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Introduction

In the wake of the European Union's (EU) enlargements in 2004 and 2007, which saw the accession of 12 new member states, lengthy debates and discussion took place on the burden of onboarding the new member states, the difficulty of ensuring their compliance with EU rules and regulations and the dependence of many of these states on a single supplier for their energy needs. This paper aims to assess the EU's efforts to form a comprehensive energy security policy in recent decades, paying particular attention to the development of the theory of energy security and the main developments of the EU's energy security policy in recent years. The Energy Union, a flagship initiative launched by the European Commission in 2015, will be assessed through an examination of its governance structure and achievements in specific policy domains.

Background

In recent decades, European leaders and policymakers have become acutely aware of the EU's energy security vulnerabilities. In addition, leaders have sought to place the EU in a leadership role in promoting the efficient use of energy, use of renewable energy sources and the reduction in the demand for fossil fuels. Finally, leaders have identified opportunities to advance the EU's fundamental aims, including market integration and a common energy policy. Efforts have been made to integrate energy grids and networks, and measures are being implemented to improve energy efficiency and "solidarity" to help build a truly European energy market.

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Conceptualisations of Energy Security

Energy security studies, a relatively young field in academic research, is a broad topic with no settled definition upon which scholars and policymakers have agreed. Energy security studies touches on a wide range of fields from energy poverty to climate change and international relations among others. In addition, the use of the term "energy security" has evolved since its first use in academic and grey literature in the 1970s. From its initial focus on ensuring the supply of fuel to military forces, the topic of energy security studies has gone on to encompass the economy, politics and international relations.

Academic Conceptualisations of Energy Security

The complexity and the challenging nature of defining energy security is well noted in a 2014 paper,[1] which observes that "some researchers focus primarily on the security of supply aspects […] while other researchers argue for a more comprehensive definition that includes downstream effects such as the impact on economic and social welfare." This highlights the dynamic nature of energy security, and that it is not only researchers who have offered different conceptualisations, but also policy practitioners.

An early description of energy security studies is offered by US-based scholars E. William Colglazier and David A. Deese,[2] who describe the struggle to maintain energy security as an attempt to address "vulnerability to damage caused by sharp price increases and shortages of petroleum products, triggered by a disruption of crude oil supplies occurring regionally, nationally, or internationally." The effects of such a sharp increase in prices in such vital fuel can be observed in numerous examples, from the inability of automobiles to move to homes going cold in the winter due to a lack of heating.

1 B.W. Ang, W.I. Choong & T.S. Ng, (2014). "Energy security: Definitions, dimensions and indexes", Renewable and Sustainable Energy Reviews 42, pp.1077-1093.

2 E. William Colglazier Jr & David A. Deese, (1983). "Energy and security in the 1980s". Annual Review of Energy 8 (1), pp.415–449.

This older conceptualisation of energy security is based on the concerns of western powers, especially those dependent on crude oil and petroleum imports as the United States and the United Kingdom were at the time. However, even by the late 1980s, this notion had begun to evolve, as highlighted by Daniel Yergin's Foreign Affairs article discussing energy security in the upcoming decade the 1990s.[3] According to Yergin, "The objective of energy security is to assure adequate, reliable supplies of energy at reasonable prices and in ways that do not jeopardize major national values and objectives." Exactly what these values and objectives entail are not explained in this article.

In the 21st century, energy security has been divided by some scholars into subsections. A 2013 paper describes energy security on a microeconomic level; "the ability of households and businesses to accommodate disruptions of supplies in energy markets" as well as on a macroeconomic level; "availability of adequate, reliable and affordable energy."[4]

A somewhat similar approach is taken in a 2014 paper, though the focus shifts towards the history of energy security studies and its development over the decades from "classic" to contemporary energy security studies.[5] The former revolves around securing the "stable supply of cheap oil under threats of embargoes and price manipulations by exporters." The contemporary context of energy security covers challenges which "extend beyond oil supplies and encompass a wider range of issues." Moreover, energy security is now closely entangled with other energy policy problems such as "providing equitable access to modern energy and mitigating climate change."

Combining the approaches in historical development and shifting areas of concern for policymakers, a 2011 paper describes three perspectives of energy security: transport for military and later civilian purposes (energy sovereignty); ensuring the smooth functioning of a country's electricity

3 Daniel Yergin, (1988). "Energy Security in the 1990s." Foreign Affairs 67 (1), pp.110–132.

4 Marcus King & Jay Gulledge, (2013). "The Climate Change and Energy Security Nexus", The Fletcher forum of world affairs 37 (2), pp.25-44.

5 Aleh Cherp & Jessica Jewell, (2014). "The concept of energy security: Beyond the four As", Energy Policy (75), pp.415-421.

systems in challenging conditions (energy robustness); and ensuring the continued long-term viability of the wider energy market (energy resilience).[6]

Energy sovereignty refers initially to energy security in the military sense, with the challenge of maintaining fuel supplies for military transport. In the late 19th and early 20th centuries, oil replaced coal as the main source of energy for transport purposes and European powers quickly moved to secure their sources of oil in the Middle East and the Caucasus regions. After the Second World War, civilian priorities took centre stage in the pursuit of energy sovereignty, and favourable terms were sought with newly oil-producing states. After the Oil crisis of 1973, additional measures were taken to ensure that energy needs continued to be met in the event of another oil embargo.

The unstable and unpredictable nature of the energy market, in combination with its importance to the lives of billions of people across the globe, is a central focus from the perspective of energy resilience. Energy resilience focuses on a multi-faceted approach to ensuring continued access to energy, these facets being flexibility, adaptability and diversity.

