

SEARCHING FOR ENERGY SECURITY...AND FINDING RENEWABLES?

Energy security perceptions and energy policy change in the case of Lithuania

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ABSTRACT

Most modern societies face pressure to ensure energy security and to decarbonise their economies. The case of Lithuania provides an example of how an EU "energy island", highly dependent on Russian energy resources, progressed from pro-nuclear to anti-nuclear and then to renewable energy advocate in the last decade and developed its energy policy accordingly. Based on the constructivist approach this thesis focuses on energy security perceptions through the lens of threats/vulnerabilities as political constructs, combined with the revised Copenhagen Securitization School and answers two research questions: first, how did policy makers perceive energy security in the period of 2009-2019, and second, what drivers enabled the energy policy shift from nuclear to renewable energy?

Discourse analysis examined the subjective aspects of energy security perceptions in the Lithuanian power context and revealed that: energy was a highly politicised and securitized issue, and energy independence as a key condition for energy security was the dominant narrative in the energy security discourse. Process tracing analysis demonstrated that environmental concerns, EU membership and indefinite deferral of the Visaginas nuclear power plant influenced renewables deployment, however, energy security was the biggest enabler of rapid renewables acceleration in the latest strategy. It also revealed the non-linear relationship between energy security and renewables, therefore the initial hypothesis has been re-formulated: a higher degree of perceived energy security was the main driver for the strategy based on renewables.

Overall it is concluded that energy security perceptions are significant in shaping energy policy. At the same time, they are shaped by historical past, identities and perceptions of Russia as a dangerous "Other". Lithuania is entering a new, renewable energy world, which faces different challenges. Critical analysis of renewables as contributors to energy security is urgently needed.

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LIST OF ABBREVIATIONS

BEMIP	Baltic Energy Market Interconnection Plan		
Biomass CHP	Biomass Combined Heat and Power Plant		
BRELL	Agreement between transmission system operators of Belarus, Russia,		
	Estonia, Latvia and Lithuania regulating common electricity system,		
	synchronous with IPS/UPS system		
CO ₂	Carbon Dioxide		
EU	European Union		
GDP	Gross Domestic Product		
GHG	Greenhouse Gas		
Ignalina NPP	Ignalina Nuclear Power Plant		
LitPol Link	Lithuania-Poland Electricity Interconnection		
LNG	Liquified Natural Gas		
NEIS	National Energy Independence Strategy		
NordBalt	Submarine Power Cable between Lithuania and Sweden		
Ostrovets NPP	Nuclear Power Plant currently constructed by Belarus (2019)		
RES	Renewable Energy Sources		
Visaginas NPP	Visaginas Nuclear Power Plant		

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1. CHAPTER 1 - INTRODUCTION

1.1. Problem Statement

"Energy will do anything that can be done in the world". Johann Wolfgang von Goethe (1749–1832) — Vaclav Smil, Energy: A Beginner's Guide

Energy undoubtedly played and continues to play the key role in many areas - the economy, security, the environment, social cohesion and local development - in all countries from North to South and West to East. Pasqual and Elking (2010) articulate the centrality and complexity of the role of energy: "Energy is the source of wealth and competition, the basis of political controversy and technological innovation, and the core of an epochal challenge to our global environment" (p. 1). Hence, energy security has become an integral part of political and economic agendas for countries all over the world both in terms of national and foreign policy.

The continuous strive for economic growth at the expense of social and environmental values (a critique often attributed to developed countries) has caused unprecedented climate crisis – global warming – and has added another layer of complexity to the role and analysis of energy. Nations are faced with an energy trilemma: how to ensure energy reliability (or security), in order to build and develop their economies and futures yet at the same time not jeopardize the economic prospects of future generations? What has been termed the *energy trilemma* involves striking a balance between energy security, social impact and environmental sensitivity, but simultaneously these three things are also conflicting with aspects of energy production1.

Further, to make the matters even more complicated, energy security is an inherently complex and fuzzy term, which is still lacking universal understanding. It has many definitions, dimensions and indicators with the consequence that it is subjectively understood by countries, policy makers and even scholars. What is understood to be energy security for one country is not necessarily energy security for another. The lack of clarity and the lack of universal understanding of energy security means that *perceptions* of it rather than objective or measured energy security often shapes national energy policies and the energy-related relationships among countries (geopolitics). This

1 https://www.carbonbrief.org/climate-rhetoric-whats-an-energy-trilemma

thesis will explore the contested nature of energy security in the Lithuanian electricity₂ sector's context.

Energy security issues in Lithuania, a small post-Soviet state in the Baltic States Region (together with Latvia and Estonia) emerged immediately after it gained independence from the former USSR in 1991. With virtually no primary energy resources, but with a strong desire to be independent from Russia in every sense, including energy, Lithuania had to seek solutions to the problem of how to ensure a reliable supply of energy to develop Lithuania's economy as an independent state. While solutions to this dilemma were being sought Lithuania relied on energy imports from Russia.

2009 saw a major change in Lithuania's energy system, specifically in the electricity sector. The second reactor of its only nuclear power plant (Ignalina NPP) was shut down as part of an accession agreement with the European Union (EU), which Lithuania joined in 2004: the country, which had been an electricity (power) exporter became a net importer (again from Russia). Lithuania therefore became significantly more dependent on energy imported from Russia. This dependency, combined with the Ukraine-Russia energy disputes of 2006 and 2009, and a legacy of gas price manipulations from Gazprom, meant Lithuania found itself at the centre of an energy security crisis. The tensions regarding high electricity import dependency and, the fact that Lithuania's (as well as Latvia's and Estonia's) power systems are part of the Brell electricity ring, controlled by Russia, and plans to strengthen this ring by constructing two new nuclear power plants on either side of Lithuania's border (one in Belarus and one in Kaliningrad, Russia) meant that energy security and policy became a national security priority.

Since 2009 the Lithuanian government has produced two National Energy Independence Strategies (2012 and 2018) where the main goal – energy independence and security – is clearly set out. Although both strategies share common objectives, namely energy supply diversification, renewable energy growth, energy efficiency and competitiveness, there is a striking difference regarding domestic power production. The 2012 strategy is built around the proposition that a new regional nuclear power plant should be constructed (Visaginas NPP). While the latest 2018 strategy is grounded on the accelerated development of renewable energy. What enabled this policy shift?

² Electricity will be interchangeably used with "power"

This thesis will seek to explore energy security rhetoric in the Lithuanian power system context, trace the co-evolution of the energy security perceptions and explain their implications for energy policy. The assumption is that, in its search for energy security and due to historical relations with Russia, the Lithuanian government adopted the latest energy strategy driven primarily by the desire for energy independence and security from Russia, less so by the EU influence or indeed climate change.

The novelty of the study is that most energy security researches have hitherto concentrated on the oil and gas sectors while the power sector was historically left to local intra-state issues, and thus has been under researched. This is surprising considering the importance of power to the country's running ability, starting with switching on a light at home to running complex life-saving medical equipment to deliver key services. Moreover, according to the International Energy Agency (IEA), "electricity is currently the fastest-growing source of final energy demand which today accounts for 19% of total final consumption of energy, a share that is set to increase as demand growth for electricity outpaces all other fuels". Modern societies transition their energy systems towards electrification, empowered by renewable energy sources, which will inevitably pose new and more complex energy security challenges. Lithuania's power sector's context in this thesis is therefore highly relevant.

Another reason for focusing on Lithuania's power sector case is that it appears that Lithuania provides an interesting case of how an EU "energy island" (Švedas, 2017), "caught" in between the pressure to ensure energy security and decarbonise the energy system, progressed from pronuclear, to anti-nuclear and to renewable energy advocate in just ten years and developed its energy policy accordingly. Renewable energy deployment in relation to energy security and geopolitics is an emerging issue globally (Escribano, 2018; Freeman & Scholten, 2018; Hache, 2018; Johansson, 2013; Lillestam, 2011, 2012; O'Sullivan, Overland & Sandalow, 2017; Overland, 2019; Szulecki & Kusznir, 2018; Valentine, 2011). The Lithuanian case will therefore contribute both to the energy security research and research on the policy shift towards renewables.

1.2. Energy security literature review

Lithuania's energy security and energy independence issues are commonly examined in the context of the Baltic Sea Region and Russia relations (see for instance Balmaceda, 2013; Grigas, 2013a, 2013b; Jirusek et al., 2015; Krickovic, 2015; Mišík & Prachárová, 2016; Ostrowski & Butler, 2018). However, most of these studies have focused on either descriptive geopolitical analyses (see for instance Česnakas, 2018; Grigas, 2013a, 2013b; Molis, 2011b) or on specific issues mostly related to the natural gas or explicitly nuclear power sectors (Bačkaitis, 2009; Česnakas & Juozaitis, 2017; Juozaitis, 2016; Molis, 2011a; Molis & Gliebutė, 2012). Emerging aspects of the power sector have been relatively under researched. With the exception of a few studies, concentrating on mainly public energy security perceptions (Genys & Krištolaitis, 2017; Leonavičius et al., 2015, 2018), or quantitative energy security measurements (Augutis et al., 2011; 2017; 2018; Bompard et al., 2017; Česnakas, Jakštaitė & Juozaitis, 2016), there have been few qualitative studies, related to political energy security perceptions. The only relevant study, based on eight semi-structured interviews with decision makers, was conducted by Česnakas in 2013, and thus needs expanding and updating.

Although scientific literature regarding the drivers for renewables' diffusion in the energy mix is steadily rising, the studies so far have not produced conclusive results. It is widely accepted that environmental concerns (such as man-made climate change and the increase of CO₂ emissions) are the main drivers for state's commitment to renewables. Empirical studies are not conclusive on the subject. Marques et al. (2010) found that the larger CO₂ emissions in a state, the smaller are the commitments to renewables. Valdes Lucas et al. (2016) confirm that "environmental policies such as the reduction of CO₂ emissions and energy intensity are not the main driver of renewables deployment" (p. 1043). Marques & Fuinhas (2011) study concludes that CO₂ emissions are not a sufficient driver to switch to renewables and in fact they may discourage the use of renewables. By contrast Aguirre & Ibikunle (2014) and Cadoret & Padovano (2016) argue for a positive relation between CO₂ emissions and renewables, that is, high CO₂ emissions promote development of renewables.

Marques et. al (2010) showed that being an EU member is significant for state's commitment to renewables, but membership alone is not sufficient to promote the switch to far-reaching renewable development. Valdes Lucas et al. (2016) investigated the relationship between energy security and renewable development in the EU countries and concluded that "despite the common opinion that

renewable energy deployment is solely driven by the aim to reduce CO_2 emissions, our results suggest that this development is an intended consequence of the EU energy security strategy". In other words, they imply that common EU energy security strategy determines the development of renewables by EU members states.

Aguirre & Ibikinle (2014) showed that nuclear participation in electricity generation has a negative relationship with renewables. Marques & Fuinhas (2011) claimed that nuclear source technology requires large-scale usage, thus displacing other sources, including renewables. Valdes Lucas et al. (2016) argued that nuclear power is an important competitor for renewables due to the absence of CO₂ emissions in its generation.

Finally Valdes Lucas et al. (2016) argued that the main driver behind renewable deployment is energy security rather than environmental concerns and sustainability policies. The theory suggests that a higher reliance of a country on energy imports requires a higher level of renewable deployment to improve that country's energy independence, but the empirical results are contradictory. Marques et al. (2010), Marques et al. (2011) and Cadoret & Padovano (2016) confirmed that high energy dependence on import has a positive effect on renewable development. In contrast, Marques & Fuinhas (2011) and Valdes Lucas et al. (2016) demonstrated that high energy dependence on import hampers renewables deployment. Jenner et al. (2012) also showed a negative relationship with import dependency.

Valdes Lucas et al. (2016) criticized the vast majority of studies that used only one indicator – energy import dependency- for assessing the energy security impact on renewables. In their view, this kind of methodology is flawed because energy security is a multidimensional concept. They argue that energy security issues have a significant role to play in renewables' deployment, although the relationship between energy security policies and renewable deployment is far from straightforward and depends on the chosen energy security strategy, usually linked to the different energy security conceptualizations presented by Cherp & Jewell (2011).

1.3. Objectives, Research Questions and Design of the Study

This thesis will argue that perceptions of policy makers are significant in shaping energy policies, therefore strive to fill this gap in the research. Drawing on the above stated problem the objectives of the thesis are to examine "subjective" aspects of energy security perceptions in the Lithuanian context and to explain how energy policy in the power sector evolved between 2009 and 2019. The

thesis emphasises the need to understand the role of energy security perceptions in shaping energy policy. The main research questions to be addressed are:

1. How did Lithuania's policy makers perceive energy security in 2009-2019?

2. What drivers enabled the energy policy shift from nuclear power to renewable energy?

As mentioned above energy security is a multidimensional and complex concept. It was therefore important to choose an appropriate theoretical and analytical framework. The concept of energy security as defined by Cherp & Jewell (2014) - "low vulnerability of vital energy systems" - will be used combined with elements of the securitization theory from Copenhagen School, such as concepts of "threats", "referent objects" and "counter-measures" (Buzan et al., 1998; Heinrich & Szulecki, 2018). The rationale behind this choice is that energy security is part of the security studies and should be treated as security, and thus, according to Cherp & Jewell (2014) should answer the questions of security: security of what? security for who? and security by which means? An assumption of this thesis is that Lithuania considers its electricity generation and relevant international markets as "vital energy systems" and therefore the study focus on "vulnerabilities", understood as "political constructs". The study overall follows the constructivist approach, whereby state's behaviour can be explained by identities, norms and beliefs. This means that reality is always under construction, it is not constant and is subject to change over time depending on the ideas and beliefs that actors hold (Theys, 2017, p. 36).

In addressing the **first** research question, energy security perceptions were examined using political discourse analysis following Hajer's (1995) proposed methodology. Discourse analysis was divided into two periods, associated with two different National Energy Independence Strategies (NEIS): 1) 2009-2012, delineating the debates about building the new nuclear power plant, and 2) 2013-2019, shifting the energy policy towards renewables. 2009 marks the shutdown of Ignalina NPP and the elevated political discourse regarding the vulnerabilities of the power sector, hence the starting point is 2009.

The **second** research question followed process tracing and aimed to trace the sequence of events during 2009-2019 and identify when and what enabled rapid renewables acceleration to appear on Lithuania's political agenda.

Based on the geopolitical context and general knowledge about the Baltic States, an initial hypothesis of "energy security being the dominant driver for the latest strategy based on renewables" was formulated. It was tested along with additional variables such as environmental concerns, EU membership and the nuclear power in the energy mix based on the aforementioned literature regarding determinants of deployment of renewables in the EU. As a result, this thesis confirmed the non-linearity of the relationship between energy security and renewables, and suggested that *the increased level of perceived energy security* was the key determinant of the latest strategy.

It is important to note that by following abductive research strategy this thesis does not aspire to find a definite answer but will offer the most plausible inferred explanation instead.

Another note is regarding frequently used Liquified Natural Gas (LNG) variable in this thesis even though focus was claimed to be electricity and not natural gas sector. It was unavoidable due to a simple reason: the closure of the Ignalina NPP meant that imports of natural gas increased greatly in the electricity generation mix and such reliance on gas-based power made Lithuania even more vulnerable. Therefore, the LNG element is included in the discourse because it is considered relevant and important.

1.4. Outline

Chapter 2 concerns the theoretical framework, which starts with geopolitics as an umbrella term to ascertain the context of international energy relations, then narrowing it to energy security and energy (inter)dependence concepts. Considering the amount of definitions attributed to the concept of energy security it was important to de-lineate the term and choose the preferred definition, "low vulnerability of vital energy systems" as developed by Cherp and Jewell (2014). Together with the revised Copenhagen School (Heinrich & Szulecki, 2018), it formed a suitable framework to understand and analytically examine energy security perceptions and its implications for Lithuania's energy policy in the power sector. In **Chapter 3** the methodology and qualitative research design are presented followed by the description of data collection and analysis.

Chapter 4 opens the core of the thesis. First a comprehensive background of Lithuania's geopolitical situation and energy-related relationships with Russia and EU are depicted providing the context for the analysis. Then, **Chapters 5** and **6** present the findings of the discourse analysis and process tracing. Results are discussed in the **Chapter 7**. Finally, **Chapter 8** presents overall conclusions.

2. CHAPTER 2 – THEORETICAL FRAMEWORK

The point of departure of the theoretical framework is the intertwined concepts of geopolitics, geoeconomics, energy security and energy (inter)dependence, which will be introduced in this chapter. First, geopolitics as an umbrella term will be useful to explain Lithuania's geopolitical context and specifically energy-related relations with Russia and EU. Concepts of energy security and energy (inter)dependence emerge in the context and therefore call for clarification. Most importantly by tracing the development of the energy security concept the preferred definition of energy security materialised ("low vulnerability of vital energy systems"), which primarily served as an analytical tool.

Second, a revised securitization theory from Copenhagen School will be presented. It will be used to explore energy security perceptions through its "threats", "referent objects" and "counter measures" concepts.

2.1. Geopolitics, geoeconomics and energy security – what is the connection?

In basic terms geopolitics is "the study of how geography affects international relations, power and vulnerabilities" (Austvik, 2018, p.25). Högselius (2019) introduces geopolitics as "the interaction between geographical factors, politics and international relations" (p. 7). Historically the term has generally been linked to the "realism school" in international relations theory, where "spheres of interest", "rising powers", "heartlands" and alike were used by classic geopolitics analysts (Högselius, 2019, p.8). Geopolitics was often considered "a competitive zero-sum game played by nation states in their pursuit of power and security" (Victor, Jaffe & Hayes, 2006 in Austvik, 2018, p.25), which largely meant that greater territory and more resources was the win for one and loss for the other, an overly deterministic view. During the Cold War the study of geopolitics lost its attractiveness due to changing global realities and rather static relations between the US and Soviet superpowers. The end of the Cold War led to a revival of geopolitical thinking in politics and academia due to regional fragmentation and new multipower power dynamics (Al-Rodhan, 2009, p.34). However classic geopolitics attracted much criticism for its emphasis on geography, determining state's power in the region and its international influence, and failure to incorporate human factor (Al-Rodhan, 2009, p.38).

Critics of classical concepts of geopolitics, especially the liberal international school, argue, that: 1) the size of a country 's territory is no longer necessarily a measure of its economic and political strength, 2) economic capital can often be a more significant measure of a country 's power and influence than the size of its military, 3) international politics is no longer a zero-sum game, 4) the conquest of territory through war, especially in the developed world, is no longer of any advantage to states embedded in an international free-market economy, 5) they argue against the geographical or physical determinism and claim that ideas are more important than geography, as ideas can change the global system and the conflict behaviour of states, while geographic setting remains the same. (Al-Rodhan, 2009, pp 39-40).

That was the beginning of the school of critical geopolitics, which states, that "representations and perceptions of states and different population groups also shape international dynamics" (Al-Rodhan, p.40). The revival of modern geopolitics, starting in the second half of the 20th century, became "concerned with political discourse among international actors resulting from all factors that determine the political and economic importance of a country's geographic location" (Austvik, 2018, p.25). Agnew & Corbridge (1989) note that concept of geopolitics included how "political control over a territory influences power and political and economic outcomes through factors, mechanisms and institutions in the international economic and political system" and reflected economically and politically interdependent world.

