third Energy Package – a crucial streamlining tool that integrates energy markets across the Union – implementation is stalling. Top EU officials can but laud progress made and encourage Member States to 'keep up the good work', without antagonising them about 'Brussels excessively meddling' in domestic affairs. Eurosceptics would see this as the national state triumphing over joint Union undertakings, which makes one wonder whether the EU is more than the sum of its parts – and if not: to what extent the EU even should endeavour to ever become more than a vehicle used by the Member States when suitable. But this is not the factual truth: as a matter of fact, it is the European Council (the Heads of State of all MS governments) that decides the direction of the EU in its biannual meetings. Only then can the Commission get to work to draw up concrete policy plans and legislation to put European Council ideas into action. The Commission is extremely transparent: it holds daily press briefings and -conferences to explain what will be done and how it will be put into practice. Meanwhile, the EU Institution that has the most power over what is made into actual EU legislation is the European Parliament (EP), which makes amendments to the policy proposals made by the Commission. The EP is directly elected by European people, and their meetings are live-streamed in all of the EU's languages, open to anyone to follow. Both the EP and the Council (also known as the Council of Ministers, made up of national ministers of various areas of expertise) are co-legislators in that they must agree on a bill before it can be passed into law. In sum, its workings are all extremely democratic and transparent. We can conclude that the EU is verily run by the 28 Member State governments, rather than 'Brussels', and that they are the true engine of the European Union and can 'make it' in terms of integration, or 'break it' by letting populism rise. Whatever happens in the Member States will directly influence the course of the EU. Policy failures should therefore not be ascribed to 'Brussels', while policy successes are claimed by the national government as being victorious over the EU. This democratic deficit destroys popular support for the Union, which in turn no longer integrates in issue-areas such as energy, thus rendering the Member States themselves weaker and more energy insecure as divisiveness corrodes energy security.

Chapter 5 put forth the final sub-question of the research, which read: 'how is energy security and particularly the dependence on Russia perceived on the national level and what consequences does this bear for the common EU energy policy?' In this chapter, the matters of perception and EU solidarity – or, as a matter of fact, lack thereof – were combined. We saw that perception has causes that may not be apparent from a superficial view. These can in part be found in history: one of the reasons Poland does not trust Russia, is due to the imposed Communist era, for instance. Perception – regardless of whether

grounded in fact or fiction – can make or break political relations with other states. The perception that Poland is paying more for Russian gas than is Germany, was taken as an example of this. On the one hand, I found that it is true that Central and Eastern European states such as Poland have started paying increasingly more for energy from the Russian Federation. It could indeed be perceived as a political and antagonising move on Russia's end. Yet, on the other hand, it was established that this price rise meant to level the playing field between Eastern and Western European client states where gas prices are concerned. Moreover, we saw that Russia's loss-inducing domestic energy market and other inefficiencies practically force this country to charge more for its energy. In the end, it is how one spins the story, and what history and background there is whereon perception is based and created. Perception influences EU solidarity in energy affairs to a great extent. This became clear from the unsuccessful Polish bid for collective bargaining: states that received more favourable trade terms for Russian gas were not interested in a single energy tariff out of fear they would start paying more under such a construction. From this perspective, the EU fails to heighten overall energy security across the Union as the Member States prove to vote in self-interest when it suits them. Concretely, this is what my findings signify for the research question on the perception of energy security and dependence on Russia and what that means for EU energy co-operation: that without collaboration among EU countries, their national energy security can be more easily undermined by ill-willing foreign supplier states. This is because single smaller state consumers do not have as much political leverage in energy trade negotiations with a large power such as Russia as does a heavyweight like the EU, which combines the strength of nearly thirty states. It also means that perception trumps hard facts in policy-making. Moreover, it is not only Russia that undermines EU energy security by playing countries against each other; it is in fact predominantly the Member States' practice of putting the own state first to obtain short-term gain, rather than to achieve common long-term goals.