International Relations in Energy Politics

Roland Dannreuther approaches energy security by blending it with his own field of International Relations (IR).[7] Further, he applies the differing approaches in International Relations theory to energy security. These approaches to IR can be defined as the Realist, Liberal or Radical (or Marxist) approaches.

The Realist approach argues that, fundamentally, the rivalries between states and empires do not arise from competing ideologies or identities, but competition over limited natural resources and the rational self-interest of polities to perpetuate their existence.

6 Aleh Cherp & Jessica Jewell, (2011). "The three perspectives on energy security: intellectual history, disciplinary roots and the potential for integration", Current Opinion in Environmental Sustainability 3 (4), pp. 202-212.

7 Roland Dannreuther, (2017). Energy Security, Cambridge, UK: Polity Press.

In contrast, the Liberal approach argues that there is more to international relations than the competition over resources between states. Instead, Liberalism argues that non-state bodies such as civil society organisations and companies also play a major role in world affairs. This is particularly true in the case of companies in international energy politics, as oil and natural gas, two primary sources of energy for most of the world, are multi-billion dollar industries. According to the Liberal approach the most effective way to ensure the continued security of energy sources is to facilitate fair competition in the energy market by deregulating, liberalising and privatising the market.

Finally, the Radical (or Marxist) school of thought focuses mainly on justice for its arguments, claiming that both Liberalism and Realism are simply tools to prolong the life and injustice of capitalism. Dannreuther cites an example of radical eco-activists claiming that liberalism's devotion to economic growth has played a significant role in the environmental degradation of the planet, and that the pursuit of wealth is the main driver behind the destruction of natural habitats and the looming environmental crisis of the 21st century.

Practical Application of Energy Security Policy by the European Union

The ambiguity surrounding exactly what is meant by "energy security" has traditionally been viewed by scholars as an issue which needs to be resolved. However, this does not appear to be the view taken by policy practitioners.[8] Instead, energy security has taken on political significance in the early 21st century, having previously been viewed merely as a technical matter in EU circles. Further, some scholars have argued that the proliferation of conceptualisations and definitions of energy security should not be seen as a weakness, but rather as a reflection of the reality that energy security takes many forms and facets. This approach offers EU policymakers some flexibility in tackling the many challenges facing the various member states in the realm of energy security.

8 Zora Kovacic & Louisa Jane Di Felice. "Complexity, uncertainty and ambiguity: Implications for European Union energy governance", Energy Research & Social Science (2019) 53, 159-169.

Any examination of the wealth of definitions and conceptualisations of the term "energy security" would not be complete without analysing the EU's own conceptualisation. While the EU has not offered a concrete definition on which it bases its energy security goals and policy, we can gain greater insight into the minds of the policymakers who are devoted to maintaining Europe's energy security.

Perhaps the most important piece of legislation concerning energy security in the European context is the Treaty on the Functioning of the European Union (TFEU). Article 194 of this treaty states that:

> "In the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim, in a spirit of solidarity between Member States, to:
> - ensure the functioning of the energy market;
> - ensure security of energy supply in the Union;
> - promote energy efficiency and energy saving and the development of new and renewable forms of energy; and
> - promote the interconnection of energy networks."[9]

Two relevant themes can immediately be observed through reading this article. The first is the "security of supply" in the EU, and the second is the promotion of energy efficiency and development of renewable forms of energy. Further insight into the minds of EU policymakers can be gleaned by examining the preambles of EU legislation in the area of energy policy. For example, paragraph 5 of the preamble of Directive 2009/72/EC (known as the Electricity Directive) states that "A secure supply of electricity is of vital importance for the development of European society, the implementation of a sustainable climate change policy, and the fostering of competitiveness within the internal market."[10]

In recent years, the Commission has pushed to update the EU's overall energy policy under a single package. The document proposing to update existing energy legislation through what is known as the "Winter Package"

9 Consolidated version of the Treaty on the Functioning of the European Union, Article 194, 2012/C 326/01.

10 Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC.

outlines the objectives behind the proposed changes.[11] On the supply of electricity, it notes that "Security of electricity supply is indispensable in modern societies which largely depend on electricity and internet driven systems. It is therefore necessary to assess the ability of the European electricity system to offer sufficient generation and flexibility to ensure reliable electricity supply at all times."

EU Energy Policy since the Second World War

Early European Institutions

The founding of the European Coal and Steel Community (ECSC) in 1952 was perhaps the most important step towards ensuring the continuation of peace in Europe in the first years following the devastation of the Second World War. The ECSC served to place the trade of coal and steel, two vital resources for making war, under the control of a supranational body. By integrating the economic and energy security needs of the participating states, the ECSC served to make it impossible for European powers to wage war on each other. After witnessing the success of the ECSC, leaders then sought to expand this structure to include other economic sectors.

In 1957, the Treaty of Rome was signed by the leaders of Belgium, France, Italy, Luxembourg, the Netherlands and West Germany. In addition to establishing the European Economic Community (EEC), the Treaty also established the lesser-known European Atomic Energy Community (Euratom). Euratom sought to establish a common atomic energy market among the participating states through the free flow of atomic materials, nuclear experts and information among others. However, the institution did not become involved in, or monitor, the military use of nuclear resources. Nor was it a supranational institution which could enforce its decisions, as was the case with the ECSC.[12]

11 Proposal for a Regulation of the European Parliament and of the Council on the internal market for electricity. COM (2016) 861 final/2 (November 2016).