In addition, a new school of thought has recently taken place recently in the studies of international relations and foreign policy – geoeconomics, which Austvik (2018) regards as part of geopolitics. Søilen (2010) argues that geoeconomics is gradually replacing the importance of geopolitics and describes geoeconomics as "the study of factors of power that are directly related to the competitive advantage of a nation". Scholvin & Wigell (2018) propose that geoeconomics, "as a foreign policy strategy, refers to the application of economic means of power by states so as to realize strategic objectives" (p.74).

The term *geoeconomics* was coined by Edward Luttwak in the early 1990s, who held the view that rivalry among states would continue to drive the post–Cold War international relations, but "the preferred means for pursuing adversarial goals would be economic rather than military" (Scholvin & Wigell, 2018, p.74). Indeed, rapidly increasing economic interdependence and associated risks among modern states necessitated geoeconomic reactions. Interdependence is often asymmetric and involves sources of power in bargaining relationships (Scholvin & Wigell, 2018, p.75).

According to Scholvin & Wigell (2018):

our world is no longer bipolar, but is more interdependent and interconnected than at any time in history. Almost all states depend on the secure and steady flows of capital, data, and goods which are crisscrossing the globe. The asymmetric vulnerabilities and dependencies inherit to this international system make economic power a potent means by which to pursue strategic objectives. (p.81).

Diesen (2018) maintains similar view and defines geoeconomics as "the economics of geopolitics" (Diesen, 2018, p. 3). "In a globalised world of growing economic interdependence and more destructive weapons, power derives increasingly from control over strategic markets, transportation corridors and financial institutions rather than territory" (Diesen, 2018, p. 3). Moreover Diesen (2018) proposes that states obtain power by developing economic partnership with asymmetrical interdependence to maximize both autonomy and influence. The geoeconomic "balance of dependence" corresponds with the realist balance of power logic (Diesen, 2018, p. 14). Similarly, liberal scholars portray asymmetrical interdependence as a source of "soft power" (Keohane and Nye, 2001).

The next paragraphs set out some important concepts, which require explanation since these terms are used extensively in the Lithuanian context: "Lithuania is *energy dependent*", "the government has adopted the new "*Energy Independence Strategy*", "Lithuanian-Russian relationship is *interdependent* due to Kaliningrad - Russian exclave".

2.2. Energy- Dependence, -Interdependence and –Independence

"Energy independence", most scholars agree, does not exist or at least not in absolute terms (Keppler, 2007; Bazilian et al., 2013). As Jackson (2009) puts it:

To begin, I suggest that we change our language — that we move beyond the term `energy independence', and use, instead, `Energy Security'. Independence implies that we are able to `go it alone', fully supplying our own needs. The term appeals, perhaps, to an aspect of the American psyche — but, it is an unfortunate misnomer. There IS no energy independence. Of the approximately 190 countries in the world, not one is energy independent — nor is likely to be any time soon. Energy Security, on the other hand,

suggests the imperatives inherent in the interlinking of national security, global security, and climate security⁴.

Indeed, it is difficult to imagine that in the current interdependent, globalised and free market world any state could be completely energy independent (Bazilian et al., 2013). Almost 80% of our energy consumption consists of fossil fuels that are scarce and unevenly distributed geographically. Thus, we are connected via oil transit routes, gas pipelines or electricity grids and even countries with substantial renewable energy sources (for instance Norway) can not be 100% energy independent due to various factors affecting domestic production. Nivola (2008) takes the example of the USA and argues that energy autarky is not a path to national prosperity and security, because petroleum is priced in a world market and the world does not stop if one state decides not to buy it, hence global demand continues to rise. The same applies to the argument of "we would become less dependent on regimes that are going to undermine our security" when it is likely that a supply and demand principle will prevail and even politically unstable but energy-rich exporters will find their importers (US and Iran example)" (Nivola, 2008). Finally, forced and over-subsidised domestic production has serious economic implications associated with a burden cost to the budget and increased prices for the consumers (Nivola, 2008). Thus, as Galgaard and Glock (2009) expressively summarise: "energy independence is a Sisyphan endeavour, since no country stands apart from international society-importers need countries to buy from, exporters need countries to sell to, and even those that produce just the right amount of energy to meet their domestic demand are also affected by what happens outside their borders" (p. 1).

What states often mean when striving for "energy independence" is increased domestic production and *reduced* dependency from imports from other countries, which is considered a positive thing. Energy dependence is the indicator that shows the extent to which an economy relies upon imports in order to meet its energy needs (European Commission, 2013). According to Austvik (2018), due to economic integration and cooperation states are dependent on each other: "dependency on exporting and importing goods and services to and from other countries is the normal state of affairs in a modern society" (p.26). Consequently states are interdependent, that is, importing countries are concerned about supplies not being brought on stream to meet growing demand for economic,

⁴ https://president.rpi.edu/speeches/2009/rhetoric-reality-us-and-global-energy-security

political, natural or other disruptive reasons, while exporting countries need to make sure they have markets for their commodities where they realise their resources and gain profits to develop their economies (a well-researched example is EU-Russian relationship in the context of gas sector, see for instance Smith Stegen, 2011; Casier, 2011). Another aspect of energy interdependency is the role of transit states, usually within gas pipeline and/or increasingly electricity grid infrastructures. Infrastructure connects producers and consumers across geographical distances. According to Shaffer (2009) hugely costly inter-state infrastructures "create vulnerabilities and strong interdependence between exporter and importer as both sides invest considerably and desire to benefit from them avoiding any disruptions" (p. 39). The role of transit states becomes important in this context as having control over energy-transport corridors derives power (Diesen, 2018, p. 3), which means that transit states can use their geographic position as a bargaining power to pursue their political objectives.

"Interdependence" is a broad term that refers to "situations characterized by reciprocal effects among countries or among actors in different countries" (Keohane & Nye, 1989). We have established that generally interdependence between consumers and producers is reciprocal and considered to be positive. The challenge nevertheless arises when the relationship becomes unbalanced and highly asymmetrical (Austvik, 2018) or when energy dependence is framed as security threat (Casier, 2011). Keohane and Nye (1989) view asymmetric interdependence as a potential source of power, but also claim that:

There is rarely a one-to-one relationship between power measured by any type of resources and power measured by the effects on outcomes. Political bargaining is the usual means of translating potential into effects, and a lot is often lost in the translation (p. 11).

Power is an important concept in the interdependence discourse. Nye (2011) distinguishes "hard" and "soft power" – terms related to different state's positions to achieve desired outcomes with the resources. "Hard power is associated with the use of force and payment as opposed to soft power – ability to affect others through the co-optive means of framing the agenda, persuading, and gaining positive attraction in order to obtain preferred outcomes" (Nye, 2011, pp. 20-21).

Energy diplomacy, understood as "government-related foreign activities that aim to ensure a country's energy security while also promoting business opportunities related to the energy sector" (Griffiths, 2019), is somewhat related to the "soft" power term. Traditionally it refers to energy

rich countries, such as Russia or other OPEC countries, who use energy exports not only for revenues, but also as foreign policy tools (Hogselius, 2019; Česnakas, 2016; Shaffer, 2009). While "foreign policy tool" sounds acceptable in the importer-exporter relationship context, lately "energy weapon" term has been used to denote the use of energy resources by an energy supplier state as a political tool to either punish or coerce its customers (Smith Stegen, 2011), again, mostly applying to Russia's energy relations and strategy. Admittedly Smith Stegen (2011) show that in order for the state to successfully use the energy weapon it is not enough to have affluent energy resources or control over transit routes. It equally needs political will to use it and the target country's submission and concessions, which does not happen as often as suggested in media and political discourses (Smith Stegen, 2011).

A critical EU-Russia relations analysis was done by Casier (2011) drawing on Keohane and Nye's view of power and interdependence. He identified four criteria to define dependence as an energy security issue: a strong supply vulnerability of the EU, the absence of demand dependence on the Russian side, the relative dominance of energy power over capabilities, the willingness to link energy to foreign policy objectives. He concluded that EU-Russia relations lacked these criteria and the issue was constructed by discursive reframing of Russian and EU identities and perceptions of politicians; rhetoric, that is central to this thesis.

It is important to keep in mind these concepts of energy independence and interdependence and bargaining power when looking at Russia's and Lithuania's relations in the geopolitical section. The next section argues that energy security has many meanings and is thus another multidimensional concept. It does not equal energy independence however, energy dependence can become a security issue (Shaffer, 2009, p. 91).

2.3. Concepts of Energy Security Multiple definitions of Energy Security

Considering the physical-geographic nature of energy sources and the economic and strategic importance of energy for the wealth and power of states, scholars of geopolitics have always had a great interest in energy security questions (Criekemanns, 2011).

Energy security is one of the oldest security concepts attracting huge attention of policy makers and researchers worldwide, particularly followed by significant energy supply disruptions or emergencies, such as oil crises in the 1970s or events in Ukraine in 2006 and 2009. The notion of energy security emerged following the 19th century industrial revolution and the use of oil for military needs. The famous quote from then the first Lord of Admiralty of the British Navy before World War I, Winston Churchill - "Safety and certainty in oil lie in variety alone" – laid the foundation for the main principal of energy security, namely diversification of supply (Yergin, 2006, p. 69). Indeed, in the 1970s and during the following decades energy security meant a stable supply of cheap oil under threats of embargoes and price manipulations by exporters (Yergin, 1988). The focus was principally on the risks related to potential oil supply disruptions from the Middle East: that was then the realistic proccupation. Hence also the establishment of the International Energy Agency (IEA) as an oil consumers' cartel to counter OPEC's (Organisation of Petroleum Exporting Countries) influence in world oil markets (Kuzemko et al., 2016, p. 65).

Contemporary energy security studies (identified since 2000s) encompass a wider range of issues in order to capture the changing character of global energy systems. The concept of energy security expanded to incorporate many more factors affecting a country's energy security: climate change, renewable energy technologies, nuclear safety and proliferation, physical and cyber threats to infrastructures, political conflicts, unexpected natural disasters, concern about terrorism and energy-related environmental challenges (APERC, 2007; Goldhau, 2011; Valentine, 2011; Indriyanto, 2011; Sovacool, 2011; Kuzemko et al., 2016, Radonovic et al., 2017).

The four As – availability, affordability, accessibility and acceptability – introduced by the Asia– Pacific Energy Research Centre in 2007, marks the starting point of contemporary energy security studies. They defined energy security as "ability of an economy to guarantee the availability of energy resource supply in a sustainable and timely manner with the energy price being at a level that will not adversely affect the economic performance of the economy" (APERC, 2007). Three elements of energy security deriving from this definition can be observed: 1) physical energy security – the availability and accessibility of supply sources, 2) economic – the affordability of resource acquisition and energy infrastructure development, and 3) environmental sustainability, the sustainable development and use of energy resources that "meets the needs of the present without compromising the ability of future generations to meet their own needs" in accordance with Brundtland's "World Commission on Environment and Development: Our Common Future" report (WCED, 1987, p. 43).

The APERC report also specifies several factors that can influence the "security" of energy supply.

These include:

(1) the availability of fuel reserves, both domestically and by external suppliers; (2) the ability of an economy to acquire supply to meet projected energy demand; (3) the level of an economy's energy resource diversification and energy supplier diversification; (4) accessibility to fuel resources, in terms of the availability of related energy infrastructure and energy transportation infrastructure; and (5) geopolitical concerns surrounding resource acquisition. (APERC, 2007).

The literature reveals that the four As are used as the foundation to the energy security studies, around which most discussions occur and which sometimes are "tweaked", expanded or interpreted and formed into various energy security assessment frameworks and energy security definitions. Below are a few of the most popular examples of how energy security is defined and how the four As are amalgamated:

"The uninterrupted availability of energy sources at an affordable prices. "Adequate, affordable, and reliable access to energy fuels and services, it includes availability of resources, decreasing dependence on imports, decreasing pressures on the environment, competition and market efficiency, reliance on indigenous resources that are environmentally clean, and energy services that are affordable and equitably shared" (International Energy Agency (IEA).

"The five S's: supply, having resources, such as fossil fuels, alternative energy, and renewable energy; sufficiency, adequate quantity of fuel and services from these sources; surety, having access to them, survivability, resilient and durable sources of energy in the face of disruption or damage; and sustainability, reducing waste and limiting damage to the environment" (Kleber, 2009).

"Uninterrupted physical availability of energy products on the market at a price which is affordable for all consumers, while respecting environmental concerns (private and industrial ones), whilst respecting environmental concerns and looking towards sustainable development." (European Commission, 2000).

"Access to secure supplies of fuel, a competitive market that distributes those fuels, stability of resource flows and transit points, and efficiency of end use. Energy security means ensuring countries can sustainably produce and use energy at reasonable cost in order to: 1) Facilitate economic growth and, through this, poverty reduction; and 2) Directly improve the quality of peoples' lives by broadening access to modern energy services" (the World Bank, 2005).

Assessing energy security is unsurprisingly not straightforward either. Uncertainty surrounding the definition of energy security renders different approaches towards assessment of energy security. Researchers choose either a quantitative approach, based on indicators and modelling techniques (Augutis et al., 2017; Cherp et al., 2012; Kruyt et al., 2009; Månsson et al., 2014; Sovacool, 2011; Vivoda, 2010) or qualitative, relying on geopolitical, securitization or polysemic considerations (Chester, 2010; Grigas, 2013a; Heinrich, 2018; Leung et al., 2014; Sovacool & Brown, 2010; Sovacool & Saunders, 2014). Bazilian et al. (2013) note that energy security is an often-misused concept and that it has no generally agreed upon set of metrics. Checci et al. (2009) further explain that the literature is divided between commentators who interpret energy security from an economic point of view and those who stress its political and strategic side, when really these are two sides of the same coin and both are necessary to explain the challenges as well as the solutions for addressing energy security. The consensus is that it is not possible to develop a unique methodology applicable to all countries "due to different wealth of energy resources, different economic growth, climate conditions, demographic indicators, priorities, geopolitical position and the like" (Radonovic et al., 2017).

Meanwhile researchers continue to argue and criticize each other's studies for being too general and not grounded in good empirical methods or solid conceptualization (Sovacool et al., 2011; Cherp et al., 2012), or for being supply-oriented without consideration of environmental and social aspects (Radovanovic et al., 2017). Thus, the number of definitions and assessment frameworks keeps growing. Most definitions are geared towards importers (nations importing energy resources) and *supply of energy* dominates energy security narratives. For instance Winzer (2012) reviewed 36 definitions of energy security and argued that it should be separated from other policy goals, e.g. goals related to economic efficiency and sustainability, by defining it as "the continuity of energy supplies relative to demand", thus narrowing the concept to security of supply.

Nevertheless, what most energy security studies agree on is that energy security is a complex, dynamic and multidimensional concept and that energy security is different in time and should reflect contemporary reality (Ren and Sovacool, 2014; Sovacool and Saunders, 2014).

Preferred definition

As seen from above, most energy security definitions echo the four As dimensions in one or another way. However, Cherp & Jewell (2013) correctly observe that four As originated from the access to a health care framework and therefore fail to provide the foundation for the most useful definition of energy security. Cherp & Jewell (2014) argue that energy security "belongs" to security studies drawing on Baldwyn's seminal article where he claims that "economic security, environmental security, identity security, social security, and military security are different forms of security, not fundamentally different concepts" and further suggest that perceptions of policy makers should be structured in accordance with three fundamental security questions: What to protect? From which risks? And by which means? "Answers to these questions reflect the way policy makers perceive energy systems which can be related to objective facts about them" (Cherp and Jewell, 2013, p.149). According to their analysis four As fail to answer or sometimes even ask these questions and therefore leaves academia to ever-growing discussions and critique of each other's methodologies.

Their proposed general definition of energy security – "low vulnerability of vital energy systems" – is that preferred for this thesis. Its strength is inbedded in its analytical feature: it can be used for any energy system as long as specific vulnerabilities (risks and resilience) are identified and delineated by the policy makers for the particular country or region (see figure 1 for details). "It is not restricted to specific sectors, elements of supply chains, or issues and therefore is flexible enough to be applicable to historic, contemporary and future energy systems in diverse contexts". This kind of definition can also help in understanding the political process leading to the prioritization of certain energy systems and vulnerabilities (Cherp & Jewell, 2014).

The prime attention is given to the meanings of "vital energy systems" and "vulnerabilities" in a particular context which answer security questions and thus provide a holistic view on energy security. The following sections provide a more detailed description of each attribute.



FIGURE 1. ENERGY SECURITY "MODEL" BY CHERP & JEWELL, 2013.

Vital energy system – security of what or what to protect?

Vital energy systems refer to those energy systems (energy resources, technologies and uses linked together by energy, material, knowledge, and economic flows) that support critical social functions (Cherp & Jewell, 2014; Jewell & Brutschin, 2019). They can be delineated geographically (national, regional, global) or by sector (primary energy sources, carriers and infrastructure, end uses) (Cherp & Jewell, 2013). Examples can be French Nuclear Power security, European Continental Electricity Grid security, etc... Vital energy systems expanded as did the concept of energy security itself. First it was just oil supply security (which is still the most important energy system in the most countries). It then spilled over into energy export revenues, aging infrastructure, markets for hydrogen and biomass, supply chains and technological know-how to name a few (Cherp & Jewell, 2014; Cherp et al., 2012). Choosing vital energy systems allows better targeting of energy security policies (Cherp & Jewell, 2014), as well as the development of measures.

It is important to note that not all energy priorities are the same, and only those that endanger critical functions or national values are energy security priorities. Furthermore, vital energy systems are intersubjective political constructs defined in political debates as shown by Heinrich & Szulecki (2018).

This thesis examines Lithuania's power system as vital energy system, where nuclear and renewable energy technologies are inter-linked and therefore considered as sub-systems.

Vulnerabilities – security from what?

Vulnerabilities of vital energy systems are combinations of their exposure to risks and their resilience (Figure 1) (Cherp & Jewell, 2013). As explained by Cherp & Jewell (2011), if a state is highly dependent on natural gas from an unreliable supplier (high risk), its vulnerability will be lower if the state either switches to other energy sources (minimizes exposure to the risk of disruption) or establishes natural gas storage and mechanisms to rapidly switch the demand to other fuels (maximizes the resilience or the ability to respond to disruptions). Risks can be delineated by:

- Nature: physical versus economic. While physical disruption quite clearly means the energy supply is no longer available (parallel to availability dimension), economic risk is similar to affordability dimension from the first sight, however, it is much more encompassing, because it highlights the fact that energy costs and prices can destabilize energy systems (Cherp and Jewell, 2014), and also queries whom energy should be affordable for (ranging from the prices being low enough for consumers (Kruyt et al. 2009) to the same prices being high enough for investors (Cherp & Jewell, 2014).
- Time: short-term (shocks) versus long-term (stresses). Shocks are episodic and, for instance, refer to temporal transit country disputes or an electric outage due to a technical problem. Stresses are enduring pressures such as resource depletion or aging power sector.
- 3. Origin:
 - a. Foreign actors' actions (sovereignty perspective), focuses on interests, power and intentions. Main response mechanisms can be increasing domestic supplies and decreasing the use of imported fuels.
 - b. Technical factors (robustness perspective), such as resource scarcity, the aging of infrastructure and natural events. Measures include switching to abundant sources and investing in infrastructure.
 - c. Unpredictable factors (resilience perspective) shifts the emphasis from risk exposure to resilience (stockpiling, emergency plans, supply and technologic diversification). (Cherp & Jewell, 2014). Moreover, strategies to increase resilience of energy systems and their ability to respond to disruptions addresses another key security question: Security by what means? (Jewell & Brutschin, 2019).