This effectively answers the main research question, being: 'to what extent does perception influence the debates on EU energy security in the context of the fossil fuel dependency on the Russian Federation in the endeavour to strengthen the EU's position of leverage vis-à-vis its own energy security?' Perception influences the socio-political debates on energy security in EU countries to a major extent; much more so than do actual facts. Because of this, it is not easy to integrate, create a common policy, or undertake joint efforts, because not only does the situation of dependence differ per Member State, so does its relation with, and perception of Russia and the EU. Having weighed everything that has been researched, my overall conclusion is: the state of EU energy security is not awful, yet it could be a lot better. This strength can only materialise if the Member States act as the engines, or joint engine, of further integration. Only together, as a united Union, will they have the power to increase and improve their position of leverage, as well as counter any threats from Russia – be they perceived, factual, or an amalgamation of both.

## 6.1. Final remarks, considerations, and recommendations

The research conducted has yielded a lot of information and insights into EU energy security and -politics. Thanks to this, I could formulate the most important points of improvement in the form of eleven recommendations to the Member States and the EU:

**Combat division between Member States and encourage solidarity**

The Member States should try to overcome their divisions and strive for more solidarity among themselves. Throughout the research, we have encountered the EU as the driving force behind the Energy Union, the single energy policy, and overall European solidarity – yet it is sadly less common for national governments to openly advocate for integration. So, what about rhetoric on the national level? States do not outright oppose energy integration altogether, yet it seems they come across somewhat ambivalent on this topic. Member States only prefer integration when it suits their national plans. An example of this is Poland's bid for collective bargaining in relation to energy prices from third states such as Russia. Poland stands in favour of this integration measure, despite having a general governmental stance that is rather anti-EU. What can we do to popularise the idea of European solidarity? One way is to combat the current democratic deficit that plagues the Union – to which I will return below. Where energy is concerned, another way is for the EU Commission to generate more integration is by adding the 'freedom of movement for energy' to the Four Freedoms that are already in existence.

Aside from understanding that the European countries are stronger together than apart, the EU would do wise to put in place a serious common defence in order for it to assert a stronger geopolitical position in the world arena. This is because the EU's credibility as a formidable force in global (energy) affairs cannot be maintained if the EU cannot defend itself, its allies, and friendly neighbouring states, as seen in the cases of Georgia and Ukraine. The EU needs not actually use this military, but just the portrayal of close collaboration between MS and a good organisation on the EU level would wield influence and show that the EU can guarantee its own security. That being said, I would not recommend the EU to radically transform itself and use its might to play hardball more than necessary. In order for this to be a success, there should be more dialogue between the Member States on where they stand, what they want to achieve together, and which course to plot in order to steer the EU there. The Commission could oversee such inter-state dialogue. Here, energy- as well as climate policy could be used as a vehicle for co-operation and integration. This is because tackling climate change cannot be done by a single state on its own, nor can building an Energy Union. Discussing such ideas and initiatives may help foster inter-Member State solidarity.

Although the old state-centrist adagio clearly prevail today, when it comes to outside threats such as Russia, it is, logically speaking, in the Member States' own national interest to collaborate with each other. Negative stereotypes and misconceptions about 'the other' Member State complicate or even obstruct integration as well as joint projects such as the Energy Union. Interestingly, there does not seem to be much effort to dispel such negative mutual sentiment and misunderstanding within the group of Member States. If there were to be more open and honest conversation on this topic, MS could perhaps more easily place themselves in each other's situations, and would see that co-operation benefits all, rather than a few. This could lead to the creation of a new (energy) security regime wherein states agree that joint initiatives are a positive-sum game and that energy security and a common energy policy go

hand in hand. It is imperative that the EU helps this effort along via international diplomatic learning programmes and visits for national policy-makers and other professionals. To create a better view of each other's countries and combat misconceptions is imperative for the future of the EU.