12 Ludger Kühnhardt, (2008). "European Union – The Second Founding: The Changing Rationale of European Integration." Baden-Baden, Germany: Nomos Verlagsgesellschaft mbH.

The Oil Crisis as a Catalyst for a Stronger European Energy Policy

In response to western powers' support of Israel in the Yom Kippur War in 1973, oil-producing states in the Middle East launched an oil embargo on countries in Western Europe and North America. This resulted in stock market crashes and fuel prices skyrocketing, leaving many Americans and Europeans unable to perform basic daily functions. After the embargo ended in 1974, American and European leaders understood the need to develop a policy to address the vulnerabilities that arise from dependency on a single major supplier of energy. In 1986, the EU passed the Single European Act (or SEA). This gave the broader energy policy domain a greater level of attention and formed a framework with which the EU could develop its own energy security policy.

After the Maastricht Treaty was ratified in 1992, the EU finally had the tools necessary to form a coherent energy security policy. However, it focused more on encouraging deeper integration of the European energy markets. By breaking up state-backed monopolies and introducing regulation aimed at facilitating competition, the EU, in effect, continued its longstanding policy of developing the Single Market. It was not until the 21st century that energy security really began to be seriously considered and discussed among European leaders, given the dependence of the new central and eastern European member states on Russia for their energy needs.

The Treaty of Lisbon

In 2009, the Treaty of Lisbon was signed and ratified by the member states and entered into force. This radically changed the way energy policy would be formulated on the European level. Article 194 of the Treaty on the Functioning of the European Union provided the EU with the competence to set the agenda on a wide range of energy matters, including:

- ensuring the functioning of the [European] energy market;
- ensuring security of energy supply in the Union;
- promoting energy efficiency and energy saving and the development of new and renewable forms of energy
- promoting the interconnection of energy networks.

For the first time, the EU gained the mandate to establish, among many other policy domains, a common energy security policy. In the first years following the ratification of the Lisbon Treaty, the EU limited its focus on internal measures rather than conducting international energy politics. The "Third Package" of legislation to regulate the electricity and gas markets focused on measures including the "unbundling" of electricity and gas operators, the enhancement of energy trading systems between EU member states, and the strengthening of national regulatory authorities so as to ensure robust enforcement of EU rules. Other measures proposed by the Commission in this period have included funding for energy infrastructure projects aimed at further integrating energy markets, measures to encourage energy efficiency and a "solidarity" clause in a proposed bill on the regulation of the Security of Gas Supply.[13] Aside from improving the EU's internal energy infrastructure and integration, the EU has been active in forming closer ties with energy-producing states as a means to diversify its imports. For much of the last decade, the EU has worked to conclude energy agreements with countries including Iran, Azerbaijan and Algeria among others. This has been met with some success, as the Commission has endeavoured to complete a large-scale infrastructure project called the Southern Gas Corridor, which aims to connect existing pipelines including the South Caucasus Pipeline, the Trans-Anatolian Pipeline and the Trans-Adriatic Pipeline.[14]

Energy Security Strategy 2014

Shortly after the European Parliament elections in 2014, the Commission published a document outlining its strategy on Energy Security.[15] The document contained facts and figures which were central to some of the

13 Tomas Maltby, (2013). "European Union Energy Policy Integration: A Case of European Commission Policy Entrepreneurship and Increasing Supranationalism", Energy Policy, 55 (100), pp.435-444.

14 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU strategy for liquefied natural gas and gas storage. COM (2016) 49 final (February 2016).

15 Commission Communication to the European Parliament and the Council - European Energy Security Strategy. COM (2014) 330 final (May 2014).

concerns of the member states and the EU at large. At the time of publication in 2014, the EU imported 53 % of its overall energy needs. Further, eastern European member states were disproportionately dependent on energy imports from a single supplier, in particular the Baltic states. Finally, the strategy document predicted that energy demand within the EU would rise by 27 % by 2030. With these vulnerabilities threatening the integrity of the single market, in addition to continued access to uninterrupted energy supply, the strategy outlined some key measures which could be taken to address these vulnerabilities in the short and long term.

First, the strategy highlighted the need to immediately take steps to prepare eastern member states for a potential repeat of the 2006 and 2009 disruptions to the flow of natural gas through Ukraine.[16] This was in response to the Russian annexation of Crimea and invasion of eastern Ukraine, which itself was a response to the Euromaidan revolution which saw the removal of pro-Russian president Viktor Yanukovych from power.

In the longer term, a key measure proposed by the document was to insert a solidarity clause in energy security legislation so as to mandate member states to supply energy to others facing disruptions. This would work by improving cooperation between the national regulatory authorities of the member states in matters including risk assessments, contingency planning and designing measures to protect strategic energy infrastructure.

Another proposal in this strategy document was to moderate the increase in energy demand within the EU. As the EU member states spent €400 billion in energy imports in 2013, the Commission expressed an interest in preventing the bill from climbing further. A 27 % increase in demand as predicted by the Commission would result in a bill of €508 billion in 2030. To that end, the strategy document proposed that member states should redouble their efforts to implement measures aimed at meeting their 2020 reductions in carbon emissions, provide financial support towards efforts to renovate buildings with environmentally friendly materials and promote funding for more efficient energy providing services.

16 Robert W. Orttung & Indra Overland, (2011). "A Limited Toolbox: Explaining the Constraints on Russia's Foreign Energy Policy", Journal of Eurasian Studies, 2 (1) 74-85.