Energy policies and strategies – Security by what means?

A number of strategies to increase energy security have been used over time, including "military interventions, acquiring overseas energy assets, diversifying suppliers and consumers, nationalizing resources and infrastructure, liberalizing markets, subsidizing domestic production and creating strategic storage" (Jewell & Brutschin, 2018, p.13). When adopting these strategies policy makers need to assess the costs involved and answer the questions: security at what costs? In practise states are constrained not only by budgets but also their technological, political and institutional capacity to implement various energy security measures. Identifying these constraints unlocks the question of different energy security priorities (Jewell & Brutschin, 2018). Similarly, Sovacool and Saunders (2014) argue that states have to choose between competing policies according to value judgements, otherwise energy security will not work.

In summary Cherp and Jewell's proposed framework does not reject availability/affordability/ sustainability and other *classic* dimensions within the energy security concept, but rather offers a more holistic view. It also implies intersubjective interpretations of vulnerabilities prioritized by regulators, which is paramount for the research questions of this thesis. Furthermore, it overlaps with securitization theory, discussed in the next section, where "referent object" versus "security for whom" and "threats" versus "vulnerabilities" are central. Combining these two approaches, applied to Lithuania's particular geopolitical situation therefore offers a suitable analytical framework for this thesis, that is, to explore energy security rhetoric and how it shaped energy policy.

2.4. Revised Copenhagen Securitization Theory

As with Cherp & Jewell (2014), who draw their energy security concept from security studies at large, the securitization theory from Copenhagen School, developed by Buzan and Wæver (Buzan, 1991; Buzan, Wæver and Wilde, 1998; Wæver, 1995), extends traditionalist's security studies from politico-military issues to the economic, societal and environmental sectors, where energy security becomes part of economic sector₆ and as a consequence is treated as security issue. Their point of departure is the definition of security as "freedom from threat and the ability of states and societies to maintain their independent identity and their functional integrity against forces of change, which they see as hostile" (Buzan, 1991, p. 5). That approach stems from the geopolitical-military-neo-

⁶ One could argue that due to centrality of energy to the society, increasing concerns and increasing research area it deserves to be a separate sector.

realist viewpoint. However, security (and energy security among others) is not an objective matter. It is a social construction (Buzan et al., 1998, p. 214) and is hence placed within the ontology of constructivism. For the Copenhagen School the meaning of security lies within the security discourse and security is considered the outcome of specific social processes in which issues intersubjectively become security issues through speech acts (Heinrich & Szulecki, 2018). The main idea of the acclaimed theory is that "securitization is the discursive process through which an intersubjective understanding is constructed within a political community to treat something as an existential threat ... and to enable a call for urgent and exceptional measures defined by various actors, to deal with the threat" (Buzan & Wæver, 2003, p. 491).

For a successful securitization, there needs to be a securitizing actor, who constructs a referent object and threat narrative, claiming the existence of existential threat to the survival of this referent (Heinrich & Szulecki, 2018). The threat narrative is then presented via speech act to the audience recommending extraordinary measures which would breach the normal rules of the game for the sake of security. This phase is called securitization move. The final step is audience acceptance (Buzan et al., 1998, p. 25, 31) which as Romaniuk (2018) notices, has weaknesses for the lack of control that a securitizing actor ultimately has over the way in which the audience receives and subsequently processes or interprets the speech. Audience acceptance, however, will not be investigated in this thesis, therefore it is not elaborated further.

Securitizing actors are actors who securitize issues by declaring something – a referent object – existentially threatened (Buzan et al., 1998, p. 36) and usually they are policy makers and regulators who, due to their privilege, have the power to define security (Buzan et al., 1998, p. 31). Referent objects are the things that are seen to be existentially threatened and that have a legitimate claim to survival. Traditionally this means the state and nation. For a state, survival concerns sovereignty, and for a nation it is about identity (Buzan et al., 1998, p. 36). However, referent objects as well as existential threats vary across different sectors (Buzan et al., 1998, p. 22). Thus, it is essential for policy makers to specify what referent object they want to protect from which essential threat. Furthermore, referent objects and existential threats are comparable with vulnerabilities of vital energy systems proposed by Cherp & Jewell (2014), which shows two approaches overlapping. The next securitization element – extraordinary measures – are regarded as "breaking the rules of normal politics". That is, securitization "takes politics beyond the established rules of the game and frames the issue either as special kind of politics or as above politics" (Buzan et al., 1998, p. 23).

They argue that any public issue can be located on the spectrum ranging from non-politicized (the state does not deal with it and it is not in any other way made an issue of public debate) through to politicized (the issue is part of public policy, requiring government decision and resource allocations) to securitized (the issue is presented as an existential threat, requiring emergency measures and justifying actions outside the normal bounds of political procedure) (Buzan et al., 1998, p. 24). Accordingly, it is up to the securitizing actor to present something as an issue of supreme priority and by labelling it as security, an agent claims a need for and a right to treat it by extraordinary means (Buzan et al., 1998, p. 25). He or she may do that through a speech act, "a specific rhetorical structure, where the utterance of security is the act" (p. 26).

The securitization theory of the Copenhagen School was criticized for being "too undertheorized and contradictory to provide clear guidance for detailed empirical analyses" (Stritzel, 2014, p. 12), for ambiguity of extraordinary measures and for putting too much weight on the semantic side of the speech act, thus failing to address discursive practises (Stritzel, 2007, p. 358). Heinrich & Szulecki (2018) have therefore proposed a revised model of securitization theory precisely to tackle these issues and facilitate empirical analysis. Critics assert that it is difficult to pin down extraordinary measures in energy sector, thus limiting the theory's empirical applicability (Sjöstedt, 2008; Watson, 2011 in Heinrich & Szulecki, 2018). Wæver concedes this shortcoming, but nevertheless claims that extraordinary measures should not be removed from the theory (Wæver, 2003, p. 27).

Based on empirical evidence and suggestions from a number of energy security analysts, Heinrich & Szulecki (2018) specify three kinds of measures which do not have to occur together and qualify as extraordinary measures in the securitisation process.: 1. breaking norms (explicit or implicit prescriptions about "how things are done"), 2. shifting competences and power (towards the executive) and 3. withholding or limiting information.

Furthermore, Heinrich & Szulecki (2018) have addressed the criticism regarding speech acts by extending the focus towards the discourses in which the securitizing speech acts take places, allowing researches "to tap into the intersubjective structures of meaning that surround and condition an individual speech act" (Heinrich & Szulecki, 2018). Essentially, they suggest that instead of tracing single speech acts analysts should use discourse analysis as methodological tool.

They also introduced "riskification" and "security jargon" concepts to deal with non-existential

threats and unspecified referent objects. However, this thesis is not apt for rigid securitization analysis and thus these concepts are not elaborated further.

In summary securitization theory of the Copenhagen School will be helpful in the following ways: 1. It will facilitate empirical analysis of the socially/ politically constructed vulnerabilities as threats and risks ("The meaning of security lies within security discourse expressing perceived threats"). 2. It provides a framework for categorising and comparing perception and identification of threats (a subjective component of vulnerabilities), referent objects to be protected (values and vital systems) and the policy implication in form of measures (Szulecki, 2018) and 3. The analysis will also consider actors' history, identities, power of associated institutional interests and geopolitical context.

Building on security questions proposed by Cherp & Jewell (security of what, security from what and security by which means), securitization theory also presents/overlaps with additional questions: security for whom (referent object), and security by which means (measures) and by answering them analysts can understand energy security perceptions in a particular country, Lithuania in this case.

3. CHAPTER 3 - RESEARCH METHODOLOGY AND DESIGN

3.1. Case study and research strategy

Energy security is a complex, multidimensional intersubjective issue, so a case study was chosen as the most suitable research design, one which helps "to closely examine the research problem within a specific context" (Yin, 2014, p.16). Yin's (2014) definition of a case study is "an inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundary between phenomenon and context are not clearly evident" (p.16). A case study of policy makers in Lithuania is applicable here because the aim is to illuminate their energy security perceptions, how they relate to decisions made and what results they produce. Lithuania is particularly interesting compared to, for instance, other Baltic States (Latvia and Estonia) in the area of energy security for the following reasons. First, Lithuania has no primary energy resources hence vulnerability issues have always been most pressing. Second, Lithuanian policy makers have been the most vocal of the three in expressing their concerns towards Russia in the national and international arenas. Third, Lithuania has been a "forerunner" in developing or announcing its plans for relatively big energy projects (LNG terminal, Visaginas NPP) and adopting the most ambitious and sometimes controversial regulations, making it ideal for the researcher to analyse policy makers' perceptions.

One of the unique strengths of the case study approach is its ability to deal with a substantial amount of data and evidence (Yin, 2014, p. 17). This aspect is fully exploited in this case study which draws on many sources and types of data (see data collection sub-section).

Based on the formulated problem statement and research questions, the study comprises both descriptive and explanative research designs, aiming to describe the evolution of energy security perceptions; and understand the corresponding energy policies as adopted by Lithuania's government. According to Blaikie (2010) "understanding is provided by the reasons or accounts social actors give for their actions" (p.72).

Blaikie (2010) further argues that an abductive research strategy aims to describe and understand social life in terms of social actors' meanings and motives. "It produces understanding rather than explanation, by providing reasons rather than causes. It starts with discovering everyday lay concepts, meanings and motives and finishes with a developed theory, that can be discussed" (Blaikie, 2010, pp. 84-89). Thus, abductive strategy seemed to be most appropriate, for tapping

into "the social world …, perceived and experienced by its members, from the "inside" (p.89). In that way it is possible to "discover why people do what they do by uncovering the largely tacit, mutual knowledge, the symbolic meanings, intentions and rules, which provide the orientations for their actions" (Blaikie, 2018, p.89). Moreover, the abductive strategy was used with subtle realist ontology and the epistemology of constructivism, meaning that there is no single reality or truth. "Reality is created by individuals in groups, and social scientific knowledge is the outcome of social scientists reinterpreting this everyday knowledge into technical language" (Blaikie, 2010, p. 95). Wendt (1992) additionally notes that "the material world always requires interpretation and meaning-giving" (p.391). As a result, the conclusion will be inferred and reasonable.

3.2. Discourse Analysis

As stated in the theory section above, energy security is a highly subjective political construct, understood differently by various actors in different contexts. Discourse analysis was therefore chosen as the most suitable methodological tool. Heinrich & Szulecki (2018) have also noted the effectiveness of discourse analysis in their revised securitization theory model, thereby confirming the choice for this thesis. Hajer (1995) defines discourse as a "specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities" (p. 44).

Specifically, Hajer's (1995) discursive "argumentative approach" will be employed, as recommended for political processes. Key is the "examination of what is being said to whom, and in what context" (Hajer, 2005, p. 72). This approach "looks at politics as a struggle for discursive hegemony in which actors try to secure support for their definition of reality "framing" (Hajer, 1995, p. 59). For this thesis it will be applied in identifying which actors prefer which policies/ strategies based on their energy security understandings as expressed by perceived threats/ vulnerabilities to a referent object. Hajer suggests combining the analysis of the discursive production of meaning with the analysis of the social-political practises from which social constructs emerge and in which the actors that make statements engage (Hajer, 2005, p. 67). This can be done by recognising discourse narratives, story-lines and coalitions (p.67). He proposed four main analytical categories, namely: (1) discourse context, (2) actors, their expressed beliefs and themes, (3) prevailing discursive storylines and (4) discourse coalitions (Hajer, 1995), all of which will be used for this thesis. The advantage of using storylines as simplified narratives is their ability to replace complex debates and convey the main ideas of the discourse actors. Hajer also

argues that "discourse is a key role in processes of political change" (Hajer, 1995, p. 43), which clearly meets this thesis' requirement of answering the question of how energy security perceptions shape energy policy.

3.3. Process Tracing

Discourse analysis allowed to examine how different perceptions of energy security evolved over the last decade and revealed the outcome of Lithuania's energy policy – strategy based on the rapid renewable growth. In other words, it identified the change. However, the second research question is concerned with what enabled that change and exactly when policy makers made that decision of change. The simplest variety of process-tracing, narrative process tracing, was therefore chosen as a useful qualitative method to answer these questions.

George & Bennett (2005) argue that process-tracing "attempts to identify the intervening causal process- the causal chain and causal mechanism- between an independent variable (or variables) and the outcome of the dependent variable" (p. 206). This thesis is a single-case research aiming to explain the outcome – strategy based on renewables. According to Beach & Pedersen (2013) explaining-outcome process tracing is "an iterative research strategy, resembling abduction, that aims to craft a minimally sufficient explanation of a puzzling outcome in a specific historical case" (p. 18). The aim of this type of process tracing is not to build or test more general theories as "the ambitions are more case-centric than theory oriented (Beach & Pedersen, 2013, p. 3). In most explaining-outcome studies existing theorization can not provide a sufficient explanation; therefore, further analysis is needed. In this thesis empirical material will be used as a basis for building a plausible explanation whereby X (independent variable) produced the outcome Y (dependent variable).

Based on Lithuania's geopolitical context and energy strategy goals the assumption (hypothesis) can be made that desired energy security was the main driver for the latest strategy based on renewable energy deployment:



This hypothesis needs testing as well as identifying the intervening variables and timing of when the strategy change has happened. Moreover, other variables, such as EU membership and environmental concerns, derived from the relevant literature, could have played a significant role, hence call for assessment. As Beach & Pedersen (2013) explain, the decision on whether we achieved the minimally sufficient explanation is based on "an assessment of whether all of the relevant facets of the outcome have been accounted for adequately while ensuring that the evidence is best explained by the developed explanation instead of plausible alternative explanations (p. 20-21).

The process tracing starts with a careful description of sequence of events, which is "a crucial building block in analysing the processes being studied" (Collier, 2011, p. 823). A well constructed detailed narrative intends to shed light on how an event came about and "may suggest enough about the possible causal processes in a case …" (George & Bennett, 2005, p. 210).

It is worth remembering that this thesis follows an abductive research strategy so it aims for the most plausible and reasonable explanation given the collected empirical data and re-interpretation of the theory by the author. Operalisation of the analysis is illustrated in the figure below:



FIGURE 2. OPERALISATION OF THE EXPLAINING-OUTCOME PROCESS TRACING EMPLOYED FOR THIS THESIS, ADAPTED FROM BEACH & PEDERSEN, 2013, P. 20.

3.4. Data Collection – Qualitative Approach

This thesis is exploring intersubjective energy security characteristics (threats and vulnerabilities) by policy makers in Lithuania. Hence an overall qualitative research method has been selected to tap into the perceptions of decision makers.

Lithuania is a democratic republic where the state power is divided into legislative – the Parliament (Seimas), executive – the Prime Minister and ministerial system (the Government), and judicial (LRS, 1992). The unit of analysis is therefore members of Seimas and Government, directly

responsible for energy policy making according to their energy security perceptions. The President, the head of State, elected directly for five years, has mainly a representative authority function. However, his/her main responsibilities and official statements include foreign policy and international relations strongly influencing energy security perceptions and views of decision makers. For this reason, the statements of the President are also included in the analysis. President Grybauskaite maintained her position throughout the analysed period providing additional – continuity - aspect to the research.

Lithuania's political system is a fragmented multi-party system. Two leading parties - Homeland Union/ Christian Democratic Party (Conservatives) and the post-Communist Social Democrats – competed for most seats in the Parliament after independence (Balmaceda, 2013, p. 213). However, both competing parties have never been able to win enough seats to form a government thus coalitions had to be made with smaller, often populist, parties.

	2009-2012	2012-2016	2016-2019
President	D. Grybauskaitė	D. Grybauskaitė	D. Grybauskaitė
Parties in ruling coalition	Homeland Union/	Social Democratic	Lithuanian Farmers
(dominant in bold)	Lithuanian Christian	Party,	and Green Union,
	Democratic Party,		Social Democratic
	National Revival Party,	Labour Party and Party of	Labour Party, the
	Liberals Movement and	"Order and Justice"	electoral Action of
	Liberal and Centre		Poles and Party of
	Union.		"Order and Justice".
Prime Minister	A. Kubilius	B. Butkevicius	S. Skvernelis
(Party)	(Homeland Union/	(Social Democratic	(Lithuanian Farmers
	Lithuanian Christian	Party)	and Greens Union)
	Democratic Party)		

An overview of the parties in power during the analysed time-frame is provided below7:

A variety of data have been collected comprising both primary and secondary. In a qualitative study "we speak a language of "cases and contexts" and of cultural meaning" (Neuman, 2014, p. 167). The context is critical and "the meaning of a social action, event or statement greatly depends on the context in which it appears" (Neumann, 2014, p. 177). Therefore, the literature review and
various data related to the Lithuania's energy security context have been gathered first. These data were obtained from official websites of Seimas8, Government9, Ministry of Energy10, Statistics Department11, and historical and geopolitical analyses by scholars, specialising in Lithuania's and Baltic States' affairs12.

Secondary data have been collected in the form of political press releases and mass media recordings together with the most important official documents such as energy independence strategies to reflect perceptions of threats and measures adopted to counter-balance those threats.

Lastly, nine semi-structured interviews have been conducted which serve to complement and support the secondary data, mostly confirming, but nevertheless also revealing some new insights regarding the subjective meanings of energy security.

Political statements

Political statements and press releases were drawn from official sites: Parliament (Seimas) – www.lrs.lt, Government – www.lrv.lt, and Ministry of Energy – www.enmin.lt in the period of 2009 to 2019. Additionally, parliamentary minutes of debates (protocols) in the period 2016-2019 were extracted from online database (data prior to 2016 were not readily available). Data were selected using the phrase in the search space: "energetinis saugumas" [lit. energy security] in various forms to adhere to complexities of Lithuanian language which nonetheless is not fruitful to list here. Reference to energy security could be in the headline or in the text and the article was included in the sample if there was a clear connection to the topic of energy security. A total of 571 statements were produced.

Mass media reporting

The objective of mass media reporting analysis was to gain further insight into energy security debates, not covered in the political statements. Online as opposed to printed mass media reports were selected because of their free access and verifiability to any researcher. Three of the most popular and influential online news portals were selected – www.delfi.lt, www.lrytas.lt,

8 www.lrs.lt 9 www.lrv.lt 10 www.enmin.lt 11 https://www.stat.gov.lt/ 12 See the next section www.15min.lt for the period 2009 to 2019, using the same keywords as with political press releases. As a result of this search, 450 articles were produced.