**Allow long-term common goals to outweigh short-term national interest**

In its subtext, between the lines of the main story on energy security, this research has endeavoured to add to the debate regarding the role of the EU as a credible independent international actor with agency. It has done so by arguing that if European countries wish to strengthen the geopolitical standing of the soft power that is the EU, as well as ensure a powerful future bargaining position on the world energy market, EU energy co-operation and integration is of vital importance. The evidence proving my hypothesis has come from having demonstrated on many places throughout the thesis that although Russia may act downright aggressively at times, it is the Member States' own fragmented, divisive and state-centrist stances that pose the real bottleneck. The Member States do not openly address this elephant in the room. The inevitable consequence of the current modus operandi is that Member States are more or less favourable towards EU integration depending on which political party is in office. Although understandable, this seems unwise, as it renders the EU weak, indecisive, and at the mercy of national whims and favour. Just like the continuous upkeep of infrastructure committed to by ruling parties in any cabinet throughout time, so too should the EU be a key constant of importance.

Yet this is not the only issue at hand: the EU is severely lacking in vision, which renders it nearly impossible to create common goals that present a superior alternative to short-term national interest. The EU should lead as a visionary creating long-term goals with concrete steps and smaller targets to timely reach the larger aims. If there could be less bureaucracy, and more connecting with the population and the Member States, then it would be more probable that the countries themselves gain the confidence to look beyond national policy goals and towards plans that could benefit a region or the entire EU in time.

**Tackle the democratic deficit**

There has not been much mention made of the democratic deficit in this thesis, mainly because it was not the topic of this research. I choose to incorporate it into the recommendations regardless, since the democratic deficit is one of the key impediments to the unity and legitimacy of the EU. In a nutshell, the democratic deficit is a phenomenon that occurs when state leaders and representatives pit national citizens against the EU in order to win votes in elections or use the Union to shift blame for a poor (sometimes national) policy. Most policy direction decisions on the EU level are taken using a qualified majority voting mechanism (QMV). This means that although policy-makers strive for satisfactory results for all Member States, there may be some for which a decision is less than helpful. Rather than pointing out that the country was voted down by a large majority for whom the decision was indeed good, or acknowledging that this was a policy orchestrated entirely on the national level, representatives have the tendency to unequivocally blame 'Brussels'. This also goes for policies made which are highly likely to yield positive results in the future, but are a tough burden to bear in the present, such as fiscal measures in times of economic crisis. The same trick is also pulled when a state is part of the majority in the QMV vote that got their way. Rather than praising the good collaborations with other Member States or the proper

functioning of the EU, a state representative may claim 'national victory' over 'Brussels'. These falsehoods often remain uncorrected and paint an extremely negative image of the EU in the eyes of the people. It is no wonder, therefore, that elections for the European Parliament are not taken very seriously in all Member States – while a low voter turnout diminishes legitimacy and credibility. It is therefore of crucial importance that the democratic deficit be done away with swiftly and permanently, so that the trustworthiness of the entire EU is not jeopardised.

Aside from politicians and other national representatives being honest and open about the inner workings of the EU, it is imperative that we educate the people to counteract false narratives and negative stereotypes. Transparency is key here, and while it is not conducive to embellish the EU's existing inefficiencies and imperfections, neither is exaggerating them for political gain. The people must be properly, correctly, and timely informed, rather than fed half-truths, outright lies, and bits and pieces of information taken out of context. When people are well-educated on what the EU really does, how it works, and how policy decisions and -directions come about, they feel listened to and taken into account. Moreover, they can then form more informed and weighed opinions of current affairs not just on the national level, but on the EU level as well. This is important, seeing as the decisions jointly made by Member States affect the lives of the entire EU populace.

**Better and more open and transparent communication between EC and MS**

My research has found that there is a serious need for transparency and clarity with regards to policy direction: aside from vague 'wishes' for collaboration and integration, Member States should make intentions clear and implement concrete measures. There are namely worries that national policy plans may remain ambiguous, in order to fulfil EU Directives without having to put in too much work. A testament to this is the number of countries performing suboptimally in regard to the incorporation of renewables into mainstream energy systems. For this, EU legislation exists to make sure all is worked out in detail, so that investors remain on board, everything is transparent, and in compliance with common standards. When it comes to improving communication, it is important that, aside from agreeing on vision; Member States also agree – and are open about – the direction wherein the EU is headed, so as to prevent Member States from drawing up national plans that may undermine each other. The EU could help by supervising these coordinative efforts between Member States, by streamlining and regulating common plans, and by overseeing communication on politically sensitive topics, such as energy. Furthermore, the Member States ought to be assisted and supported by the EU, through transparent consultation sessions on increasing the amounts of renewable energy in the energy mix over time.