The Internal market

As highlighted previously, the EU considers protection of the integrity of the internal market to be of vital importance. The strategy document highlights the Commission's aim to expand the internal market into the realm of energy in a number of ways. First, by encouraging EU-wide discussion of national decisions on energy infrastructure, the Commission hopes to avoid situations where national policy decisions can undermine the energy security of another member state. This is aimed to be done through availing of existing policy tools such as legislation relating to the internal market and the control of state aid to facilitate EU-level decision-making on energy policy.

Further, the strategy document details the Commission's plan to develop the European electricity and gas markets as well as the steps previously taken to this effect. The document looks to the example of the Nordic countries, who have integrated their energy markets, as well as north-western member states who have collaborated on integrated energy infrastructure projects. Seeking to push the EU into taking a stronger stance in facilitating deeper integration of energy markets, the document proposes funding critical infrastructure projects in the short term and robust enforcement of gas sector Network Codes and anti-trust legislation in the longer term.

Increasing energy production within the EU

As the EU's indigenous fossil fuels do not produce enough energy to meet the needs of its population, the strategy document proposes taking steps to maximise the use of European-produced energy by increasing the production of renewable energy to meet a target of 27 % of overall energy use in the EU by 2030. The Commission proposes that the private sector bear most of the costs of building the infrastructure needed to bring renewable energy sources online.

In addition, the document proposes that conventional gas and oil reserves within the EU should be exploited. While this recommendation is qualified by its further recommendation to exploit these reserves compliant with environmental regulations, this nevertheless underscores the primacy of energy security concerns in the minds of European leaders over concerns of climate change. To mitigate the harmful effects of fossil fuel extraction, the

strategy document highlights the potential for carbon capture technology to be deployed on a wider scale in Europe. As such, it notes that "further efforts in research, development and deployment should be made in order to fully benefit from this technology."

The Formation of the Energy Union

This section examines the run-up to the launch of the European Commission's flagship project to improve the EU's overall energy policy: the Energy Union. This revolves around efforts made by top EU officials to address weaknesses in the EU's energy policy, including the lack of integration in energy infrastructure and the differences between member states on their energy security priorities. Following this analysis, discussion shifts towards the governance of the Energy Union and its efforts to increase policy output, cooperation from the member states and increase the integration of the European energy market. After the ratification of the Treaty of Lisbon, the EU was now able to make moves towards securing the supply of energy for its member states. After the events in Ukraine in late 2013 and early 2014, the EU began working behind the scenes to better protect the energy security of the member states. The Third Energy Package had already gone some way towards helping those vulnerable states to wean themselves off their dependence on a single source for their energy needs, but a new, more focused effort was required to safeguard the progress already made and to take further steps in improving energy security.

Advent and aims of the Energy Union

In April 2014, Donald Tusk, former Prime Minister of Poland and President of the European Council, wrote a piece for the Financial Times, in which he called for an "energy union" to tackle issues such as "breaking up the Russian gas monopoly and restoring free market competition."[17] Shortly thereafter, the Commission launched the Energy Union, a project aimed at improving the EU's overall energy policy output. According to a document

17 Donald Tusk, D (2014, April 21). "A united Europe can end Russia's energy stranglehold", Financial Times.

published by the Commission, the Energy Union's main goals are as follows:[18]

- Energy security, solidarity and trust
- A fully-integrated internal energy market
- Energy efficiency contributing to moderation of demand
- Decarbonising the economy
- Research, innovation and competitiveness

In his first speech as President of the Commission, Jean-Claude Juncker stated that "We need to pool resources, combine infrastructures, and unite our negotiating power vis-à-vis third countries. We need to diversify our energy sources and reduce the high energy dependency of several of our member states."[19]

This paper focuses on the energy security component of the Energy Union's aims.

In a 2014 document outlining the EU's energy security strategy, the Commission outlines seven key steps aimed at achieving the goal of energy.[20] This paper focuses on two of these steps: diversifying supply sources and routes; and the protection of critical infrastructure. As this paper strives to focus on the political dynamics of energy security in Europe and beyond, particular focus is devoted to the steps which prioritise European and international energy politics.

18 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank – A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy. COM (2015) 80 final (February 2015).

19 Jean-Claude Juncker (2014, July 15). "A New Start for Europe: My Agenda for Jobs, Growth, Fairness and Democratic Change". Online at: https://www.eesc.europa.eu/resources/docs/jean-claude-juncker---political-guidelines.pdf.

20 Commission Communication to the European Parliament and the Council - European Energy Security Strategy. COM (2014) 330 final (May 2014).

Governance of the Energy Union

In 2016, the year following the launch of the Energy Union, the EU published a proposal to update existing energy legislation to reflect the priorities of the Commission under the leadership of Jean-Claude Juncker. The so-called "Winter Package" of legislation concerning energy has been passed, and, as of late 2019, is awaiting publication in the Official Journal of the European Union. Perhaps unsurprisingly, literature discussing the package in depth is in rather short supply. Nevertheless, one can develop an impression of the overhaul through analysing the available literature and gain a greater understanding of the legal and political dynamics of the Energy Union.

Researchers and social scientists have conducted numerous studies and literature reviews aimed at settling on a working definition for energy security with the aim of simplifying research and policy formulation for researchers and practitioners alike. As such, the ambiguity of the conceptualisation of energy security is seen as an issue which must be resolved if the effective study of energy security is to occur. This is in contrast to the EU's approach of sticking with a basic definition of the security of energy supply provided for in the TFEU.