Interviews

Nine semi-structured interviews were conducted in Vilnius, Lithuania over a period of two months from February 2019 to March 2019 and held in different forms (see Table 2). The desired target group was policy makers (members of Parliament and Government). However, it proved difficult to get access to politicians: of 20 contacted by email followed by telephone calls, only four agreed to participate in the research. Timing may partly have explained this poor response: local municipal and European Parliament election campaigns were taking place at the time of data collection.

Energy experts, that is members of both epistemic and advocacy communities, were also contacted in the hope of gaining complimentary views on energy security perceptions. Though the focus of the study is the perceptions and debates of policy makers, studies show that politicians seek advice and guidance from epistemic communities when addressing energy issues (Česnakas, 2013; Genys, 2013). The perceptions of energy experts were therefore considered relevant. Five energy experts participated in the interviews.

The positively responding politicians preferred to have interviews either by telephone or to answer questions in writing. By contrast the energy experts were eager to meet face-to-face and spend considerably more time in dialogues. They were also more open and improvisery in their responses while politicians more rigidly followed the structure of the interview guide.

Below is a short introduction of the interviewees. In order to ensure their anonymity in the thesis, they will be referred to as "interviewee 1", "interviewee 2", "interviewee 3", etc. according to the table.

TABLE 1. THE LIST OF INTERVIEWEES

Nr	Affiliation
1	Member of Parliament, representative of Social Democratic Party and a member of Energy
	Committee, a former Prime Minister
2	Member of Parliament, one of the leaders of Homeland Union/ Christian Democratic Party
3	Government official, working in the Climate Change Management Group (former Renewable
	Energy Department) of the Ministry of Energy
4	Government official, working in the Energy Security Group of the Ministry of Energy
5	Energy expert from an influential and highly rated think tank "Lietuvos Laisvos Rinkos
	Institutas"13
6	Energy expert affiliated in Vilnius University, specialising in energy policy and international
	relations
7	Energy expert from NATO Energy Security Centre of Excellence based in Vilnius.
8	Energy expert, who directly contributed in preparation of the latest energy strategy (affiliated
	in the Lithuanian Energy Institute)
9	Energy expert affiliated in the Lithuanian Energy Institute

Prior to interview all interviewees were sent consent forms with all essential information about the study. If consenting to interview they were asked to sign the consent forms in accordance with the Norwegian personal data protection requirements. Participants were assured that participation is voluntary, anonymous and they can withdraw from it at any time. A semi-structured interview guide was created specifically for the interviews. The guide contained three blocks of questions related to energy security in general and specific topics such as: Energy Independence Strategy, perceptions on renewable and nuclear energy; and the Belarus nuclear power plant. Copies of the consent form and interview guide are provided as attachments to this thesis. All face-to-face interviews were audio-recorded (with permission) and transcribed verbatim. Notes were taken during the telephone interviews. Most interviews lasted from 40 to 60 minutes, although two interviews were of 90 minutes duration. All interviews were conducted in Lithuanian and after transcription translated into English by the author of this thesis.

Interview form	Member of Parliament	Government Official	Energy Expert	NATO Energy Security Centre
Face-to-face		1	4	1
Telephone	1	1		
In writing	1			

CABLE 2. VARIETY OF INFORM	MANTS AND FORM	S OF INTERVIEWS
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13 According to 2017 Global Go To Think Thank Index Report (McGann, 2018).

3.5. Data Reduction and Analysis

The extensive amount of data required its further reduction, not least to avoid repetition and doubling of information. Data have been reduced to represent only the power sector, that is, perceptions related to power interconnectors, nuclear power or renewables. After careful checks, data were further reduced to 72 media articles and 152 political statements, translated from Lithuanian by the author of this thesis and saved as Word for Windows files for coding. Purposefully sampled documents, news and press releases were categorized and coded, based on the theoretical framework of "low vulnerability of vital energy system" definition of energy security and securitization theory, focusing on the threats/vulnerabilities and measures. The data generated from the recorded conversations in the semi-structured interviews were coded using colour coding, each colour representing a certain category/ theme to begin with and later incorporated with the overall data corpus. Table 3 provides an overview of codes.

Code	2009-2012	2013-2019
Source of threat		
Threat Security from what?		
Referent object Security for whom?		
Counter-measure Security by which means?		
Quotes		
Actor Securitizing or not		

 TABLE 3. OVERVIEW OF THE CODES

3.6. Reliability and Validity

Reliability and validity are ideas that help to establish the truthfulness, credibility, or believability of findings. Reliability means dependability or consistency. It suggests that the same pattern is repeated or recurs under identical or very similar conditions (Neumann, 2014, p.212). However, unlike a quantitative approach, where researchers apply statistical methods for acquiring validity and reliability, qualitative studies adopt different strategies. To ensure reliability the data have been collected consistently and systematically, following the same procedures and key phrases. Additionally, a variety of data sources and types (data triangulation) have further ensured credibility. It should be acknowledged, however, that due to the interactive nature of data

collection, especially when conducting interviews, different researchers may find distinctive results (Neumann, 2014, p. 218).

Validity suggests truthfulness. It refers to how well an idea "fits" with actual reality. In simple terms, validity addresses the question of how well we measure social reality using our constructs about it (Neumann, 2014, p. 212). Regarding validity assurance, the methods of data collection and analysis were carefully described; informants' relevance to the study was also established. Interviews were transcribed verbatim and continuously, and informants' accounts were included in the text. Further informants were clearly informed about the research in advance, were assured that their participation was anonymous and they could withdraw at any time.

In qualitative studies, researchers are looking for authenticity rather than one version of "truth" (Neumann, 2014, p. 218). Authenticity means offering a fair, honest, and balanced account of social life from the viewpoint of the people who live it every day. It is hoped that the reader finds the claims of this study plausible and persuasive, although it is also acknowledged by the author that these are not the only possible claims and other re-interpretations are possible.

3.7. Limitations

The main limitation associated with the singe case study approach is generalizing. Blaikie (2010) however claims that generalizing can be done by making judgements based on evidence. In other words, one can give a theoretical generalization. "The goal is not to produce a standardized set of results Rather it is to produce a coherent and illuminating description of and perspective on a situation that is based on and consistent with detailed study of that situation" (Schofield, 1993, p. 202 in Blaikie, 2010). Yin (2014) endorses this view and suggests looking at a case "as the opportunity to shed empirical light about some theoretical concepts or principles, ..." (p. 40). This thesis strives for "analytical generalization" by contributing empirically to energy security studies of the Baltic Sea Region.

Another potential limitation is related to the secondary data which was derived from official state's websites and documents open freely to the public. Different kind of observations could potentially be made and different kind of results achieved having full access to data, revealing aspects not covered in this thesis.

Lastly the number of interviews (four) conducted with policy makers was not sufficient to rely solely. However, this weakness was largely compensated with another five interviews with the energy experts who provide advice for policy makers and thus their views are important.

4. CHAPTER 4 – LITHUANIA'S POWER SYSTEM WITHIN GEOPOLITICS AND ENERGY SECURITY CONTEXT

The aim of this chapter is to describe the historical and geopolitical developments of Lithuania since it gained independence from the former USSR and to provide a relevant context to the analysed energy security perceptions; special attention is given to energy relations with Russia in order to understand the urgency of current major decisions related to energy security discourses.

First a short overview of the establishment and development of Lithuania as a sovereign country is provided together with some key energy statistics. Second, energy as a factor in the geopolitical context is discussed with elaboration on the structure of electricity sector. Third, Lithuania's energy policy within EU framework is introduced, where the latest actual and planned developments are presented. Finally, a complex relationship with Russia in the energy relations is presented showing Russia's continuous strive for retaining power and influence in the Baltic region.

4.1. Lithuanian historical and geopolitical context after independence

Geographically Lithuania is situated on the eastern coast of the Baltic Sea, in the geographical centre of Europe. Lithuania is bounded by Latvia in the North, Belarus in the East, Poland in the South, Kaliningrad of the Russian Federation in the Southwest and the Baltic Sea in the West (Figure 3).



FIGURE 3. LOCATION OF LITHUANIA. SOURCE: BRITANNICA

Lithuania (together with the other two Baltic countries, Latvia and Estonia) became part of Soviet Union under the Molotov-Ribbentrop Pact in 1939 and remained occupied for about 50 years until early 1990s. On the 11th of March in 1990 Lithuania was the first Soviet republic to declare the restoration of its independence from the Soviet Union and by the late 1991 it was recognized as a sovereign state by most countries in the world including Russia (Balmaceda, 2013, p. 210). However, it is worth noting that Russia has never acknowledged the occupation of the Baltic States and neither was willing to provide any compensation for the damages suffered by Lithuania during the occupation. According to Russia's historical interpretation, Lithuania was not occupied by the USSR; it was voluntarily incorporated into the Soviet Union and thus this issue should not exist neither on a political nor on an expert level (Jakniūnaitė, 2015). Furthermore, the Soviet Union's collapse was proclaimed by Russian President Vladimir Putin as "the greatest geopolitical catastrophe of the twentieth century" (Putin, 2005), clearly reasserting Russia's negative attitude towards new geopolitical map with independent states.

Lithuania inherited the structure of national economy from its Soviet past which was not suitable any more, primarily due to the access of raw materials and primary energy, therefore the urgent transition from planned to the free market economy was necessary. In short, it was achieved by creating new political and economic institutions, rapid economic reforms and support from the EU structural funds and various programmes. Figure 2 represents the GDP per capita development since 1994: between 1990-1994 Lithuania's economy was shocked by GDP decline to 56.1% compared with its level in 1990₁₄ (IAEA), however, the period of 1995-2008 saw stable economic expansion (2001-2008 Lithuania maintained some of the fastest growth rates in the region 15), which was negatively affected by global recessions in 2008 and 2015. The last four years showed the recovery and stable growth again.

¹⁴ https://www-pub.iaea.org/MTCD/Publications/PDF/CNPP2012_CD/countryprofiles/Lithuania/Lithuania.htm 15 Balmaceda, 2013: 212



FIGURE 4. GDP PER CAPITA IN USD. SOURCE: CEIC DATA

After gaining independence, Lithuania found itself between two power blocs: EU/NATO and Russia and therefore recognized the urgency to integrate into western European and NATO communities with the goal to maintain its sovereignty and achieve protection from potential threats from the east (Russia). Hence Lithuania's main focus in foreign policy was continuous dialogs with European Union and NATO officials which has finally bore long-awaited results: in 2004 Lithuania became a full member of both the EU and NATO. Lithuania's politicians were optimistic about the possibility of engaging with Russia in various European relationships (Jakniūnaitė, 2015) and that the support from these two powerful institutions would help to pursue its goals (Vitkus, 2006). However, these over optimistic assumptions did not mark the end of all the fears and worries – rather the beginning of a much more nuanced and complex relationship between Lithuania, Russia and EU. This complexity is particularly reflected in the role of energy as part of the geopolitical context; examined in the following sections.

4.2. Energy as factor in Lithuania's geopolitical context

Lithuania has no primary energy resources of significance and imports most of the energy demand: oil, natural gas and even electricity due to the shutdown of the Ignalina NPP in 2009₁₆. The energy mix consists of about 70% of oil and natural gas, 25.6% of renewables (mostly district heat from biomass and waste, hydro and wind) and other resources, such as solid fuels and non-renewable waste (European Commission, 2019a). It is one of the highest energy and import dependent EU member with Russia being the only supplier of those resources until 2015₁₇. According to Eurostat,

¹⁶ Ignalina NPP provided almost 80% of total electricity demand

¹⁷ Due to the LNG terminal and international power interconnectors (NordBalt and LitPol) with Sweden and Poland, Lithuania detached itself from the "energy island" title.

Lithuania's import dependency has increased from 58.9% to 75.6% in the period from 2000 to 2017 (European Commission, 2019a). Hence energy import dependency remains one of the most pressing issues in the energy security context. In geopolitical terms Lithuania was a "weak" energy island being almost 100% energy dependent on Russia as sole supplier until 2015.



FIGURE 5. GROSS AVAILABLE ENERGY BY FUEL, KTOE. SOURCE: EC, 2019A (2017 DATA)



Final energy consumption

FIGURE 6. FINAL ENERGY CONSUMPTION BY FUEL, KTOE. SOURCE: EC, 2019A (2017 DATA)

However, since 2001 renewable energy sources have played a much more important role and continued to grow with some help from the government. Lithuania's renewable energy share in gross final energy consumption was 25.8% in 2015; this good performance driven mostly by the heating sector, where the share of renewables reached 46.1%. The renewables share in electricity production reached 75%. (European Commission, 2019a), not to forget though, that it translates only to 1/3 of electricity demand, the rest is imported from Sweden, Poland and third countries (Russia and Belarus) (Litgrid, n.d.). Most of the domestic production comes from thermal (biomass and waste) and wind power plants. Hydro power production covers less than 3% of total demand. A similar share comes from biofuels, which include power production from solid biomass, biogas and waste burning. Currently solar plays only minor part with contribution of less than 1% (Lithuanian Statistics, 2019).



FIGURE 7. GROSS ELECTRICITY PRODUCTION BY FUEL, GWH. SOURCE: EUROSTAT, 2019

4.3. BRELL

In addition to electricity import dependency, another important geopolitical feature in the electricity system is that due to historical circumstances, Lithuania's (and the Baltic states') electricity transmission network is working in synchronous mode with the Integrated Power System/Unified Power System (IPS/UPPS), which is the electricity infrastructure of the Commonwealth of Independent States (Bompard, 2017). In addition, the power system of the Baltic States still operates in the grid of Brell (Belarus, Russia, Estonia, Latvia and Lithuania (Figure

8)₁₈(Grigas et al., 2013a). The Baltic power system is dispatched centrally by coordination of Russia, which means that Lithuania has no control of the grid functioning. This vulnerability further arises due to no trusted information about the condition of the electricity grid in Russia and Belarus or about the future development plans of those grids. "Some major accidents in the past years indicate the signs of lack of security of the system and obvious failures of maintenance" (Ministry of Energy, 2018b, p.30). In addition, there are existing loop flows and priority transit of Kaliningrad (Litgrid, n.d.).



FIGURE 8. EUROPE'S POWER NETWORKS. SOURCE: LITGRID

Kaliningrad, which was previously isolated from mainland Russia and had its energy supplied via Lithuania, has lately changed its position significantly due to infrastructure development in the last few years. These include: the Nord Stream gas pipeline which directly connects Russia and Kaliningrad; a new LNG terminal (opened in 2018); and several gas-fired power plants (ERR, 2019; Lyrchikova, 2019; President of Russia, 2018; 2019). This additional power generation allows Kaliningrad to operate independently from Lithuania, makes it flexible enough to desynchronise

18 Baltic countries are the only EU member states not yet synchronised with European Continental Network.

from the Baltic States and enables Russia to de-synchronise from Brell, ahead of the Baltic States. This also means that Lithuania will lose its role as a transit state and subsequently its bargaining power vis-à-vis Russia and hence change the relationship from energy (inter)dependency to just dependency, considerably weakening Lithuania's position.

It can be concluded that being energy dependent both from the source and infrastructure point of view, puts Lithuania into a difficult geopolitical position and exposes it to energy security vulnerabilities which are reflected in energy relations with Russia and the EU. The next section will elaborate on these relationships.

4.4. Lithuania's energy policy within the EU framework

Upon accession into the EU Lithuania adopted EU energy policies and incorporated them into the national policy. Energy related issues climbed up high on the EU's politics agenda due to several reasons: gas supply crises in Ukraine in 2006 and 2009; Russian aggression in Crimea in 2014; increasing energy dependence on Russia and climate change threats. This resulted in a number of important regulations, such as European Union Emission Trading Scheme19, the EU Energy and Climate Package20, Third Energy Package21 and finally Energy Union22. The European Commission laid out three core pillars for European energy security policy: security of supply, competitiveness and sustainability, which were set out to further deepen its internal market and diversify its energy mix23.

As previously mentioned, to this date Lithuania, Latvia and Estonia's electricity systems are the only ones among EU member states that do not operate synchronously with the European grid. Additionally, until 2015 they were "energy islands", disconnected from the European grids. This represented a unique geopolitical situation which was recognised by the EU authorities as an energy security issue (Pakalkaitė & Posaner, 2019, p. 227). Therefore, in 2009 the three Baltic states with participating countries²⁴ at the margins of the European Council signed the Memorandum of Understanding on BEMIP (the Baltic Energy Market Interconnection Plan) – a political agreement to integrate the Baltic states into Continental Europe's energy markets (Pakalkaitė & Posaner, 2019, p. 221). As a result of the plan, Lithuania joined the common Nordic electricity market (Nord

¹⁹ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003L0087

²⁰ https://ec.europa.eu/clima/policies/strategies/2020_en#tab-0-1

²¹ https://ec.europa.eu/energy/en/topics/markets-and-consumers/market-legislation/third-energy-package

²² https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1579004856556&uri=CELEX:32018R1999

²³ https://op.europa.eu/en/publication-detail/-/publication/0ef8d03f-7c54-41b6-ab89-6b93e61fd37c/language-en

²⁴ Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland and Sweden

Pool Spot) and two grid-interconnections with Sweden (NordBalt) and Poland (LitPol Link 1) have been installed in 2015 reducing electricity import from the third countries. The next step is full synchronisation by 2025 which will complete Baltic States' integration into the European energy market. In spite of the measures described above, risks still remain within the time frame between 2020 and 2025. Kaliningrad is no longer isolated due to recent infrastructure developments. Russia and Belarus could therefore potentially desynchronise from the Brell electricity ring at anytime, leaving Lithuania and the Baltic States working in isolatation before full synchronisation with the European network is ready, thus imposing huge economic and technological pressure.

The general goals and vision of how the energy sector should be developed are set out in the Energy Strategy documents by the government of Lithuania. They also posit the view of the government regarding matters of energy security.

The two latest strategies, adopted in 2012 and 2018, both named as Lithuanian National Energy *Independence* Strategies (compare to previous 2007 Energy *Security* Strategy), share several common goals, such as continuing energy supply diversification, supporting renewable energy growth, seeking energy efficiency and competitiveness. However, one can notice a striking difference in the sphere of domestic energy production: the 2012 Strategy is built around Visaginas NPP with some renewables, while in the 2018 Strategy nuclear power plant has disappeared and renewable energy is at forefront with some impressively ambitious targets. It is projected that by 2030, 45 per cent of electricity consumption and as much as 90 per cent of district heat energy will be produced from renewable energy sources. Furthermore, all electricity and heat consumed in Lithuania is to be produced from renewable and other clean sources by 2050. It is planned that renewable energy sources will account for 80 per cent of Lithuania's total energy consumption by 2050 (LRS, 2018). The table below summarizes renewable energy targets anticipated in the NEIS:

Renewable share	Current (2016 data)	2020	2030	2050
In the final energy consumption	25.5	30%	45%	80%
In the district heating sector	46	70%	90%	100%
In transport	4	10%	15%	50%
In the electricity consumption	17	30%	45%	100%
Domestic electricity generation	28	35%	70%	100%

TABLE 4. RENEWABLE ENERGY TARGETS AS PROPOSED IN THE LATEST NEIS (LRS, 2018).