Another way to improve communication is to have the MS co-operate a lot more amongst themselves and undertake more joint projects in all issue areas – not just energy or defence. For this to work, 'Brussels' has got to show more leadership and, as noted, develop a better and more concrete long-term vision for the EU. The EU has to reconnect better with the Member States and especially with the citizenry. Where energy is concerned, too few people have heard of the Energy Union as of yet and very little is reported on it outside of official EU channels. To accomplish a long-term shared vision vis-à-vis energy, it would be a good idea to create a strategic vision for the common energy policy or Energy Union, and to subsequently set concrete goals concerning infrastructure and the pooling of resources to be attained within set deadlines. Moreover, in the event that energy policy and climate policy can be

streamlined and better integrated into EU policy-making, fragmentation between EU countries can be diminished. The MS can then create a more holistic and coherent common energy policy goal together with the incorporation of national ideas and plans; which could be overseen and managed by the Union.

**EU should not 'push' MS too much, but instead more actively involve them**

One of the main points of critique from the Member States towards 'Brussels', is that countries and their national populations feel pushed, shoved and not truly taken into account as individual nations when the EU draws up a joint (energy) policy. The EU would do well to listen more to the Member States rather than pushing for uniform goals and standards with regards to the implementation of renewables in the national energy mixes. Although it would seriously strengthen European energy security if a 'single voice on energy' were to materialise, this is as of yet unlikely due to national differences in perception regarding energy policy and energy security. My idea of what could be done instead, is to create an EU with 'multiple power levels' (as with the idea of a Europe of 'multiple speeds' of general integration). This would allow for some states to fast-track energy integration, while reluctant countries would not be pushed into integration measures. The fast-track states could go ahead with building more interconnectors and increasing reverse flow opportunities between Central and Western Europe, and create a scheme for collective bargaining. Such varying levels of energy integration could come about to allow for the unison of those Member States that feel the urgency to offset Russia's overweight in energy negotiations and would directly benefit from a common energy policy. For example, Poland and the Baltic states would likely be in favour of such integration, as they feel directly threatened by Russia, whereas Ireland and Portugal do not receive Russian energy and would not be pushed into integration that is not in their national interest. As remarked, the idea of 'multiple speeds' is not foreign, as it is already applied in other areas of EU integration.

Moreover, it would be a good idea for the EU to also let the Member States draw up their own plans regarding the common energy policy and how best to give shape to a joint climate policy in the years to come. This way, the Member States can really take ownership for integratory policies, which would thence come across more like national initiatives and less like imposed rules by 'Brussels'. This way, these initiatives would be able to generate more popular support and legitimacy on the national level. It also invites the Member States to critically review their own national positions regarding energy integration without the feeling of being 'pushed' by the Commission; this could eventually also increase chances of national governments reaching out to one another and working out their differences based on (false) negative perception.

**If all MS agree on the Energy Union, commit to policies and long-term projects**

Although I do argue that an Energy Union of multiple speeds could be a solution, it is best that all Member States support the initiative, rather than half or a mere majority. The EU can put in place the Commission's three tier action plan mentioned in subsection 3.2.5 to make more use of locally found energy sources – both renewable and conventional (including nuclear), depending on the preferable energy mixes of the respective Member States. This is to happen in the wider framework of an interconnected EU-wide energy market. There could be concrete plans not only regarding infrastructure such as interconnections and joint pipelines, but policies to diversify away from Russia and from fossil fuels, to create cooperative

initiatives that allow for the pooling of energy resources, among other things. This would also help to unite and strengthen bargaining power, which would reinforce European energy security and lessen dependence.