Upon examination of other material, in particular Article 194 TFEU, the security of the supply of gas is central to European energy security policy. This makes sense given the reference made to the security of energy supply as a whole in Article 192 TFEU. One of the most comprehensive measures to ensure the security of the supply of natural gas has been the passage of Regulation 2017/1938 (or the Gas Supply Regulation). This regulation places the responsibility of securing gas supplies on the member states, gas companies and the Commission to varying degrees.

Some of the key components of the regulation include the following:

- Requiring the European Network for Transmission System Operators for Gas (ENTSO-G) to perform an EU-wide gas supply and infrastructure disruption simulation in order to provide a high level overview of the major energy supply risks for the EU.

- Requiring EU countries to cooperate with each other in regional groups to assess common supply risks together and to develop and agree on joint preventative and emergency measures.
- Introducing the solidarity principle, in which EU countries must help each other by guaranteeing continued gas supply to the most vulnerable consumers, even including those in severe gas crisis situations.
- Improving transparency by requiring natural gas companies to officially notify their national regulatory authority of their major long-term supply contracts that may be relevant to the security of energy supply.
- Ensuring that decisions on whether pipelines should have permanent bi-directional capacity (reverse flow) take into consideration the views of all EU countries that could potentially benefit. Transmission system operators must enable permanent bi-directional capacity on all cross-border interconnections between EU countries unless an exemption is granted.

In their assessment of the governance of the Energy Union, Marc Ringel and Michèle Knodt focus on the open method of coordination (or OMC) between stakeholders in policy formation.[21] The OMC is one of many tools deployed during EU policymaking processes and is more intergovernmental in nature than some others.

More specifically, "The OMC does not result in EU legislation, but is a method of soft governance which aims to spread best practice and achieve convergence towards EU goals in those policy areas which fall under the partial or full competence of Member States."[22]

Additionally, Ringel and Knodt have focused their analysis on the Energy Union's overall governance, of which energy security plays a minor part. This means that while this article does not discuss energy security in detail,

21 Marc Ringel & Michèle Knodt, (2019). "The governance of the European Energy Union: Efficiency, effectiveness and acceptance of the Winter Package 2016", Energy Policy, 112, pp.209-220.

22 European Parliament, "The Open Method of Coordination". Online at: http://www.europarl.europa.eu/EPRS/EPRS-AaG-542142-Open-Method-of-Coordination-FINAL.pdf

many of the assessments and discussion on policy formation apply to energy security as well as other policy areas of the Energy Union. With this being said, the authors highlighted some interesting findings which are relevant with regards to policy output in the context of the Energy Union.

First, the authors' assessment of the Energy Union's governance effectiveness found that the regular publication of policy documents, reports and plans positively influenced developments in policy. Further, the authors highlighted that, by having the EU make certain energy policy measures obligatory for member states to follow, these measures become more likely to be implemented by the member states.

Second, the authors noted that in order for the Energy Union's governance system to be effective, there must exist a high level of acceptance among the member states. A lack of acceptance in the form of delays in reporting progress in various policy areas related to energy risks undermining the effectiveness of the governance of the Energy Union. As the Energy Union is still young, there are some improvements that can help the Commission and the member states increase energy policy output. However, these improvements depend on cooperation between these stakeholders and it is unclear whether such cooperation will be forthcoming.

The State of the Energy Union

The publication of four reports on the state of the Energy Union gives us a deeper insight into the Energy Union's aims and the challenges it faces today and into the future. By examining the four reports on the state of the Energy Union, this section aims to help gain insight into the Commission's mindset and what Commission officials consider when measuring the success of the project.

As part of the Energy Union's launch, the Commission published its first report on the "State of the Energy Union" in November 2015.[23] In it, the Commission described the key methods it would seek to deploy to achieve

23 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank - State of the Energy Union 2015. COM (2015) 572 final (November 2015).

the goals outlined above. In the area of energy security, the Commission hailed the EU's determination to see Ukraine remain a key transit country of Russian natural gas and its efforts to facilitate peace talks between Ukraine and Russia over the war in the Donbass. In addition, the Commission reiterated that the EU would only support energy infrastructure projects that would increase the diversification of energy sources. This comment was made in the backdrop of the controversy over Germany's decision to join Russia in the Nord Stream 2 gas pipeline project.

In the most recent report on the state of the Energy Union, published in April 2019, the Commission hailed its achievements of the last four years, including facilitating deeper integration of European energy infrastructure, its newfound ability to speak with one voice on the world stage and improving the energy security of the member states.[24] However, it also recognised that key challenges remain to be addressed, and the Energy Union faces numerous shortcomings that must be overcome if it is to robustly pursue its objectives.

Progress of the Energy Union 2015-2019

After the first report on the State of the Energy Union, the Commission published three further reports: one in February 2017, the next in November 2017 and the final one in April 2019. Each of these documents have followed a similar pattern of summarising the Energy Union's main achievements, challenges and steps which could be taken to address concerns. This section highlights and discusses the key relevant aspects of the second and third reports before analysing the most recent report in depth.