4.5. Energy relations with Russia: nexus between history, energy and security

Lithuania's relations with Russia are burdened with the heavy baggage of the past, particularly over divergent perceptions of Soviet occupation. Foreign policy researchers note, that contrary to Lithuania's high cooperative expectations upon EU accession, relations with Russia have never changed. Russia remained "the significant and dangerous Other" and as such plays an important role in Lithuania's domestic political debates (Jakniūnaitė, 2015, Vitkus, 2006). Russia has treated Lithuania (similarly to the other Baltic states) as "near abroad" and never seized to try to influence the country using energy among other "tools" (Česnakas, 2012).

It is important to remember that Russia is an energy "giant", home to 80 billion barrels of oil and 1,688 trillion of cubic feet natural gas reserves (about one quarter of the world's total proved natural gas reserves) as of January 2017 (EIA, 2017). It is the world's largest producer of crude oil and the second largest producer of dry natural gas. Energy exports are crucial for Russian economic growth, and oil and gas revenues constituted 36% of Russia's budget revenues in 2016 (EIA, 2017).

Europe is Russia's biggest customer for oil and natural gas supply. In 2016 nearly 60% of Russian crude oil and more than 75% of natural gas exports went to European countries, with Germany, Italy and the United Kingdom receiving the bulk of the volumes (EIA, 2017). The European-Russian energy relationship therefore is interdependent in geopolitical terms: Europe is relying on Russia as a source of supply for both oil and natural gas, while Russia is dependent on Europe as a market for its energy exports and the revenues those exports generate. Lithuania, on the other hand, is not equally important to Russia in terms of export revenues and even though previously held substantial bargaining power vis-à-vis Russia due to Kaliningrad's energy isolation (Misik & Pracharova, 2016), currently holds a much weaker position geopolitically: the Kaliningrad transit factor — a traditional stabiliser of Russian-Lithuanian relations — will diminish in significance.

Although there have never been any power cut-offs from Russia's side, several events related to oil and natural gas show increased tension in the relationship forcing Lithuania to actively seek alternative energy supply options:

 Suspension of oil supplies through the Druzhba pipeline in 2006 after Lithuania refused to sell its only oil refinery Mazeikiu Nafta to Lukoil, Russian state oil company (Winnerstig, 2014, p. 138).

- 2. Ukraine crises in 2006, 2009 and 2014 potentially threatening supply to other countries, including Lithuania.
- 3. Gas price shock from \$85 per tcm in 2005 to \$540 in 2013 (Balmaceda, 2013, p. 242), after Lithuania sought to fully implement the EU's Third Directive to unbundle supply, transit and distribution in the gas sector (Grigas, 2013a, p.15). Gazprom lost the ownership of Dujotekana company and was practically forced to leave the Lithuanian gas sector, which triggered the gas price increase and Lithuania paid one of the highest prices in Europe (Figure 9).



FIGURE 9. AVERAGE PRICE FOR NATURAL GAS IN EU COUNTRIES IN 2014, EUR/MWH. RED REPRESENTS THE PRICE IN THE GAS UNIT, BLUE – IMPORT PRICE AT THE BORDER. SOURCE: ECA, P.66

It is clear from above-mentioned events that Lithuania's efforts to minimize its vulnerability in energy dependence from Russia were met with pressure. Russian hostile strategy has not been different in the electricity sector either. Russia opposed the implementation of the BEMIP plan by efforts to persuade the EU that synchronization is unreasonable and cost-ineffective (Sputnik International, 2015; Gurzu, 2015). During an actual cable construction process Russia tried to interfere and possibly delay the work on an undersea power interconnection to Sweden using military warships in the Baltic sea (Crouch, 2015).

In addition, Moscow opposed to the Visaginas NPP project. Russian tactics were twofold: first, using propaganda and anti-nuclear media campaigns to convince Lithuanian society the plant poses safety and environmental risks (Winnerstig, 2014, p. 138); and second, in parallel offering two new nuclear power plants and thus compromising economics and competitiveness of the Visaginas NPP.

About the same time when Lithuania announced plans to build its own NPP, Belarus and Russia initiated their own new nuclear projects: Ostrovets NPP in Belarus and Baltic NPP in Kaliningrad. The situation was termed by the media the "nuclear race" and instigated a new public debate about economic and security implications of building three new plants within such a close proximity (Pilibaityte, 2011). Only the Ostrovets NPP project is currently on track to be implemented while the other two were suspended for different reasons. Interestingly Rosatom (a Russian state-owned company) has total responsibility for the construction of Ostrovets NPP, which Belarus began in 2013 and the first unit is expected to be finished in 2020. For Belarus, it is the first NPP in the state's history, so Rosatom is providing expertise, technology and know-how. Furthermore, Russia and Belarus agreed that Russia would loan up to \$10 billion to finance 90 percent of the project cost in exchange of purchasing Russian nuclear fuel assemblies for the entire life cycle of the nuclear reactors (Česnakas & Juozaitis, 2017). Česnakas & Juozaitis (2017) interpret Ostrovets NPP as "Russian project with Belarusian consent" and thus imply hidden Russian geopolitical agenda.

4.6. Conclusion

Lithuania overcame a number of significant structural economic and political changes in the last few decades: after being part of the Soviet Union for more than 50 years it changed its economy from central planned to free market; from communist, centrally governed by Moscow to a democratic country and a member of two major international communities – the EU and NATO. Admittedly energy security problems remained - some almost unchanged and some new. Lithuania is more than 70% energy dependent (considerably above Europe's average at 55%); it is part of the

BRELL electricity grid, controlled by Russia; there is a new nuclear power plant, being built on the border with Lithuania and finally renewable energy is considered as the saviour of the energy security issues in the latest 2018 Energy Independence Strategy.

Analysis in the following sections reveals the evolution of energy security vulnerabilities as perceived by policy makers in Lithuania and how they shaped energy policy.

5. CHAPTER 5 – DISCOURSE ANALYSIS

5.1. Topics related to energy security in the political discourse and discourse actors 2009-2012

The sampled texts were qualitatively coded according to the analytical framework based on the definition of energy security proposed by Cherp & Jewell (2014) and the revised Copenhagen Securitisation Theory by Heinrich & Szulecki (2018). Four main themes were coded and analysed: the definition of energy security; threats and vulnerabilities to energy security; referent objects; and measures or policies addressing the threats and vulnerabilities. The table below presents the findings.

	THEMES 2009-2012								
Definition of Energy Security	Energy Independence Geopolitics Part of National Security Availability at reasonable price Free market and competition	Threats/ Vulnerabilities	Dependence on Russia Monopolist Prices Energy Island Infrastructure Isolation Nuclear Safety Nuclear Waste Capital Costs	Referent Objects	Lithuania State Sovereignty People Consumers Tax Payers	Measures/ Policies	Visaginas NPP Diversification of Energy Supplies Integration into EU Power Markets LNG Renewables		

 TABLE 5. ENERGY SECURITY DISCOURSES 2009-2012 (DOMINANT IN BOLD)

When defining energy security discourse actors often refer to energy independence, geopolitics and energy security being part of national security. The availability of energy at reasonable price, free market and competition is also mentioned in several instances.

A substantial list of threats/vulnerabilities is cited in the discourse, dependence on Russia being most pronounced, followed by monopolist prices, energy and infrastructure isolation, nuclear safety and nuclear waste and finally nuclear capital costs. Lithuania as a state, sovereignty, people, consumers and tax-payers are seen as referent objects in relation to those threats. Proposed or planned measures and policies include first and foremost – the new Visaginas NPP, connection and

integration with the EU power market, diversification of energy supplies and LNG terminal, while domestic power production from renewables are perceived as necessary yet of secondary priority.

In addition, discourse actors are identified and presented in the table below. It is recognized that energy security discourse actors include business, utility representatives and journalists. However, only policy makers and energy experts were included in the sample. Furthermore, these actors were categorised as securitizing and non-securitizing actors according to the Copenhagen Securitization School (Buzan et al., 1998). Securitizing actors have the power to define security and securitize issues by declaring a referent object existentially threatened (Buzan et al., 1998, p. 36). Analysis showed that the President, the Prime Minister and members of the Homeland Union/ Christian Democrats Party were the prominent securitizing actors claiming that Lithuania as a state is threatened by being energy dependent on Russia and therefore called for urgent measures. There was no evidence found of members of the other parties or energy experts being securitizing actors.

Actors	Securitising			
	Yes	No		
Politicians				
Homeland Union/ Christian Democrats	Х			
Liberal Party		Х		
Social Democrats		Х		
Labour Party		Х		
Christian Party		Х		
Green Party		Х		
Farmers and Greens Union		Х		
Committee on National Security and Defence	X			
President	X			
Prime Minister	X			
Energy experts		Х		
Think Tanks		Х		

TABLE 6. ACTORS IN THE SAMPLED TEXTS 2009-2012

The next sub-section presents the discursive storylines and coalitions corresponding to divergent perceptions of energy security in the period of 2009-2012.

5.2. Discursive storylines and coalitions 2009-2012

After an intensive and systematic analysis of texts it became apparent that at least two discourse coalitions, namely pro-nuclear and anti-nuclear, were to be found with different approaches to energy security and the measures to be taken to achieve it. Coalitions are based on different argumentative lines and narratives voiced by discourse actors as suggested by Hajer (1995). Both

coalitions agree that energy security is "the biggest challenge for Lithuania", "of the highest importance in the security politics" and "the most vulnerable and sensitive part of Lithuania" (Nacickaitė, 2010b; Digryte, 2009; Lietuvos Rytas, 2010b). However, there are divergent views about the meaning of energy security and how to achieve it. Pro-nuclear discourse coalition actors interpret energy security as energy independence with Russia being the biggest threat to it. The Visaginas NPP is seen geopolitically to be an important project which will reduce energy dependence and diversify energy sources. Anti-nuclear discourse coalition actors take more of an economic stance (as opposed to geopolitical) with regard to energy security: they consider the Visaginas NPP is too expensive, uneconomical and a burden to Lithuania's tax payers. They also consider that the Visaginas NPP compromises other more important energy security related projects such as integration into the EU power market or renewables growth. The next sub-section looks into pro- and anti-nuclear discoursive storeylines in detail.

5.2.1. The pro-nuclear discourse coalition

5.2.1.1. Definition of energy security

The pro-nuclear coalition comprised members of the leading party in power (Homeland Union/ Christian Democrats), Prime Minister A. Kubilius with the government and President Grybauskaitė. One of the most noticeable features in the discourse is that the actors often refer to and equate *energy independence* with *energy security* when defining *energy security*:

Energy independence is not just a political declaration, it is a matter, which eventually leads to the opportunity to choose cheaper energy sources, energy services for our consumers providing sound foundation for further growth of our economy (Nacickaitė, 2010b).

In addition, energy independence directly influences political independence (sovereignty): "... without energy independence there will be no real political independence" (Žilinskas, 2011; Elta, 2011a). There is clearly a *geopolitical* stance towards energy security which is voiced not only in the national, but also international arenas. The speaker of Parliament, for example, seeks the support of the other Baltic countries and Poland in achieving common energy security goals by prioritizing regional Visaginas NPP over competing nuclear power plants planned by Russia and Belarus. She argues that "energy security is tightly connected to politics and *geopolitics* and it is extremely politicised in Russia" (Ruzgys, 2010). She further questions Russia's reliability as a partner and alludes that Russia might use "energy related pressures" like it did in Ukraine and Belarus (Ruzgys, 2010). President Grybauskaitė confirms the neccessity of *energy independence*

and stresses that "only by finding new effective solutions for energy supply ..., we will ensure energy and also *political independence*" (Grybauskaitė, 2010).

Energy security is undoubtedly seen as a key part of Lithuania's *national security*:

Returns on investments in energy security do not pay off fast. I am certain however that by having long-term continuous attention to energy projects, we will be investing in our ... national security and the security and stability of the whole region for the many generations ahead (Grybauskaitė, 2010).

The chairman of the Committee on EU Affairs specifies "energy supply security" and, in order to achieve it Lithuania must escape from natural gas and power import from *monopolistic suppliers* of one country, which uses energy for political goals (Glebovas, 2012). The claim by the Minister of Energy about "strategic decision to find a balance between energy security and electricity price reduction" (Seimo Europos Informacijos biuras, 2010) evidently demonstrates that energy security is not just an economic issue.

5.2.1.2. Threats – security from what?

Although leading politicians quite often emphasised energy independence as the main goal of their energy strategy [2012] without specifying what they mean by energy independence from what or who, they unmistakably uttered *dependence on Russia* as the biggest threat to Lithuania's energy security. Following the shutdown of the Ignalina NPP in 2009 Lithuania was forced to import 80 per cent of its power demand and 100 per cent of its natural gas demand from Russia (Norvaiša & Galinis, 2016) as the sole supplier. There were no alternatives at the time. In the aftermath of Ukraine crises of 2006 and 2008 and the generally hostile relationship with Russia since independence, Lithuania's energy security level was very low. It was described as "pre-crisis" by energy security experts (Točkus, 2012). According to a number of reports from the National Security Department (Dmitrijev, 2011; Anušauskas, 2011), Russia has continuously been interested in Lithuania's energy security related projects (Visaginas NPP, grid interconnectors with Sweden and Poland and the LNG terminal) and tried to influence their implementation using information propaganda via pro-Russian television and news portals, such as "Pervyj kanal" and "Sputnik". Russia has also set up various business groups and used them to manipulate Lithuanian energy companies by offering them cheaper options or discounts in order to delay or stop national projects (Anušauskas, 2011). Such Russia's interests are driven by political goals to maintain influence in Lithuania's energy sector, mislead Lithuania's society and effect the decisions of

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policy makers (Anušauskas, 2011). Minister of Defence stated that: "to those in doubt about the importance of our energy independence I remind them that Europe's (and our) goal to achieve energy independence is the first on the public list of military threats to the Russian Federation (Juknevičienė, 2012).

Being the sole supplier of vital energy sources raised the issue of *monopolist prices* which Russia successfully used with the help of Gazprom in the case of natural gas and electricity supply from Kaliningrad area (Seimo Tėvynės Sąjungos - Lietuvos Krikščionių Demokratų Partija, 2010). Prime Minister Kubilius asserts that dependence from a single supplier means that Lithuania's citizens pay higher prices for heating, electricity and natural gas, so "we should strive for energy independence" (Nacickaitė, 2010a).

The threat of *dependence on Russia* is also related to Lithuania being an "*energy island*", having no connection to the European power network and its *isolated power infrastructure* being connected to the BRELL ring (Ruzgys, 2010; 15min., 2012b).

As early as 2006, Lithuania decided to build a new nuclear power plant (Visaginas NPP) to replace Ignalina NPP which had to be de-commissioned upon accession to the EU. Nuclear safety was another threat identified in the Lithuanian political discourse. Strikingly, however, this threat is mostly related to the other two nuclear power plants (Kaliningrad and Ostrovets) planned by Russia and Belarus on either side of borders with Lithuania. Both construction plans were announced in 2008, however not until 2010-2011 did Lithuanian politicians started to voice their concerns. The Speaker of Parliament addressed the US House of Representatives in a letter in which she affirmed that while Lithuania together with regional partners intends to build a "modern regional nuclear power plant responsibly and transparently, ... adhering to all the safety requirements of EU and IAEA", Russia and Belarus present many concerns (Degutienė, 2011). The biggest articulated concern was the positioning of the power plants - both very close to Lithuania border and Ostrovets in particular being only 50km from Lithuania's capital, and the biggest city. In the event of a major nuclear accident radiation would reach Lithuania's territory posing threats to "its people and the biggest rivers" (Degutienė, 2011). Lithuania has not been provided with information on these projects, seismic tests or any research on the possible radiation effects on citizens. She also notes that the Belarussian plant is being built and financially supported by Russia so that Ostrovet's nuclear safety is both Russia's and Belarus' political responsibility (Degutienė, 2011). On another occasion, the Speaker of Parliament increases the extent of threat to European level and asserts that "Europe is too small for such projects ... not to cause threats to Europe. If Kaliningrad and Ostrovets are being built ignoring international regulations they will pose a threat to the whole of Europe" (Ruzgys, 2011).

In the 2012 National Security Strategy it is indicated that nuclear energy development in the region without adhering to international nuclear safety standards along with economic and energy dependence, information and cyber attacks are threats to Lithuania's national security (Rudaitis, 2012b).

5.2.1.3. Referent objects – security for who?

Relating to *dependence on Russia* threat, referent object is perceived to be Lithuania as a state and its sovereignty, as well as Lithuania's energy consumers (Lietuvos Rytas, 2010c). "Without energy independence, there is no political independence" claimed the Prime Minister (Lietuvos Rytas, 2010d). President Grybauskaitė when addressing the presidents of the Baltic States stated that "Baltic countries must be equally united in seeking the end of the energy isolation now as they were united when fighting for independence. And there is only one way to protect our people from monopolist prices, that is integration into the European power network" (Lietuvos Rytas, 2011b). Relating to the nuclear safety threat, posed by the future Ostrovets and Kaliningrad nuclear power plants, Lithuania's citizens and environment are the dominant referent objects.

5.2.1.4. Measures/policies – security by which means?

Pro-nuclear coalition's actors see Visaginas NPP as the most important measure to counter-balance dependence on Russia. The plant is, therefore, unsurprisingly the most prominent debatable object in the energy security discourse. Prime Minister Kubilius believes that the new NPP will substantially decrease dependence on electricity and natural gas imports for power generation. In such a way diversification and demand of electricity generation will be ensured for the whole of the Baltic sea region (Nacickaitė, 2010a). The newly appointed Minister of Energy argues that power is the "necessary condition for the development of our state" and without domestic power generation "we would not be able to integrate and synchronise with European power network" (Nacickaitė, 2010c). He calls for the right political decision – to support and vote for the Visaginas NPP project. He further excavates the importance of state's interests above all and even warns of the meaning of "correct" vote in backing of Visaginas NPP: "The results of the voting will show who is really supporting Lithuania's energy independence and who is betraying it" (Nacickaitė,

2010c). Geopolitical meaning was also clearly voiced in 2011 when Minister of Energy claimed that "Visaginas NPP is more important geopolitically than dislocation of ballistic missiles in Poland" (BNS, 2012), for which he was widely criticised by the opposition.

Grid interconnectors with Sweden and Poland were also often mentioned by pro-nuclear discourse actors as "urgent" measures to integrate the Baltic States into the European energy system and market, for example, President Grybauskaitė expressed this urgency in the meetings with Polish, Swedish Parliaments and other Baltic Presidents (Lietuvos Rytas, 2009a; 2009b; 2011b).

Renewables play a very small role placing them at the very bottom of energy security discourse topics in 2009-2012. They are usually mentioned as supplementary policies to be implemented some time in the forseebale future, after more important issues like dependence on Russia and integration into the European market are solved (Lietuvos Rytas, 2009a). The Renewable Law was adopted in 2011 by the Parliament, however, the implementation regulations have been slow in coming and in some instances have not been formulated (Matusevičiūtė, 2012). A member of the Liberal party claims that renewables can be promoted together with nuclear power development (Auštrevičius, 2012), however, those claims were empty compared to the actions supportive of nuclear power developments. Furthermore, while some politicians essentially agree that renewables might be necessary for energy independence, they also note negative effects, for instance, uncontrollable wind power growth presents aesthetic (visual) and people's health threats (Burba, 2011).