All this is of high importance, because, as shown in this thesis, the first *State of the Energy Union* report by the EU wrote that a 2014 gas stress test was conducted which revealed that there are significant differences between Member States regarding energy dependence and vulnerability (leading to a low level of energy security). These states are the Baltic countries, Finland, the South-East European MS, and the Energy Community Contracting Parties. Rather than being exposed to third countries that may exploit such weakness, I would recommend to integrate the existing energy networks across the EU. This would render the Member States highly interdependent, and therefore less reliant on third supplier states such as Russia. It would help the effort to transition from fossil fuel based economies to an integrated economy running on green energy and diminish the need for new pipeline projects with Russia, such as North Stream. Framing is vital when it comes to rallying support for the undertaking long-term projects on a massive scale: enthusing countries, businesses, investors, and the general populace by selling such infrastructure projects as a joint policy to combat climate change may not be highly effective. Yet if the endeavour is framed in a way that emphasises security, business, affordable energy and technology, such projects may gain more general support. By presenting this as an opportunity for industry and development that will create jobs, ensure affordable energy in the future, and allow for Europe to become the number one technological hub in the world for renewable energy research and application, national policy-makers could more easily sell the necessary investments paid for by taxes to the citizenry, as well as attract investors.

**Streamline the large differences between MS vis-à-vis energy and national energy policy**

It is often demanded of the European Union to be more transparent, more open, and more coherent, yet the whims of national governments remain undisputed: the holy grail of sovereignty is left unquestioned. Nevertheless, this does not mean that Member States should not look at their own inconsistencies and contradictions, because only when this is done can real co-operation take place. States such as Poland which do not like a neighbouring country like Germany with which they collaborate in the field of energy, can become less antagonistic if the EU simply proves that gas or electricity from Germany is 20% cheaper than it is coming from Russia. This will not only help improve international relations between Member States, it may well decrease the desire states feel to engage in bilateral energy affairs with Russia. This will in turn also diminish the existing large differences between MS regarding matters such as the percentage of energy dependence on Russia, the amounts of renewables employed in the national fuel mixes, as well as the interconnectivity levels among Member States.

It would be constructive if the EU and Member States were to jointly invest in the renewable sector. Where there is investment, confidence in an industry typically grows – and with it, so does job creation. It is easier to get the Member States on the same page regarding energy use as the number of interconnectors increases, which is logical, as a higher level of interconnection naturally means more shared energy between countries. Regardless of whether green energy or fossil fuel will run through those conduits crossing Member State borders, investments in interconnectivity render it essential to co-operate and jointly fine-tune the course of energy policy in a regional setting. Differences between the

Member States when it comes to energy types employed and ideas on how best to provide energy security will always exist. This is simply owing to countries' dissimilarities in national political landscapes, history, geographic location, and culture, as well as because of the fact that different kinds of energy resources can be found throughout the continent. Yet such variety is not at all problematic – on the contrary: it is enriching. Additionally, a joint effort ought to be made by European scientists to develop stronger and better storage facilities and batteries that make it easier to stockpile, pool and share renewable energy among the Member States. This would namely help develop a natural pull effect towards further exploring the options collaboration in energy affairs. The EU would do well to stimulate these efforts by freeing up more funds for such streamlining projects, so that the Member States can tap into additional funding rather than having to pay the lion's share through taxes. If Member States are left to their own devices regarding payment, the initiatives are less likely to gain priority on the political agenda. On the one hand, this is because higher taxation of the populace could make such integratory measures less supported, and therefore less legitimate. On the other hand, if the Member State does not increase taxes to fund interconnectivity or joint pipeline projects, it will have to alter the priorities in the national finances, thus decreasing funding in other policy areas, which is also unlikely to take place.