The second report was the first to report on the project's condition since its launch. In this report, the Commission identified key developments in the energy policy sphere, including the member states' transition to a lower-carbon economy, the efforts to reduce greenhouse gas emissions and the economic growth of the member states in spite of the supposed "burden" of

24 Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank – Fourth Report on the State of the Energy Union. COM (2019) 175 final (April 2019).

transitioning to a lower carbon economy. With regards to energy security more specifically, the Commission reported advancements in developing so-called "future-proof" infrastructure, in keeping with the Energy Union's goal of protecting critical infrastructure and cybersecurity. Such advancements included progress in infrastructure projects such as the Trans-Adriatic Pipeline, new Liquefied Natural Gas terminals in several countries and investment for a new pipeline connecting Estonia and Finland. The report goes on further to explore the Commission's progress in forming an international presence in the realm of energy politics. Aside from participating in other international fora including the G7, G20 and the International Energy Agency, the EU has made moves to develop bilateral ties with energy producing states such as Algeria and the energy transit hub Ukraine. A similar pattern of progress, difficulties and policy developments is present in the following report published in November 2017. For example, the themes of energy transition and future-proof infrastructure are again present in the third report, with progress in the digitisation of infrastructure enabling improved grid management and response times. In addition, the EU's international overtures are summarised, including the organisation's support for the G20 Hamburg Climate and Energy Action Plan for Growth, energy agreements with India and Japan and progress in EU relations with Ukraine as well as African partners.

Achievements of the Energy Union so far

The fourth report on the state of the energy union summarises the progress made in achieving the EU's aims, as well as its shortcomings and upcoming challenges.

First, the EU has passed legislation to secure the supply of natural gas and to increase risk preparedness in the electricity sector. In addition, significant advancements have been made in improving the "design" of the European electricity market through price convergence and cross-border exchanges of electricity. Further, a common framework for capacity mechanisms agreed by the member states has been set to improve harmonisation and to assist the member states in reaching the EU's decarbonisation goals. These efforts all aim to improve the flow of energy within the EU, facilitate greater expansion

of renewable sources of energy, and improve the efficiency of the use of energy within the EU.

With regards to natural gas more specifically, European leaders have agreed to revise the Gas Directive of 2009. As is explored later in this paper, this was done partially in response to the political controversy erupting as a result of Germany's deal with Russia to build a pipeline in the Baltic Sea to bypass Ukraine as a transit hub.

The fourth report pays particular attention to the efforts made to address the energy isolation of the Baltic states, who have relied almost exclusively on imports from Russia to meet their energy needs. As of the publication of the report in April 2019, the Baltic states have connected their energy infrastructure with states including Sweden, Finland and Poland, resulting in an interconnection level of 23.7 %. Efforts are now focused on connecting the Baltic states' infrastructure with the rest of the continent by 2025 and new efforts are being made to increase the connectivity of critical infrastructure between Iberia and France to 10 % over the next decade.

The EU's efforts to diversify sources of natural gas for its member states have been met with some success, and now all but one of the member states have access to at least two independent energy sources. This is expected to increase to three independent sources for all member states except Malta and Cyprus by 2022 if current infrastructure projects such as the Southern Gas Corridor are completed on schedule. In addition, the shift towards liquefied natural gas (LNG), which can be transported over longer distances than natural gas carried by pipelines, has also given the member states more available options with which they may wean off their dependence on a single source.

Finally, the Commission has worked to implement what it calls "energy resilience": reorganising energy infrastructure so as to make it better able to absorb shocks without causing widespread disruption. To that end, the EU has invested over €5 billion in projects aimed at increasing the integration of European energy networks. The results of these investments will take years to bear fruit, yet the Commission's forward-looking and long-term planning capabilities gives the EU a key advantage in helping the member states to build vital infrastructure which will improve their energy security situation.

Shortcomings and Challenges

There still exist some pressing issues in the short to medium term that the Commission has been keen to highlight in the latest report. Despite the progress made in integrating electricity grids, the report claims that much larger amounts of investments are required over the next decade in order to not only increase the rate of integration, but also to digitise and "smarten" electricity grids.

In addition, the social challenges arising from the transition to a lower-carbon economy has not been ignored in this report. The report highlights that there are 185,000 jobs in coal extraction across 41 coal-producing regions in 12 member states, each of which are at risk of being lost in the shift towards low-carbon and renewable energy. The Commission has already taken steps to provide support to these workers, such as "creating an open platform that brings together all affected stakeholders [...] to exchange best practices, foster peer learning, and receive information on EU support instruments that are available" in addition to providing tailored support to member states to smooth the transition. Tools to help the member states in this endeavour include EU funds, financing tools and programmes of various types.

Finally, the report makes reference to energy poverty, the first time it is mentioned in the context of European energy policy (outside of the need to collect data). 50 million people in the EU are reported to be affected by energy poverty, and the Commission has proposed to improve investments in energy efficiency for households. This policy domain is still in its infancy but has steadily developed since the inception of the Energy Union. As the member states conduct their own analyses on the number of energy-poor households, this policy domain is expected to increase in importance, especially given the overall objective of energy security to protect the supply of energy to households and businesses.

Challenges facing the Energy Union beyond 2019

With the formation of the new Commission expected to be complete by November 2019, a number of new challenges face the newcomers. First, the goal to reduce carbon emissions by 20 % from the levels recorded in 1990,

while on track to be met in 2020, will fall short in several member states. The next Commission will have to grapple with the continuing reality that the governments of the member states often place short-term economic growth ahead of long-term climate action.

In terms of energy security, the Commission should continue to take steps to improve and integrate the energy infrastructure of the member states. To this effect, it will need to find a way to attract large-scale investment, from national governments and the EU itself to the private sector. However, with projections estimating that investments of up to €500 billion would be required to complete the necessary overhaul of energy infrastructure to meet carbon reduction and security aims, this will be an enormous challenge that will take years if not decades to make significant progress in achieving.