5.2.2. The anti-nuclear discourse coalition

The anti-nuclear discourse coalition consisted of members of opposition parties (Social Democratic Party, Labour Party, Party of "Order and Justice", Green Party and Christian Party). The discourse began after the shutdown of Ignalina NPP at the end of 2009 when the threat of dependence on Russia materialised. Interestingly though, apart from the Green Party there were initially no opponents to nuclear power in Lithuania, neither from public's point of view, nor politically. On the contrary, there were many protests opposing the shutdown of Ignalina NPP and many petitions organised trying to refute the EU's decision to no avail (Leonavičius, 2015). What the analysis of the Visaginas NPP shows, however, is that the project has been highly securitized from the beginning. Already in June 2010 Social Democrats ask the Prime Minister why they were not invited to participate in discussions relating to Lithuania's energy security and such issues as

perspectives of the new nuclear power plant, power grid interconnectors and LNG terminal (Kontrimienė, 2010). After the potential strategic investor had unexpectedly withdrawn from the project the government had not explained the reasons but merely tried to assure that the investor would return or the government would find a new investor (Stoma, 2010). Instead of open analysis and discussions on possible solutions the Government chose to determine matters behind closed doors. This evoked further mistrust among politicians. They began questioning the Government's decisions and voiced concerns that the conditions under which the nuclear power plant was being planned would place an economic burden on Lithuania's people – they will have to pay the price to sustain plant's competitiveness and not under free market principles: will this "black nuclear hole destroy our energy independence even more?" (Stoma, 2010; 2011).

5.2.2.1. Definition of energy security

At the end of 2010 the leading opposition party still supported the Visaginas NPP project, but urged that the government, in consultation with the Parliament and the public, and in co-operation with scientists should prepare and adopt the new Energy Independence Strategy, which addressed the issue of energy poverty and defined *energy security* as "availability of energy at reasonable and *affordable price*, energy source being also friendly to environment" (Nacickaitė, 2010d). So the definition of energy security in the opposition party's view was more about the *energy price* and *affordability* to consumers as opposed to the leading party's *energy independence*, associated with political independence and geopolitics. Energy independence is still used by actors of anti-nuclear discourse actors, but contrary to pro-nuclear actors they are clear of *independence from what*: "We will achieve energy independence only after we disconnect from politicised Russian energy system and synchronise with the continental European grid and have the opportunity to buy and sell energy sources at competitive prices" (Žiemelis, 2012).

After the new Energy Independence Strategy was presented to the Parliament in June 2011, policy makers were still beset by uncertainty. They crisiticised the government for the lack of clarity on capital costs of the Visaginas NPP, the estimated price of electricity generated at the plant and secrecy of meetings and aggrements with the potential investor (Kontrimienė, 2011; Labour Party, 2011). One of the Social Democratic Party members argued that before adopting the new strategy based on the new nuclear power plant, the Parliament and society must be informed about the

economic cost/benefit analysis and the conditions under which the plant will be built - "One does not wish that energy strategy eventually becomes energy slavery" (Kontrimienė, 2011).

Secrecy and lack of openness towards the strategy and Visaginas NPP from the leading party continued throughout 2012. A Labour party member argued that "the Minister of Energy and other officials are hiding and do not answer important questions" (Labour Party, 2012). A representative of the Christian party claimed that "the Ministry continuously ignores questions related to the concession agreement with "Hitachi Ltd25" (Pilipauskas, 2012a). The Social Democrats maintained that there was no clarity or transparency regarding Visaginas NPP project (Butkutė-Lazdauskienė, 2012a) and all the decisions were being made in the government's building, "under the carpet" (Budrys, 2012a). Opposition parties start to view the Visaginas NPP itself as an economic threat to Lithuania's energy security, as an expensive grandiose project, that "will tie our hands and legs" (Kontrimiene, 2011) and begin openly to oppose it. They argued that energy independence does not exist in the global world, that there is no economic or information independence (Sinkevicius, 2012) and that decisions had to be based on economic calculations and not on political preferences (Butkutė-Lazdauskienė, 2012b). "Seems like the only issue for the leaders in power is ... saving Lithuania from the biggest bugaboo – energy dependence – at any cost" (Lementauskas, 2012d). Energy experts consistently stressed that price, free market and competitiveness are the answers to energy security (Argustas, 2012; Šilėnas, 2013) and call for depolitisation of energy sector (Fuks, 2012). They firmly maintained the view that economic and not political arguments should be central when making decisions regarding important energy projects. They support the anti-nuclear disourse actors in arguing that energy independence is just a popular political rhetoric, which can be successfully used to gain public's support, but in economic global trade terms has no logic in it (Pučėta, 2012).

5.2.2.2. Threats – security from what?

The biggest threat that the anti-nuclear discourse coalition see is the capital costs of Visaginas NPP, imposed on Lithuania's people: "Concession agreement is associated with billions of Euros which will have to be paid back by tax payers" (Pilipauskas, 2012c); "Visaginas NPP will put a long-term burden on the taxpayers' shoulders and increase Lithuania's debt. Electricity price will also

increase" (Lementauskas, 2012a); "Energy security or nuclear accident is not an issue. The real threat is financial security and financial independence" (Stoma, 2012).

Another threat is related to *nuclear fuel* and its source: "the Minister of Energy could not explain where the fuel will be sourced from. Who can guarantee that it will not be Russia?" (Budrys, 2012a). *The type of reactor* proposed by the investor was also considered a threat due to the need of reserve power for such reactor: currently only Russia can provide such a reserve and even after synchronisation with Europe Visaginas NPP could pose instability to the European grid because of a very powerful type of reactor involved (Pilipauskas, 2012b). Nuclear safety is rarely mentioned as a threat in Lithuanian national NPP discourse while global nuclear discourse perceives it as one of the biggest threats (Pilibaitytė, 2011). Lithuanian politicians randomly mention *nuclear safety* as the last anti-nuclear argument (Žiemelis, 2012; Lementauskas, 2012c) and only members of Green Party try to voice nuclear safety and *nuclear waste* risks: "The whole world knows nuclear power threats to humans and the planet, but does Lithuania know? In aftermath of Fukushima and Chernobyl accidents many countries debate the safety of nuclear power, but Lithuania behaves as if Fukushima never happened" (Baškienė, 2012).

5.2.2.3. Referent object – security for who?

Relating to the threat of capital costs of Visaginas NPP, anti-nuclear discourse coalition actors refer to Lithuania's citizens, people and tax-payers as referent objects: "All long-term financial responsibilities will have to be fulfilled not by the Prime Minister or Minister of Energy, but *ordinary people*. And even yet unborn. Therefore, Lithuanian *people* and not several politicians should decide if our country needs a nuclear power plant or not" (Lementauskas, 2012a); "This is the project of the century and the risk is on *Lithuania*, which means its *citizens*" (Stoma, 2012).

5.2.2.4. Measures/ policies – security by what means?

Anti-nuclear discourse coalition actors would like the government to concentrate on integration and synchronisation with the European power grid and prioritise this measure over the nuclear power plant (Songaila, 2011): "There are talks about power synchronisation with Europe since Lithuania announced its independence, no real actions however have been made" (Pilipauskas, 2012b), "Without synchronisation with Western Europe all the talks about integration to Western Europe and independence from Russia's energy monopolists that artificially increase prices, are empty" (Žiemelis, 2012). Renewables are also placed on the agenda as one of the potential measures, however similarly to pro-nuclear discourse actors they are perceived as available only in distant future. Critics of the new nuclear power plant warn that the plant "will unavoidably paralyse what can save us, that is, the development of renewables and competitive market" (Stoma, 2011). However, in 2012 they were perceived as too expensive for Lithuania: "We cannot survive on alternative energy, which only rich countries can afford. We can pay the highest prices (for energy) compared to the whole of Europe and be the cleanest, but it means no money left for pensions, salaries for teachers and similar things" (Fuks, 2012). Energy experts also pointed out the intermittency and storage issues hence practically dismissing renewables as solution to energy security (Točkus, 2012).

Pro-nuclear and anti-nuclear debates culminated with the call for a consultative referendum in October 2012. This resulted in the anti-nuclear coalition1s victory which was also the victory of the opposition Social Democratic Party party, which together with Labour and Justice and Order Party formed a leading coalition. Further, though the new Energy Independence Strategy based on the nuclear power plant was already adopted in June 2012 and the concession agreement signed with Japanese "Hitachi", Lithuania's power sector was still at crossroads.

The next sub-section analyses energy security discourses in the next period (2013-2019) and shows that after much hesitation policy makers finally made a decision which changed Lithuania's energy strategy quite radically.

5.3. Topics related to energy security discourse and discourse actors 2013-2019

As in the previous period, the sampled texts from 2013-2019 were coded and categorized according to the analytical framework of energy security as "low vulnerability to vital energy systems" (Cherp & Jewel, 2014) and the revised securitization theory of Copenhagen School by Heinrich & Szulecki (2018). Four themes altogether were selected: definition of energy security, threats and vulnerabilities, referent objects threatened and measures or policies addressing those threats. Table 6 presents the findings of the dominant discourses in the 2013-2019 period.

	THEMES 2013-2019								
Definition of Energy Security	Alternatives Supply of energy at reasonable price Pre-condition for state's prosperity Energy Independence	Threats/ Vulnerabilities	THEM Belarus NPP Russia Brell Nuclear Safety Climate Change CO2 emissions	Rfeerent Objects	3-2019 Lithuania People Consumers Environment Ecology	Measures/ Policies	Integration into EU Power Market Synchronisation Renewables Belarus NPP proclaimed unsafe by law Deny access to power		
	Geopolitics		Price shocks Black-outs Information war				market from Belarus NPP		

 TABLE 7. ENERGY SECURITY DISCOURSES IN SAMPLED TEXTS 2013-2019 (DOMINANT IN BOLD)

Discourse actors in this period define energy security in the context of alternative sources, supply of energy at reasonable price, although energy independence, pre-condition for a state's prosperity and geopolitics is also present. The most dominant perveived threats are Belarus (Ostrovets) NPP, Russia, BRELL, nuclear safety, climate change, CO₂ emissions, price shocks, black-outs and information war. Lithuania, people, consumers, environment and ecology are the referent objects of the threats and the proposed measures include integration with the European power market, synchronisation with the continental European grid, renewables, the law proclaiming the Belarus NPP unsafe and denying access to Baltic/ European power market to electricity produced at unsafe nuclear power plants.

Discourse actors are presented in the table below (Table 7). Once again politicians and energy experts are included. Political parties in power have changed twice in this period: at the end of 2012 the Social Democratic Party formed a governing coalition with the Labour and Order and Justice Parties with Butkevičius as Prime Minister, while the Homeland Union/Christian Democratic Party and Liberal Parties became opposition parties, with Kubilius as the opposition leader. In 2016 the Farmers and the Greens Union won the election and formed a governing coalition with the Social Democrats while Homeland Union/Christian Democrats remained in opposition. President Grybauskaite kept her position throughout the period.

TABLE 8. DISCOURSE ACTORS 2013-2019. SECURITIZING* ACTORS REPRESENT VAST MAJORITY OF POLITICIANS, THE PRESIDENT AND PRIME MINISTERS REGARDING OSTROVETS NPP, WHICH WAS DECLARED UNSAFE AND THREATENING LITHUANIA'S NATIONAL SECURITY.

Actors	Securitizing*			
	Yes	No		
Politicians				
Social Democrats	Х			
Farmers and Greens Union	Х			
Labour Party	Х			
Homeland Union/ Christian Democrats	Х			
Liberal Party	Х			
Green Party	Х			
State Defence Department	Х			
President	Х			
Prime Minister	Х			
Energy experts		X		
Think Tanks		Х		

The analysis shows that during the period of 2013-2019 no discourse coalitions can be identified. The overwhelming majority of members of different political parties, including the government and the President, ultimately agree on energy security threats and on measures to be adopted to deal with those threats. Apart from nuclear power issues related to Ostrovets NPP Lithuania's energy sector became less politicised, more and more transparent and open for constructive debates, resulting in energy policies based on economic and social benefits, in line with EU energy and climate policies.

The next sub-section presents discourse storylines in the period of 2013-2019.

5.4. Discursive storylines 2013-2019

5.4.1. Definition of energy security

Newly appointed Prime Minister Butkevičius promises to review 2012 Energy Independence Strategy and the prospect of Visaginas NPP from all "economic, financial and energy aspects", with the goal "to ensure that consumers get electricity and other energy sources *at the best conditions*" (Rudaitis, 2013). A member of the Labour party seconded him in the energy security seminar with Eastern Europe countries where energy security was defined as "reliable and secure supply at the most acceptable, that is, the lowest price for consumers" (Daukšys, 2013) and "Lithuania … needs partners who can guarantee secure, stable supply delivered by free market principles" (Degutienė, 2013). Supply security, according to the speaker of Parliament, meant supply *alternatives*, which ensure competition and stops monopolistic pricing (Degutienė, 2013).

President Grybauskaite nevertheless held to her *geopolitical* perspective: "Politicians stuck at only economic benefit formulas and price calculations can deter from energy security road into a deadly short-term benefit path. Which means that energy independence and freedom can become an exchange object" (Grybauskaitė, 2013). Russia and Gazprom was still viewed as a major threat and energy security could not be discussed only through the price lens. A year later she confirms her stance: "energy independence is an essential pre-condition for the state's prosperity. It is not merely acceptable electricity ... prices. It is safe [lith. saugi] and competitive Lithuania" (Grybauskaitė, 2014). Energy experts (Šilėnas 2013a; 2013b) opposed this view by maintaining that energy import is not "dependency" or evil as such. On the contrary, it is an opportunity, which should be used.

After the 2016 elections the Minister of Energy clearly de-securitised energy security and presented an energy security vision: "consumers will be reliably supplied with energy at competitive prices" (LRSK, 2017l, p. 64). Nevertheless, energy independence remained in the discourse, especially in the context of Lithuania being part of the BRELL electricity ring controlled by Russia. "... it is time to make real steps towards energy independence. Our main goal is ... to disconnect from Russian electricity supply system and synchronise with Europe. It is not only a question of energy supply, but also national security" claimed the chairman of the Commission for Energy of the Parliament (Sinkevičius & Poderys, 2017).

5.4.2. Threats/ vulnerabilities – security from what?

President Grybauskaitė continued to see *energy dependence* as the main vulnerability because "the energy sector is the most dangerous geopolitical instrument, used to weaken our economic, social and even political independence" (Grybauskaitė, 2013). The source of this threat was held to be *Russia*: "The energy sector became part of security politics precisely because some countries [Russia] exercise energy supply monopoly as political leverage and dictate unjust ... geopolitically motivated prices" (Degutienė, 2013). In 2013 Lithuania paid the highest price in Europe to Gazprom for natural gas, paradoxically though, since geographically it is situated the nearest to the supply source (Trembo, 2014). Natural gas was used as an argument in this discourse because it was the main energy source for electricity generation at the time.

In the aftermath of Crimea annexation in 2014 the Prime Minister announced, "the new geopolitical reality" resulting in "economic and security problems that nobody could forsee" (Butkevičius, 2014b). The Committee on National Security and Defence warns policy makers that "there is a

continuous propaganda campaign employed against Lithuania ..., which intensifies every day and recently has developed into an open information war. Persistent misinformation, provocations and confronting propaganda are the threats to national security" (Lapinskas, 2016). Former Prime Minister reflected on recent referendum regarding the Visaginas NPP and claimed that "the support of social democrats for the referendum was essentially the victory of Russia's information war against Lithuania" (Kubilius, 2013b). Information, cyber and hybrid war exercised by Russia was more and more mentioned in various discourses and documents from national security strategies to political statements (Pečiulytė, 2013; LRSK, 2017a, p.19; Trembo, 2017; LRSK, 2017k, p. 62; Armonaite, 2018a). The Minister of Foreign Relations acknowledged the changing type of security threats whereby Russia alledgely used energy as a tool for hybrid war, especially since Crimea. He pointed out the need of recognizing this security paradigm and reacting accordingly (Rimaitė, 2019). Russia was viewed as the dominant source of threat, trying to discredit energy projects and impede Lithuania's energy independence. Thus the only way for Lithuania to improve its relationship with Russia is "to become energy and infrastructure independent and integrated with the West. Only then we will have more bargaining power, will be respected, will not need to beg and there will be an equal and respectful relationship" (LRSK, 2018c, p. 53). Finally, the Minister of Energy stressed that the synchronisation project with the European grid was an urgent issue in case Russia disconnected from BRELL before Lithuania was ready to synchronise with Europe. Russia could use *energy blackmail* as stated by the Lithianian Minister of Energy:

We can not reject the possibility that Russia could use energy blackmail. We are risking our energy security. We are talking not only about the price, but about potential *blackout* of the whole system. We can not risk such things. We need to assess the geopolitical context since the Russian energy sector has always been connected to geopolitical decisions (15min., 2017).

Continuing from 2009-2012 period, *Ostrovets NPP* discourse intensifies in 2013-2019 Lithuanian political discourse perhaps for two main reasons. The Visaginas NPP project had been suspended while Ostrovets NPP proceeded at full speed and currently [2019] is at the final stages of completion. Politicians describe Ostovets NPP as "the ticking bomb at the border of Lithuania" (Balsys, 2016), "one of the biggest nuclear and geopolitical threats (LRSK, 2017e, p. 25); "big monster, built by Russia 40km from Lithuanian border" (LRSK, 2017f, p. 56). The critics clearly see it as an existential threat which is an evidence for securitization (Buzan et al., 1998): "Here [in

Seimas], as you can see, we are in a very beautiful place, which will be completely empty if something happens in Ostrovets NPP. I hope you will not be here when it happens, because this place will be utterly destroyed" Parliament's guest speaker EC commissioner for Energy Union Scevcovic was warned (LRSK, 2017f, p. 56). "This law is about the state's existence, about the threat to national security" declares the chairman of the Commission for Energy when presenting the law of unsafe Ostrovets NPP (LRSK, 2017g, p. 51). The speaker of Parliament reminded everyone that Russia is using energy as a political weapon in its political relationships, especially with Lithuania: "We are still geopolitically strongly attached to the East, i.e. Belarus and Russia, through Brell, but Lithuania is ready to cut these energy relations, which economically would be important, yet geopolitically they are even more important, however, negatively. So we can not make a mistake here. Manipulations can continue. Lithuanian-Russian and Lithuanian-Belarussian energy relations are sometimes presented only through the prism of economic benefit. We already saw these economic benefits in Ukraine, which ... ended with war" (LRSK, 2017h, p. 14).

Closely related to the above-mentioned threat is *BRELL*, which Lithuania is connected to. The main issue is the timing of planned synchronisation with Europe by Baltic countries which is estimated by 2025. Russia, however, might be ready to disconnect from BRELL as early as 2020 and thus pose threats:

We have one last energy instrument left connected, which is electricity grid and frequency. Non-technical people might think this is nothing, but actually if 50 Hz frequency is disturbed, Lithuanian industry would halt and our life would stop. For a long time, Russia could not do that without disturbing electricity system in its own territory. Now it is actually ready to blackmail us or create big problems for our electricity system (LRSK, 2018d, p. 47; LRSK, 2019c, p. 58).