**Refrain from signing energy deals with Russia that disadvantage other MS**

As recapitulated in the final conclusion of the thesis, it has become clear that the EU is unable to take a strong stance with regard to common EU energy security. The Member States will have to take the lead on common EU energy security themselves – streamlined within the EU framework, of course. As unpopular and counterintuitive as it may seem to those Member States that are used to signing advantageous bilateral energy deals with Russia, they ought to best refrain from doing so. When looking at the larger picture, the national upsides of getting an economical deal do not countervail the costly downsides of jeopardising or even selling out regional energy security. Member States will thus need to take their responsibility and create common deals that are also favourable – or at least not harmful – to other EU countries. I realise that this will be detested among the national electorate, which is why it is of the utmost importance that national governments do not keep the populace in the dark, but duly and transparently inform them as to what is happening and why a policy decision is made. For example, policy-makers and ministers could hold press conferences and appear on political discussion programmes on the television and radio wherein regular people could phone in to ask questions. Unpopular as it may be not to sign economical gas deals with Russia, the potential risks do not seem to be worth taking. Such risks I am referring to do not merely include Russia offering one country a better deal and the next, but the inherently insidious ways wherein countries are played against each other, or even outbid one another for Russia's favour. Such friction between Member States can undermine the entire endeavour of a common energy policy, and of a strong EU energy security. It can be anticipated that Russia seeks to weaken the ties between EU countries, but it cannot become acceptable that Member States themselves are part of such schemes sugar-coated with lucrative energy deals.

Cautious as one should to tread where bilateral and multilateral fossil fuel agreements with the Kremlin are concerned, Europeans should nevertheless always keep the open hand of friendliness extended towards this country to co-operate where possible. This is not easy, as it can be extremely difficult to alter strongly held perceptions – especially long held negative ones. More open dialogue is

therefore not just needed intra-Union, but also between the EU and Russia. This may sound naïve as countries that do not trust each other are unlikely to be fully honest, but it would be than to escalate the situation. Furthermore, when Russia is struggling economically and financially, European states could invest more in Russia and in Russian energy systems to help modernise the infrastructure and lessen systemic inefficiencies. Because, at least for the foreseeable future and until a full transition to renewables has successfully been completed, the EU states and Russia need one another in their interdependent fossil fuel relationship. Moreover, the EU as an international organisation is uniquely positioned to help build bridges between the Member States and Russia, as it speaks with a common voice, rather than the predispositions of a particular country. After all, we may be fixated on diminishment of energy dependence on Russia as a means to increase EU energy security, but improving relations with Russia – if at all feasible in this day and age – could also help in this effort in the long run. This does not mean European countries should trust Russia, however. It is just to say that keeping a dialogue open and discussing matters of low politics – where the lack of political sensitivity makes for smoother discussions – is better than having only hostile communication, or no communication whatsoever.

**Do more to hold non-EU energy companies like Gazprom accountable to EU law**

As argued in the final conclusion of this research, Russia simply does not operate on the same wavelength as the EU. The effort of trying to make Russia dance to a European tune by way of shared norms through the ECT has proven itself to be an exercise in futility. One of the European standards is namely that state aid is only allowed under very strict conditions, as laid out in subsection 4.4.4. Yet due to the fact that the Russian government has nationalised fossil fuel companies such as Gazprom, Rosneft and Transneft, these firms cannot be disassociated from the government. The unfair advantage Russian state-owned energy corporations operating on the European market have over European energy companies is compounded by the fact that the Russian authorities give their businesses state aid. This effectively renders a level playing field of all energy companies (both foreign and domestic) on the European market an impossibility, as European energy firms must abide by European law regarding state aid and nationalisation.

As long as Russia can spread its geopolitical influence in Europe through energy, because Member States will act to each other's detriment to get the best possible bilateral deal with this supplier country, no such level playing field will exist. The same goes for checks and balances: no level playing field on the European energy market will be created as long as Russian state-owned oil- and gas companies are not held accountable and required to follow the same rules as their European counterparts. In the meantime, as the EU's energy needs are growing, domestic fossil fuel production is gradually slowing down. The MS thus find themselves facing a long and difficult path ahead whereon they must balance both national and common energy policy goals, as well as their energy diplomacy towards Russia – which must be neither meek nor escalating in nature. Seeing as a full switch towards renewables cannot be accomplished in near future, the EU states will namely continue to need Russian energy. In the best case scenario, wherein EU countries co-operate and appreciate the full value of their combined strength, they would do more to jointly hold Russian energy corporations accountable and let the importance of checks and balances outweigh economic benefit. The Member States will continue to sign energy deals with Russia in the short- to medium-term on the one hand, but can defy this supplier with antitrust lawsuits, EU integration and -solidarity, and continuing diversification attempts on the other.