Having resolved the controversy over the Nord Stream 2 pipeline project (at least temporarily) and being well on the way towards integrating the energy networks of previously vulnerable eastern European states, the EU may also wish to shift its focus more towards developing the Southern Gas Corridor further. The Corridor's construction has been praised by high-ranking US officials such as Assistant State Secretary for Energy Resources Francis R. Fannon, who said that "Our steadfast support of the 40 billion-dollar-plus Southern Gas Corridor has spanned multiple Administrations and continues today despite the fact that there is no direct American investment in the project."[25]

A major issue developing in the Mediterranean concerns tension arising between Cyprus and Turkey over the latter's drilling operations off the northern coast of Cyprus. The northern half of Cyprus declared independence after being invaded and occupied by Turkish forces in 1974, a move which has never been recognised internationally. In recent years, Turkey has sought to explore Cyprus' northern waters for oil and gas, much to the dismay of not just the Cypriot government, but also the EU.

25 Francis R. Fannon, (2018). "Remarks at Event Honoring 25th Anniversary of the Department of State's Partnership With the Petroleum Equipment and Services Association (PESA)". Online at: https://www.state.gov/remarks-and-releases-bureau-of-energy-resources/remarks-at-event-honoring-25th-anniversary-of-the-department-of-states-partnership-with-the-petroleum-equipment-and-services-association-pesa/.

In July 2019 the EU suspended contact between high-level officials and withdrew financial aid amounting close to $150 million to Turkey in response to Turkey's drilling operations. In addition, the EU has requested the European Investment Bank to review its lending practices with the country, which was valued at $438 million in 2018.[26] This has not discouraged Turkey, which, less than a month later, sent a third drilling vessel towards Cyprus on the eve of peace negotiations between the Cypriot government and the ethnically Turkish northern Cypriot leadership.

The Nord Stream 2 Controversy and the Gas Directive

In the wake of Germany's agreement with Russia to construct a new gas pipeline connecting the two countries via the Baltic Sea, several member states raised concerns over the project's potential to increase the dependence of eastern European states on Russia for their energy needs. Seeking to address these concerns, the Commission proposed a directive that would limit Russia's control of the pipeline and strengthen its own influence in major energy infrastructure projects.

Examination of the Gas Directive

In April 2019, the Gas Directive entered into force.[27] While some of the main components of the legislation have been touched on in the paragraphs above, it is worth exploring these in more detail from political and legal perspectives. First, this section looks at the Directive's aims as provided for in the preamble before exploring the main relevant provisions of the Directive. This section then explores the Directive's strengths and weaknesses from the perspective of the relevant member states as well as from a neutral perspective.

26 Matina Stevis-Gridneff, M. (2019, July 15). "E.U. Punishes Turkey for Gas Drilling Off Cyprus Coast". The New York Times.

27 Directive (EU) 2019/692 of the European Parliament and of the Council of 17 April 2019 amending Directive 2009/73/EC concerning common rules for the internal market in natural gas.

Aims of the Directive

Paragraph 3 of the preamble to the Gas Directive states that it "seeks to address obstacles to the completion of the internal market in natural gas which result from the non-application of Union market rules to gas transmission lines to and from third countries." To that end, it is designed to include non-EU member states (or "third countries") within the remit of currently existing rules. This is purportedly aimed at ensuring the "consistency of the legal framework within the Union while avoiding distortion of competition in the internal energy market in the Union and negative impacts on the security of supply."

Summary of the Main Components

The main change to EU law on the regulation of natural gas with respect to energy security can be seen in the amendment of Article 36 of the 2009 Gas Directive. On the whole, this article allows for major gas infrastructure projects to be exempted from specific provisions, including regulatory interventions such as the unbundling of transmission systems and transmission system operators, mandatory third party (usually competitors) access to infrastructure and regulation from national regulatory authorities.

The original article, under section 1 paragraph (e), states that "the exemption must not be detrimental to competition or the effective functioning of the internal market in natural gas, or the efficient functioning of the regulated system to which the infrastructure is connected." The amended version under the 2019 Gas Directive adds an energy security consideration, stating that "the exemption must not be detrimental to competition in the relevant markets which are likely to be affected by the investment, to the effective functioning of the internal market in natural gas, the efficient functioning of the regulated systems concerned, or to security of supply of natural gas in the Union."

This gives the regulatory authorities the mandate to reject applications of exemption if there is a risk to the continued supply of natural gas to a given country or region.

Perhaps the most contentious amendment, negotiated between France and Germany, concerns the power of national regulatory authorities and when they should apply EU rules to infrastructure originating from a third country under Article 41, section 1 paragraph (c). While the Commission had sought the authority to govern the rules and regulations of infrastructure originating from a third country, this amendment grants such power to the national regulatory authorities.

In the case of the Nord Stream 2 pipeline project, this allows German regulatory authorities to cooperate with Russian authorities concerning various aspects of the project. This is reinforced by a further amendment, this time an added section to Article 42, stating that "regulatory authorities, or where appropriate other competent authorities, may consult and cooperate with the relevant authorities of third countries in relation to the operation of gas infrastructure to and from third countries with a view to ensuring, as regards the infrastructure concerned, that this Directive is applied consistently in the territory and territorial sea of a Member State."

Effects and Reception of the Directive

While the directive will not be transposed into national law until February 2020, there is a wealth of discussion and analyses, and the affected parties have made their opinions on the directive well-known. Due to the compromising nature of the directive, it is perhaps unsurprising that its passage has been met with mixed reactions.