President Grybauskaitė has added: "let us not look back to the East, because we all know very well, that in the BRELL ring from Moscow's control rooms not only electricity, but also political influence and pressure circulates" (LRSK, 2019d, p. 8). The urgency of synchronisation was clearly pronounced in national and international arenas especially within Baltic States and Poland during the last year, and as a result political agreement has been signed by all responsible parties in 2018 after a number of years of the project stagnating (LRSK, 2019c, p. 58).

In 2013 policy makers almowledged the threat of *climate change*, but as something that

international communities are dealing with, hence a bit "surreal" (Degutiene, 2013). Yet the Paris Climate Change Agreement (2015) increased awareness of climate change and the number of debates regarding this issue increased. When considering the ratification of the Paris Agreement, politicians recognized its importance for "our future and the future of the next generations" (LRSK, 2016b, p. 59). They also did not wish to damage Lithuania's reputation by not ratifying the Agreement: "If we reject there will be a big damage done to Lithuania's image and prestige (LRSK, 2016b, p. 59). Discussing further the implications of climate change specifically for Lithuania and consequences of rejecting the Agreement, the Minister of Environment stated: "Well, we have a shrinking coastline, invasive fauna and flora, but, speaking of the damage, … it will be a much bigger political damage if we don't ratify this Agreement, than effect of climate change in the short-term" (LRSK, 2016b, p. 59). It appears that politicians prefer not to stand out at a global level, but rather be compliant with the rules and regulations at that point of time. Paris Agreement has been ratified by Lithuanian Parliament in 2016 and Lithuania agreed to reduce CO₂ emissions by 40% compared to 1990 levels by 2030 (Plyniuviene, 2016).

Throughout the last few years, climate change has definitely been high on the agenda and policy makers have proposed more ambitious targets to combat it: "climate change goals are not reflected enough [in the new 2018 Strategy]" (LRSK, 2018f, p. 35); "I propose a tangible and ambitious target: in 2050 we live, create, consume and travel without polluting nature and reducing global warming" (Gentvilas, 2018). When presenting the new Energy Independence Strategy to the Parliament, the Minister of Energy confirmed that "it will seek to eliminate negative effects to climate change with clean energy, so the novelty of the strategy is an exclusive focus to renewables growth" (LRSK, 2017l, p. 64).

Ignalina NPP, an old nuclear power plant in process of de-commissioning, is also briefly appearing in the discourse with regards to technical nuclear safety issues relating to removal of reduntant nuclear fuel or reactors (LRSK, 2016a, p. 41). However, most politicians and the Minister of Energy are concerned about the financial side: "Ignalina NPP closing project is the biggest project of our state ever. And the issue here is to ensure financial capacity. As you know, Lithuania managed to negotiate support from the EU only until 2020" (LRSK, 2017c, pp. 55-56).

5.4.3. Referent objects – security for who?

Relating to import dependence on Russia, referent objects were portrayed differently by the discourse actors. The President referred to *Lithuania as a state* (Lietuvos Rytas, 2013a; 2014), while the newly appointed Prime Minister, most politicians and energy experts were more concerned about *consumers* incurring high energy prices (Jokūbaitis & Ignatavičius, 2013; Šilėnas, 2013a).

Lithuania's *economy* and *reputation* as referent objects were voiced in the context of the BRELL. Politicians pointed out the potential threats of electricity supply shortages and even blackouts exercised by Russia which would consequently lead to huge financial losses and might compromise Lithuania's reputation as reliable partner for synchronisation project.

Global *environment* and Lithuania's *coastline* are referred to as referent objects, threatened by climate change. However, these are not "urgent" or "existential" threats according to the discourse actors.

Regarding Ostrovets NPP, the most pronounced referent object is *Lithuania* and its *people*: "We are going to fight for our lives...Ostrovets NPP is the question of Lithuania's existence. It is a total destruction of Lithuania in case of a disaster" (Valentinaitienė, 2016). *Ecology, health* and *economy* are the second most dominant referent objects: "The plans of the neighbouring country to build a nuclear power plant is a point of concern and calls out for a new energy security assessment and potential consequences to *people's health* and *Lithuania's ecology*" (Leiputė, 2016). "Lithuanian electricity distribution system will be overflooded with Ostrovets NPP electricity and free market trade under "Nord Pool Spot" rules will be impossible" (Kubilius, 2015c). So Lithuania's *economy* and free market principles could possibly be undermined according to the politicians.

The Energy Minister introduced prosumer's concept: "very often we talk about energy independence, energy independent state, but we have to remember that our main goal is energy independent consumer, that is, *prosumer*" (LRSK, 2018, p. 53). Admittedly, prosumer is not considered as a referent object per se, but definitely an important new player in the power sector.

5.4.4. Measures/ policies – security by which means?

In 2013 the President hoped that the energy situation in Lithuania will improve enormously with the help of grid interconnectors and LNG terminal and pledged everyone "to hold on for two more years" (Grybauskaitė, 2013). In 2014 she expressively declared that "this autumn, overcoming all

the hurricanes and storms created by corrupted monopolists hands, the symbol of our energy independence will come – a special LNG ship ...and existentially threatening Russian gas will not be needed anymore" (Lietuvos Rytas, 2014). In addition, it was asserted that "in 2015 after power bridges with Sweden and Poland are installed – there will be the end of our energy dependence" (Grybauskaitė, 2014). Indeed, *energy supply diversification* in the form of *LNG* and *grid interconnectors* were big steps towards energy security enhancement: both electricity and natural gas prices have dropped (Butkevičius, 2015) and according to the Minister of Energy Lithuania ceased being "an energy island" and became a "regional energy distribution and competence centre" (15min., 2015b).

The second most important energy security related counter-measure is *synchronisation* with the European Continental grid "which will protect us from unexpected eastern neighbors' actions that effect our economy and national security" (Poderys, 2017a); "it is absolutely vital. Otherwise we may become energy and political hostages of the Eastern neighbour" (Markevičienė, 2018); "this is the last piece of the puzzle on the road to energy independence" (LRSK, 2019e, p. 11).

Lithuania adopted two laws as counter-measures to Ostrovets NPP: the law of *declaring Ostrovets NPP unsafe* (LRS, 2017a) and the law of *denying access* to Baltic/Nordic power market for electricity produced at unsafe nuclear power plants, which is practically addressed to Ostrovets NPP (LRS, 2017b). The speaker of Parliament invited other Baltic countries to support Lithuania's position:

Russia and Belarus are violating international regulations of planning, building and operating nuclear power objects which threaten Lithuania, therefore Seimas has made a decision to restrict electricity import from such unsafe nuclear power plants. We hope that once our neighbours affirm such a decision the Baltic region increase its political leverage (LRSK, 2017j, p. 10).

It is again "a political decision" and has "national security aspect" according to the Prime Minister (LRSK, 2019f, p. 22). None of the other Baltic countries nor members of EU except Poland supported Lithuania in the same way suggesting that the measure is an extraordinary one, and represents an element of securitization move accoding to the securitization theory of Copenhagen School (Buzan et al., 1998). Controversially Latvia has started negotiations with Russia about the reconstruction of an old power connection between Latvia and Russia in preparation for direct
trading with Russia and Belarus. Latvia's Minister of Foreign Affairs has explained that "there will be a shortage of power if electricity will be restricted from Belarus resulting in price shock which we can not allow" (Mikutavičius, 2019).

Policy makers were rather sceptical about *renewables* in the context of energy security in 2013: "Considering investments needed, returns on investments and the energy price produced from renewables, it is obvious that renewables are not energy security panacea" (Degutienė, 2013). Renewables growth was considered as a priority, but not an absolute priority. It was seen as part of a diverse energy mix: "we need a holistic view towards climate change and competitiveness. Clean energy technologies eventually will win, but one should seek for the most effective economic path" (Degutienė, 2013). Energy experts suggested to be cautious in introducing and subsidising renewables in the energy mix (Šilėnas, 2013c) as "it is silly to produce a much more expensive energy just because it is local when other alternatives are available" (Lietuvos Rytas, 2015a).

However, in 2016 perceptions have changed and renewables climbed back on the agenda. The Prime Minister presented the government's working program where "the main strategic direction is local energy production growth based on renewables. It will be our foundation for reaching long-term EU and international climate change goals, and increase our energy security" (Rudaitis, 2016). "The basis for Lithuania's energy security and competitiveness is sustainable development, based on efficient and sparing energy consumption and the use of locally produced green energy" (Trembo, 2016).

Moreover, renewables have been perceived enthusiastically as a "breakthrough" in prosumers of solar power, and as a "paradigm shift", because

previously for a long time it was believed that only state energy companies can guarantee competitive price. This will prove that decentralised energy system can also provide power for a competitive price. We start to trust free market mechanisms This is an essentially paradigm shift taking us closer to the western Europe (LRSK, 2018b, p. 9).

In 2018 policy makers unanimously adopted the latest National Energy Independence Strategy (2018), which contrary to the previous and secretively prepared 2012 NEIS was the subject of consultations with more than 50 institutions and subjects. Lithuania is following the "transition path that many countries have already taken", where "the green energy niche became mainstream energy on which the state's economy is built" (LRSK, 2018d, p. 50). Lithuania will shift away

from energy import to domestic production and at the same time ensure competitive energy prices (Rožėnaitė, 2018a).

There are some doubts as to whether the current and future governments [the new elections will be in 2020] will follow preceding governments that used to cherry-pick which projects to implement (Poderys, 2017b). Renewables may never reach the declared targets. Nonetheless the fact is that Lithuania has changed its energy security strategy course towards renewables and suspended the Visaginas NPP project.

Discourse analysis showed how Lithuanian decision makers perceived energy security during 2009-2019 via the lens of threats/vulnerabilities and measures to address those threats. The next section will present process tracing findings which seek to answer the second research question: what were the necessary conditions/measures which opened the window of opportunities for renewables in the latest energy policy?

6. CHAPTER 6 – INTERPRETATIVE PROCESS TRACING

Combining background knowledge, geopolitical context and findings from the discourse analysis regarding energy security perceptions, this section provides a detailed sequence of events during 2009-2018. The timeline starts at the end of 2009 when the perceived energy security level was low and Lithuania's National Energy Independence Strategy (hereafter NEIS) was based on the new nuclear power plant. The timeline finishes with the NEIS based on renewables in 2018. The aim of this chapter is to provide the most plausible explanations and reasons as to why and how the energy security strategy shifted, in other words, to identify triggers or intervening variables which enabled the change. Several drivers were considered based on the literature and, most importantly, data from interviews with politicians and energy experts. The list of drivers included environmental concerns, political dimensions (EU membership), nuclear power in the energy mix dimension and energy security. This list should not be considered exhaustive. It does, however, reflect the most dominant variables specific for Lithuania, a country importing most of its power with virtually no primary energy sources. First of all, studies show that "countries without their own fossil fuel sources are the ones which develop renewable energy to the greatest extent" (Papiez et al., 2018). Therefore, one can argue that Lithuania was already pre-determined to deploy renewables. But why now?

6.1. Period 2009 – 2012: the rise and fall of nuclear power

2009 was a challenging year for Homeland Union/Christian Democrats-led Lithuanian Government. In the aftermath of the 2009 Ukraine- Russian conflict (which heralded Europe's and Lithuania's attention to energy (in)security issues) and the global financial crisis that reduced Lithuania's GDP by two digit numbers (European Commission, 2019), the Government was facing yet another, domestic challenge: the shutdown of the country's last reactor at the only nuclear power plant, Ignalina NPP. Having been a net electricity exporter, Lithuania became a net importer overnight: it began to import 80 per cent of electricity adding to what was an existing 100 per cent dependency on natural gas imported from the only, "unreliable" supplier, Russia. As the discourse analysis showed, this energy dependence on Russia was perceived as the main threat to Lithuania's energy security throughout the decade and energy policies were primarily addressing this issue. The shutdown of Ignalina NPP was naturally of no surprise to the government nor the public. Negotiations on membership of the EU and the commitment to fully close Ignalina NPP were completed already in 2002 (Švedas, 2017). Notwithstanding both the Government's and the public's efforts to reverse the commitment, the operation of Ignalina's NPP ceased on 31st of December 2009. The following day Lithuania (along with the two other Baltic states) fulfilled the requirements of what has been described as a classic example of the EU's "energy island": it had one supplier of the primary energy source – natural gas (Russia) by the only gas pipeline, local electricity generation was replaced by imports from Russia and Belarus because there were no other interconnections₂₆ and Lithuania together with Latvia and Estonia were part of the BRELL ring agreement, fully controlled again by Russia (Švedas, 2017).

However, the shutdown has also had a positive effect – it forced the Government to finally act on energy security issues which had not been addressed since Lithuania became a sovereign state and broke away from the former Soviet Union (Grigas, 2013a, p. 39).

In 2009 the three Baltic states finally signed a BEMIP plan with the EU - a political agreement to integrate the Baltic states into Continental Europe's energy markets by installing two grid-interconnectors with Sweden and Poland and synchronising their electricity systems with the Continental European grid. The significance of the plan was recognized within the EU: the issue of the isolation of the Baltic states from the common EU energy market became a priority on the EU policy agenda (Pakalkaitė & Posaner, 2019, p. 227).

In 2010 Lithuania initiated an LNG project to solve the natural gas import supply dependency problem and counter-balance Gazprom's monopolist pricing policy. Initially planned as a regional project for all three Baltic states Lithuania eventually proceeded alone due to disagreements with its Baltic neighbours about the position of the terminal (LNG, 2013).

As early as 2006 Lithuania had declared its ambition to remain a nuclear power state and invited Latvia and Estonia to become partners in constructing the new regional nuclear power plant – Visaginas NPP. The plant's objectives were twofold: to meet the power demands of all three countries and act as a strategic project, vital for the connection and synchronisation with Europe. The discourse analysis in Chapter 5 showed how the power struggles between pro-nuclear and anti-nuclear coalitions illuminated controversies about the plant. On the one hand, the pro-nuclear

26 With the exception of a low capacity (350MW) Finland-Estonia interconnector

discourse coalition stressed the urgent existential need for energy independence from Russia and prompted the Visaginas NPP being promoted as a vital measure. On the other hand, the anti-nuclear coalition was more concerned about the high capital costs of the plant being transferred to tax payers. In the wake of the Fukushima's nuclear accident in 2011 attention also focused on nuclear safety issues worldwide forcing many countries to reconsider their energy supply strategies. Lithuania acknowledged the risks that nuclear power plants posed, though the accident did not discourage Lithuania from pursuing its goals (Grumbinas, 2012). That same year the Lithuanian Government chose Japanese "Hitachi" as the principal strategic investor to build a nuclear power plant to be operational by 2020. A concession agreement was signed in the following year (Ministry of Energy, 2012).

In May 2012, the Minister of Energy presented the new NEIS (Rudaitis, 2012a). The main stated goal was "to ensure Lithuania's energy independence by 2020 which will increase Lithuania's energy security and competitiveness" (LRS, 2012). Energy independence would provide: free choices of energy sources and suppliers (including domestic suppliers), meet the needs of the state's energy security; and satisfy Lithuania's consumers' interests to buy energy at the most favourable price. It remained unclear exactly what energy independence meant. However, it was a pre-condition for energy security. Česnakas (2013) noted that it could be understood as a synonym of "energy security" or "independence from Russia".

In the electricity sector the NEIS focused on the following strategic projects, essential to achieve energy independence:

- grid-interconnectors with Poland (LitPol Link1 by 2015 and LitPol Link2 by 2020) and Sweden (NordBalt);
- regional Baltic power market creation and integration with the European power market;
- Lithuania's, Latvia's and Estonia's energy power systems synchronisation with the Continental European grid.

Regional Visaginas NPP was crucial to ensure competitive domestic electricity generation. The strategy also provided for an increase in the share of renewables (mainly to replace natural gas consumption for heating) and implementation of the Third Energy Package (Rudaitis, 2012a).

A figure extracted from the strategy adequately summarises the threat of energy dependence from Russia and the proposed measures to counter-balance it:



FIGURE 10. LITHUANIA'S PRIMARY ENERGY MIX 2009-2020. COLOURS REPRESENT ENERGY SOURCE: DARK GREEN FOR OIL, FUCHSIA FOR NUCLEAR, GREY FOR NATURAL GAS IMPORTED FROM RUSSIA, ORANGE FOR NATURAL GAS IMPORTED VIA LNG, GREEN FOR RENEWABLE ENERGY, LIGHT BLUE FOR ELECTRICITY IMPORTED FROM RF AND TURQUOSE FOR ELECTRICITY IMPORTED FROM THE EU. RF STANDS FOR RUSSIAN FEDERATION. HORIZONTAL LINE ACROSS THE CHARTS (SOLID AND DOTTED REPRESENT TWO SCENARIOS) DISPLAYS ENERGY DEPENDENCE FROM RUSSIA. SOURCE: LRS, 2012.

The figure shows that in 2009-2010 energy dependence on Russia increased from 56 to 80 per cent due to the Ignalina NPP shut down. From 2010 two scenarios were displayed: the dotted line shows energy dependence reducing to 76 per cent in 2016 and 74 per cent by 2020 due to NordBalt and LitPol Link1 grid interconnections and an increased share in renewable energy. The solid line representing the scenario with Visaginas NPP and LNG terminal shows that energy dependence from Russia decreased to 55 per cent in 2016 and 35 per cent by 2020. It is clear that the Government undoubtedly preferred nuclear power over renewable energy in the context of energy security at the time. Admittedly climate change related goals such as the promotion of renewable energy and an increase in energy efficiency were also among the key objectives of the 2012 NEIS (LRS, 2012). However, as the discourse analysis confirmed, policy makers viewed renewable energy as something that would have to be pursued in the future, but not when the country is in energy security crisis.

Debates on nuclear power development grew in prominence. They peaked in the third quarter of 2012 for several reasons: internal power struggles between pro-nuclear and anti-nuclear coalitions; political parties campaigning for the upcoming Parliament elections, preparations for simultaneous consultative referendum on Visaginas NPP organized by opposition parties, and finally "the elephant in the room" - Ostrovets NPP, the Belarussian nuclear power plant, constructed by Russia on the border of Lithuania which posed not only the threat of nuclear safety and geopolitical threats but also called into question the need of Visaginas NPP due to nuclear competition in the region. 2012 ended with a new government in power led by the Social Democrats in coalition with Party of "Order and Justice" and Labour Party while the Homeland Union/Christian Democratic Parties became the opposition party. Lithuanian voters also expressed their negative attitudes towards developing nuclear power in Lithuania: 63 per cent were opposed (CEC, 2018).

6.2. Period 2013 – 2015: hesitations about nuclear and the arrival of "Independence"

In 2013 overall Lithuania's energy dependency ratio was 78.3 per cent including 100 percent in the gas sector (European Commision, 2015). Natural gas prices rose steadily from 1990 and in 2013-2014 became the highest in Europe (ECA, 2015, p.66). Electricity imported from Russia and Belarus prior to the EU interconnections was also priced relatively high (ECA, 2015) considering geographical location and proximity to Russia and Belarus and the fact that all three countries belonged to one transmission ring – BRELL.