Those states that agree on major pipeline projects with Gazprom, such as Germany in North Stream should openly question, critique and scrutinise Russia's motives for circumventing states such as Poland that are disliked by the Kremlin. Russian state-owned energy companies should not get away with breaking EU rules on European soil while European corporations are strictly held to these. The EC leads the antitrust cases against firms like Gazprom, but the Member States themselves remain rather silent on such matters, playing into Russia's hands by allowing it to continue its divisive operations. Another topic MS do not discuss openly concerns the issue of creeping Russian investments in European energy systems. The larger a part of European infrastructure or energy companies Russia owns, the more difficult it will be to hold this country accountable and remain critical towards its actions on the EU energy market. That being said, if enough MS were to join the 'single voice on energy', a political fist could be made to this supplier state in order to make Russian energy companies like Gazprom abide by, and comply with EU market rules. This would, however, require Member States to liberalise domestic gas markets. As noted above, European companies could invest more in Russian energy systems: not just to share knowhow, but to keep a check on Russian (market) power. For the above to work, and for the EU to successfully call Russia to order when one of its nationalised energy companies crosses lines and sets off alarm bells, the keywords are: intra-Union solidarity.

**Encourage green energy more, discourage and tax fossil fuel initiatives and -lobbies**

There are myriad initiatives that can be taken to curb the popularity and usage of fossil fuels in Europe, whereof many have been described in this research. Resourceful solutions exist that can help to reduce energy dependence not just on Russia, but on fossil fuel altogether. Such a plan could be marketed by framing the EU as the potential technological world leader. For this to succeed, there has to be much greater job creation in the renewable sector; security and transparency should help attract more public and private investors such as energy companies, and (energy) infrastructure companies. There should be better and more opportunities for persons working in the fossil fuel industry to be re-educated so that they can take up jobs in the renewable sector. Re-education is a long and arduous task, but it would be a positive sign if this were facilitated, so that people see a viable way out of a career in the fossil fuel industry. The mentality of the fossil fuel industry itself should change from blind profit maximisation into freeing up more funds for research on green energy, as fuel companies like Shell have slowly already started to do, but to a very meagre extent. By transforming themselves, they are more likely to retain market power as the transition to renewables accelerates. Such a corporate evolution and culture rejuvenation would be a lot more productive than lobbying at the EU- and national levels against renewables becoming a fundamental part of the energy mix – which is an inevitability in the future. The EU can help both by taxing the worst polluters the most, and using those funds to subsidise serious plans for the generation of green energy.

**Create a new common, pro-EU narrative in the field of energy**

With the oft-heard argument that 'Brussels' intervenes and meddles too much in national policy, perhaps perception is, once again, not in parallel with factual reality. However, since this thesis has proven perception to outweigh facts with regards to being the more decisive factor in policy-making, I conclude that it is important that EU and the Member States join forces and change the overall negative perception

towards the EU, caused amongst others by the aforementioned democratic deficit. This negative narrative has to be countered if the EU is to persist and a common energy policy is to come into existence. It would be good if both the EU and the Member States keep reminding the people of the raison d'être of the EU and of the need for, and importance of energy collaboration. Actively involve the population to help think about energy governance, infrastructure, and European energy companies working across the EU to ensure a continuous flow of energy at an affordable cost. Let citizens take more part and ownership in the energy transition from fossil fuel based energy to renewables. Citizens, stakeholders and governments appreciate tangible results: aside from a long-term vision people can believe in and work towards, it is also very important to have clear-cut short- and medium-term aims to accomplish. If the EU were to create and spread a positive and more concrete energy narrative, for example, by announcing that by year X we will have trans-European energy infrastructure and can transport renewable energy anywhere in the EU, then this would get people to think and talk about it. It would create jobs, lessen the democratic deficit, and let the populace feel that 'Brussels is doing something'. Tangible projects with timeframes can build confidence and trust in the EU, in other Member States, and in the national government.

*Note from the author: I would like to genuinely thank you, distinguished reader, for having taken the time to endeavour upon this journey with me. It is my sincere hope that you have enjoyed reading this thesis as much as I have had energetically discovering the marvellous intricacies of the world of energy security and energy politics – and industriously (puns intended) writing it.

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