While the opponents of Nord Stream 2, who had originally hoped to see the project stalled or even abandoned as a result of this directive may be disappointed, there are some components of the directive that should help to alleviate the concerns of some sceptics of the pipeline project. The key relevant measure under the directive, namely the extension of EU rules and regulations to pipelines that fall partly outside of EU territory, is the single largest safeguard against potential foreign interference against the continued supply of natural gas to the EU member states. This means that foreign enterprises and operators are now subject to such regulatory measures as unbundling (or the separation of activities into relevant divisions) and the mandatory granting of infrastructure access to competitors.

In response to the directive, Nord Stream 2 has brought about legal proceedings before the General Court to annul the directive. In April 2019, Nord Stream 2 triggered a three-month consultation period with the Commission aimed at reaching an amicable settlement. Now that the three-month period has elapsed, the project's backers have reserved the right to pursue international arbitration under the Energy Charter Treaty and are eager to have as many tools at its disposal as possible in order to kill the amendment directive.

Not all reception of the passage of the amended Gas Directive has been negative. In an interview with EURACTIV, Polish MEP Jerzy Buzek called the Franco-German compromise of the Directive "good news not only for Poland, but for all the EU member states."[28] He argued that the extension of EU rules into pipelines outside of EU territory would force third countries to follow EU rules when exporting natural gas into the bloc. In addition, he claimed that, despite the compromise reached by France and Germany, the Commission would still have the final say on who can negotiate with third countries on infrastructure projects.

The US has also hailed EU efforts to secure its supply of energy and diversify its sources geographically, not least because the US stands to gain by selling LNG to EU member states. Assistant State Secretary for Energy Resources Francis R. Fannon has made numerous remarks urging the EU to kill the Nord Stream 2 project, accusing Russia of using energy for "coercive geopolitical aims."[29] In addition, the US has threatened Germany with sanctions if it proceeds with the construction of the Nord Stream 2 pipeline.

Conclusion

Having explored numerous conceptualisations and the path towards the EU's current energy security policy, this paper concludes that, while it has taken

28 Karolina Zbytniewska, (2019, February 17). "Jerzy Buzek: Deal on Nord Stream 2 is good for Poland and EU". EURACTIV. Online at: https://www.euractiv.com/section/energy/interview/jerzy-buzek-deal-on-nord-stream-2-is-good-for-poland-and-eu/.

29 Francis R. Fannon, (2018, October 10). "Remarks at the 2018 Oil and Money Conference". Online at: https://www.state.gov/remarks-and-releases-bureau-of-energy-resources/remarks-at-the-2018-oil-and-money-conference/.

decades of often slow-moving progress for European states to form any semblance of a common energy security strategy, they have come further in doing so than any previous attempt in European history. Energy security has evolved from being pursued purely by nation states with vastly different priorities to European states negotiating with each other to form common stances on important energy matters. This practice of negotiation and compromise has been strengthened further through the launch of the Energy Union, a comprehensive framework that facilitates greater energy policy output and investment into energy-related infrastructure projects.

Development of the EU's Energy Security policy

The European Union had no comprehensive energy security policy to speak of in the 20th century. Instead, European leaders focused their efforts in the 1970s and 1980s on expanding the organisation's policy competences, among them energy in the general sense. Energy security finally gained prominence in the 21st century as the EU welcomed 12 new member states in 2004 and 2007. The dependence on many of these member states for Russian energy became a source of concern for European leaders, and the Treaty of Lisbon made the first reference to the EU's commitment to securing the supply of energy for its member states.

The ratification of the Lisbon Treaty was accompanied by the passage of the Third Energy Package of legislation aimed at regulating the energy market and improving its security. Further, the EU has boosted efforts to forge relationships with energy-producing states such as Algeria, Iran, Azerbaijan and others. This has been met with some success, and the Southern Gas Corridor, a series of pipelines connecting the European Mediterranean to the Caspian Sea, is currently being constructed.

What progress has the EU made in achieving its security policy ambitions?

Despite the successes achieved in recent decades, the often sensitive nature of energy security has forced European leaders to be especially cautious not to incur the wrath of individual member states or neighbouring suppliers. The controversy of the Nord Stream 2 pipeline project has highlighted the

complex challenge that EU leaders face in balancing the energy security concerns of one member state with those of another.

Nevertheless, that the EU has managed to make progress in assisting former Soviet satellite states from reducing their dependence on Russian energy is an impressive feat. The EU has also facilitated a partial shift among its member states away from carbon-emitting fossil fuels and towards renewable sources of energy. This has been achieved through a spirit of compromise, and the recognition that different energy security dynamics exist among the member states.

The most comprehensive measure aimed at securing the supply of natural gas from third countries, the Gas Directive, faces an uncertain future due to legal challenges by Nord Stream 2's backers. However, it nevertheless signals a willingness on the European level to tackle a complex challenge with economic, political and technical elements. Regardless of the status of a specific piece of legislation, the EU has made significant progress in understanding the role that energy security plays in ensuring the overall security of the member states, as well as facilitating deeper integration between the member states.

Without a spirit of compromise being present in the EU, one can only speculate what energy politics would look like in Europe today. Perhaps the eastern European states, even if nominally independent from Russia, would remain utterly dependent on their giant neighbour for their basic energy needs. Perhaps several blocs of states with common energy interests would band together in opposition to others. This would be highly dangerous as Europe would once more be divided into small chunks, and the balance of power mechanism which failed so many times in European history would return. That European leaders have managed to build on the successes of the EEC to gradually form an energy security policy that is as comprehensive as it is, is a remarkable achievement.

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