The newly formed centre-left government assured continuity of vital energy security and independence related projects, primarily grid interconnections with Sweden and Poland and the LNG terminal. The government, however, was vague about the future of Visaginas NPP. After 100 days in power the Prime Minister declared that the future of Lithuania lay in having an energy mix, although the question remained as to wether that mix was to be with or without the nuclear power plant (Butkevicius, 2013). The former Prime Minister announced the opposition party's memorandum in which he proposed what should be done in the aftermath of the consultative referendum. He insisted that the Visaginas NPP (in BEMIP plan defined as regional integration project) was vital for national security purposes and was therefore in the state's interests. Combined Heat and Power (CHP), waste to energy and nuclear power plants were viewed as the best options for local power generation with other renewables employed only for balancing and private sector provision (Kubilius, 2013a). The opposition party criticised the government for its prolonged

hesitations and exerted pressure for decisions to be made (Kubilius, 2013b; 2013c; 2013d). After all the discussions about Visaginas NPP were repeatedly on and off of the political agenda until 2015.

The 2014 Russian-Ukraine conflict followed by the Russian annexation of the Crimea affected Lithuanian energy politics, considerably increasing the urgency of ensuring energy security. The Prime Minister admitted that "Europe is facing the new geopolitical reality....Russia's aggression against Ukraine brings us back to the forgotten reality of the Cold War" (Butkevičius, 2014). The political parties signed the agreement to accelerate the essential BEMIP strategic projects including Visaginas NPP and thereby defend them from the potential exercise of Russian "soft power" attacks (Kubilius, 2014b). Lithuania perceived Russia's revisionist politics as an existential threat and foresaw vulnerability first in energy security spilling over to military security (Kubilius, 2014c).

By the end of the year an LNG ship symbolically named "Independence" arrived in Klaipeda, Lithuania's principle port. Two to three billion m3 were expected to be degasified annually thereafter providing almost the entire annual volume of natural gas to be consumed in Lithuania (ICF, 2015, p. 3). In response Gazprom predictably re-assessed their price for natural gas. As a consequence, the average natural gas price reduced considerably for Lithuanian consumers: Gazprom was now competing with imported Norwegian gas (LRS, 2018).

Lithuania has also successfully implemented several significant developments in the electricity sector: the ownership unbundling model was chosen for unbundling the state-owned TSO "Litgrid AB" as per the Third Energy Package provisions²⁷, Lithuania joined the common Nordic electricity market (Nord Pool Spot) in 2012 and finally two important interconnectors with Sweden (NordBalt) and with Poland (LitPol-Link 1) have been installed in 2015 providing further integration into the common European electricity market and thus "contributing to a more reliable electricity supply, more stable prices and enhanced competition on the Lithuanian market"²⁸. The Baltic States were now connected to the Nordic and European countries for the first time. Lithuania commenced importing electricity not only from Russia and Belarus, but also from Scandinavia.

electricity. The government began planning a new NEIS reflecting global energy trends, geopolitical and national structural energy changes.

6.3. Period 2016 – 2019: the rise of renewables

In 2016 Lithuania adopted the Paris Agreement (LRS, 2016) and committed itself to reducing greenhouse gas emissions by 40 per cent by 2030 compared to 1990 levels. Climate change was discussed more and more in the context of energy security. Renewables, which had previously been largely omitted from the debate, suddenly climbed high up on the political agenda as suitable measures to protect the climate and increase domestic power generation.

The parliamentary elections at the end of 2016 witnessed a new political contributor – the Lithuanian Farmers and Greens Union - which formed a coalition government with the Social Democrats, the Electoral Action of Poles and Party of "Order and Justice". The new government unequivocally opposed having a nuclear power plant in Lithuania and officially "froze" the Visaginas NPP project (Lietuvos Rytas, 2016c). One of the Government's goals, "inherited" from the previous governments, was to stop the construction of Ostrovets NPP. In addition to official complaints to the EU and international organizations (albeit without success), in 2017 Lithuania adopted two laws targeting the Ostrovets NPP. The first law declared Ostrovets NPP unsafe (LRS, 2017a), and the second banned access to the Baltic/ Nordic electricity market produced at unsafe power plants (LRS, 2017b).

After a long period of stagnation and political disagreements among the Baltic States and Poland over how it should be achieved, the synchronisation project has finally witnessed progress: a political agreement was signed in 2018. It secured the EU's financial support for another underwater power interconnection between Lithuania and Poland (Harmony Link) and reconfirmed aspirations for full synchronisation by 2025. This development was particularly important considering Kaliningrad's energy infrastructure's upgrades performed by Russia in preparation for Baltic de-synchronisation: it enabled Kaliningrad independently to run the region. These upgrades included the new LNG terminal and four new gas-fired power plants.

The most recent revised NEIS approved in June 2018 includes no definition of energy security. But it envisages four main dimensions for consideration of Lithuanian energy policy -1. competitiveness, 2. energy security and reliability, 3. the development of green energy and energy efficiency, and 4. innovation. Lithuania's energy security is to be ensured by being part

of the EU's energy infrastructure, market and energy systems; having adequate capacity of electricity generation sources and alternative supply sources for natural gas.

Renewable energy is now viewed as the most important prospective energy source for domestic energy production and for meeting EU and global climate targets. The development of renewables is to be supported by various means, including financial. The table below summarizes renewable energy targets anticipated in the NEIS:

Renewable share	Current (2016 data)	2020	2030	2050
In the final energy consumption	25.5	30%	45%	80%
In the district heating sector	46	70%	90%	100%
In transport	4	10%	15%	50%
In the electricity consumption	17	30%	45%	100%
Domestic electricity generation	28	35%	70%	100%

TABLE 9. RENEWABLE ENERGY TARGETS AS PROPOSED IN THE LATEST NEIS (LRS, 2018).

The figure below provides a summary of key events.



FIGURE 11. SUMMARY OF KEY EVENTS 2009-2019

6.4. Determinants for renewable development. Hypothesis (partly) supported?

6.4.1. Environmental concerns (climate change and CO₂ emissions)

The interview data collected in this study endorse diverging views. Some policy makers confirmed that climate change and CO₂ emissions were motivating the new NEIS and renewables development. However other informants pointed out that Lithuania was one of the most ambitious EU countries committing to CO₂ emissions reductions and also adhering to those commitments. "Compared to the other industrial western countries which also like to talk loudly about climate change, Lithuanian consumers' behaviour was very climate friendly" (interviewee 1). "Neither our energy consumption nor CO₂ emissions are big" (interviewee 4). Indeed, total GHG emissions in Lithuania are one of the lowest in Europe since the 1990's (Eurostat, n.d.) as well as GHG emissions per capita (Eurostat, n.d.).

Several policy makers admitted that Lithuania has already reached previously agreed EU targets and should not be forced to do even more while the other countries remain far from theirs. They also noted that pollution levels in Lithuania are in full compliance with the EU climate change policy and as of today (2019) have reached the targets set by 100 per cent. One of the energy experts pointed out the cost and accessibility of energy (renewable or not) being more important than environmental concerns: "Old people for a long time were burning wood not because of (concern about) the CO₂ emissions, but because it is cheap, convenient and accessible. Such choice is smart as opposed to a stupid solution of forcing to use, for example, renewable energy because it is green".

It is worth noting that most interviewees when asked about the drivers of the NEIS pointed to the need for diversification of energy supplies and the need to eliminate dependence on Russia without mentioning climate change. They confirmed, however, that climate change and EU influence were important variables only after that consideration was put to them as a possible factor.

In conclusion, environmental concerns did make an influence on developing the strategy based on renewables but were not the sole determining variables for such a rapid acceleration.

6.4.2. EU membership

Most informants of this study agreed that EU directives regarding development of renewables and regional cooperation was important for the creation of the 2018 strategy. A few of interviewees emphasised the need to fulfil the commitments to the EU as a priority of the strategy. Others

particularly highlighted various EU funding programmes enabling, for example, "to improve competitiveness without increasing prices for heating" or develop big renewable energy projects like construction of combined heat and power plants using biomass (European Commission, 2019b). However, a few informants pointed out that the EU "forced" Lithuania to prematurely shut down Ignalina NPP (interviewees 1 and 3) and hence considerably worsened Lithuania's energy security and relationship with Russia.

On accession to the EU in 2004 Lithuania adopted all the required EU policies relating to climate change and renewable energy targets. Until 2015 Lithuania's renewable energy targets were in line with the minimum EU requirements. However, the 2018 strategy is considerably more ambitious with renewable energy targets exceeding most EU targets (European Commission, 2019c). As a consequence, it can be safely said that EU membership has certainly helped the promotion of renewables, particularly with regard to finances. However, this was not the most important determinant in Lithuania's case.

6.4.3. The Visaginas NPP

Until the end of 2009 when Lithuania's Ignalina NPP was in operation renewable energy sector was underdeveloped and expanding very slowly. A similar development was observable at the time of active Visaginas NPP planning. Only after 2015 when it was certain that the nuclear power project was not going ahead did renewable energy development gained an impetus and the 2018 strategy affirmed the plans for rapid acceleration. It would have been interesting to see how the nuclear power and renewables relationship would evolve had the Visaginas NPP been constructed. What one can conclude today is that renewable energy replaced the nuclear power on paper (in the strategy) and the suspension of the Visaginas NPP project definitely paved the way for more opportunities for renewables.

6.4.4. Energy security

The conducted discourse analysis demonstrated that for Lithuanian policy makers energy independence from Russia was the main goal and the necessary condition for the achievement of energy security. In other words, energy security was viewed from a sovereignty perspective and energy independence was the driving force for energy policies and strategies. It is worth noting that the economic aspect of high cost of imported fossil fuels was also part of the perceived energy insecurity. Paraphrasing the Speaker of the Parliament, Lithuania's priority was to escape the

energy isolation and become a full member of the EU power system as opposed to the different EU's concerns such as climate change, humanitarian crises in other countries or sustainable development issues (Lietuvos Rytas, 2010b).

Until 2015 renewable energy played a relatively small role and was not seen as a major contributor for energy security/independence. Such views are supported by other studies. For example, Aguirre and Ibikunle (2014) revealed that energy use is negatively correlated with renewables participation, implying that - under high pressure to ensure sufficient energy supply - countries have a tendency to employ fewer renewables and more fossil fuels, because it is more cost effective.

The year 2015 marked the turning point in energy security perceptions. That year Lithuania's LNG terminal started importing Norwegian natural gas in addition to Gazprom's and two grid-interconnections with Sweden and Poland had started running. Lithuania broke free from energy isolation and accomplished a much desired degree of energy independence from the perspective of policy makers (15min., 2015b, Vaitiekunas, 2015). At the opening ceremony of the LNG terminal the Prime Minister announced, "the beginning of our de facto energy independence" (Ministry of Energy, 2014a). President Grybauskaite declared:

It is a strategic energy project that will determine our future. We are now an energysecure state. The Klaipėda LNG terminal will play a very special role – it will be a security guarantee for the whole region. From now on, nobody will dictate us the price for gas – or buy our political will. Once again we have proved to ourselves and to the world that our nation can protect its independence. Lithuania's game-changing decision is manifested in the name of the vessel [Independence] that has arrived today (Ministry of Energy, 2014b).

The energy security perceived by policy makers compared with the measured energy security reported by the Centre of Energy Security Studies. Their studies clearly indicated an increased level of energy security due to LNG and grid-interconnections (Augutis et al., 2018). Figure 14 illustrates it.



FIGURE 12. DYNAMICS OF ENERGY SECURITY LEVEL IN LITHUANIA 2007-2016 (AUGUTIS ET AL., 2018).

As a result of the aforementioned successfully implemented projects Lithuania's energy security landscape "relaxed". This was also reflected in the political debates in the Parliament where politicians were contemplating the termination of the Ministry of Energy or merging it with the Ministry of Economy on the grounds that since Lithuania had already accomplished its most important energy independence goals (LRSK, 2016a, p. 41; Lietuvos Rytas, 2016c). The State Defence Committee have also stated "de facto" energy security" (Lietuvos Rytas, 2015b) and a year later confirmed this standpoint by prioritising other issues over energy security since "energy security has been achieved" (Lietuvos Rytas, 2016b). The improved energy security resulting from power connections to Europe and diversification of natural gas suppliers via the LNG terminal facilitated a daring shift in the energy strategy, now based on renewables. It also changed the perceptions of renewables as suitable for further enhancing energy security, not least from a climate change perspective. However, the relationship between energy security and renewables is non linear, and the initial hypothesis of "energy security being the main driver for renewables" was only partly supported by empirical data, and therefore called for re-formulation: "a higher degree of perceived energy security opened the window of opportunities for renewables". Energy security perceptions and perceptions of renewables were central in the policy change. These interpreted results are illustrated below.





FIGURE 13. RE-FORMULATED HYPOTHESIS "A CERTAIN DEGREE OF PERCEIVED ENERGY SECURITY IS THE DOMINANT DRIVER FOR RES ACCELERATION" WHEREBY ENERGY SECURITY PERCEPTIONS PLAY CENTRAL ROLE. ADAPTED FROM BEACH & PEDERSEN, 2013

7. CHAPTER 7 – DISCUSSION

Short summary of results

Energy security issues have been at the heart of Lithuanian politics ever since Lithuania's independence from the former Soviet Union. Politicians early on recognized Lithuania's vulnerabilities associated with the lack of primary energy sources, an almost absolute energy dependency from Russia and the absence of other energy supply routes or grid interconnections. Having joined the EU in 2004, but still being largely energy connected with Russia via natural gas pipelines and electricity system, the first priority of Lithuania's politicians was to break this energy isolation.

The discourse analysis undertaken in this thesis started with the data from 2009, at the time of Lithuania's only nuclear reactor shutdown, which forced Lithuania to begin importing electricity from Russia and Belarus and simultaneously increase natural gas imports from Russia for power production. This energy dependence on Russia, with its concomitant subjection to monopolist prices, was perceived by policy makers in Lithuania as the major threat. As a consequence, energy security has been equated with energy independence and even political independence, that is, a matter of national security. In fact, energy security threats were cited and prioritised in the 2012 and 2017 National Security Strategies. Lithuania as a state and its sovereignty were the referent objects to the energy dependency threat, although the interests of Lithuanian energy consumers were also often mentioned in the discourse. In the period of 2009-2012 policy makers prioritised integration projects with the EU as suitable counter-measures to energy dependence and energy isolation threats.

Two discourse coalitions have been identified regarding domestic power production strategies: pronuclear and anti-nuclear. Pro-nuclear discourse actors promoted Visaginas NPP as the most important regional project, which would exclusively guarantee energy independence and complete the restoration of independent Lithuanian state. In addition, construction of the Visaginas NPP was meant to be a showstopper for the neighbouring NPP projects (Kaliningrad and Ostrovets), which in turn were posing geopolitical and economic risks. The anti-nuclear discourse actors, consisting of the opposition parties, energy experts and scientists, argued that nuclear power was too expensive for Lithuania's taxpayers and maintained that the government should focus on the other projects, enabling integration with the EU and diversification of energy suppliers (grid interconnections with Sweden and Poland and LNG terminal). In their view, the capital costs of Visaginas NPP were a threat to Lithuania's budget, economy and a burden for taxpayers. It is worth noting that both coalitions viewed the neighbouring Kaliningrad and Ostrovets NPP projects as nuclear safety threats, threatening Lithuania's environment and people's health, but the same risks were not cited or presented as manageable for the national nuclear project.

The strategic focus was generally on nuclear power while alternative sources, including renewables, were not perceived as major contributors to energy security at the time.

At the beginning of the period 2013-2019 energy security discourse was dominated by Russia as a threat particularly in the aftermath of annexation of Crimea. Lithuanian policy makers viewed Russia as dictatorial agent with the capacity to employ monopolistic energy pricing in support of political objectives. This threat was closely linked to the issues of BRELL and Ostrovets NPP, both posing geopolitical, economic and safety threats. However, energy security, although still defined geopolitically as energy independence by the President and the opposition party, was increasingly viewed in "classic" terms, namely, the supply of energy at a reasonable price and alternative suppliers and sources, by the Prime Minister and the leading coalition. After 2015 other threats, such as climate change, information and hybrid wars (employed by Russia against Ukraine, but potentially targeting Lithuania too), appeared on the political agenda. There was an expressed urgency of closer cooperation with the other Baltic States and the EU on integration projects and decisions on domestic power production. Finally, after grid connections LitPol Link1 and NordBalt were installed and LNG terminal began its operation, the energy security landscape became more "relaxed". From this time on politicians focused on planning the new NEIS and renewables (mainly biomass/biofuel and wind) became the key energy policy priorities. Renewables were perceived as the most suitable measures to decrease import dependency, combat climate change and to help to meet EU climate targets.

The second part of the empirical analysis traced the sequence of events in the Lithuanian energy security context in the last decade. The results showed that EU membership, environmental concerns and the indefinite deferral of the Visaginas NPP influenced renewables deployment. However, the biggest enabler was perceived by policy makers to be **a higher degree of perceived energy security**, enhanced by grid connections and the LNG terminal. It was only when Lithuania

breached its energy isolation and the threat of energy dependence on Russia was considerably decreased, that the prospects of renewables significantly improved.

Discussion of the results

The results suggest the following observations.

First, energy security discourse is extremely politicized in Lithuania. Most informants as well as analysed texts identify energy as "a political issue". The government and policy makers regard themselves as responsible owners of energy issues and this legitimates their actions. In addition, the Lithuanian political elite frequently uses security jargons (see Heinrich & Szulecki, 2018) and military-style language such as: "existential threat", "escape", "fight", "protect people", "life-saving importance of integration". The view that energy dependence on Russia as an existential threat targeting the state's energy security and national sovereignty was particularly voiced by the Homeland Union/Christian Democrats Party in 2009 and continued throughout the last decade. This can be interpreted as a securitization move which is particularly evident in the nuclear power sector.

The analysis revealed evident securitization moves in two separate cases. First, Lithuania's Visaginas NPP, planned as a regional project together with Latvia and Estonia (and Poland initially). Securitizing actors (Lithuania's President and the Prime Minister with the leading party) presented the existential threat of energy dependence on Russia, thereby threatening political stability and Lithuania's sovereignty. Visaginas NPP was proposed as an extraordinary countermeasure. Visaginas NPP is not in itself an extraordinary measure since many countries employ this technology to meet their energy needs (for instance, France, Belgium or China), including Lithuania not so long ago. According to Heinrich & Szulecki (2018) extraordinary measures involve breaking norms, shifting competences and power and/or withholding or limiting information. This last device, withholding or limiting information, was exercised by the leading party and the government. The securitization process occurred when securitizing actors, who obtained capacity legitimately to speak and discuss energy security and nuclear issues, ignored the community at large and the opposition parties, by: negotiating with investors in secret; withholding economic analyses of the project; and generally keeping the overall project under a cloak of secrecy. Furthermore, according to some informants the Ministry of Energy was created specifically for the Visaginas NPP to protect it from local and foreign opponents' scrutiny. As a result of securitization, the audience (Lithuania's citizens) rejected in the referendum the government's measures as suitable. This was one of the reasons why Visaginas NPP was defeated. It constitutes an example of an unsuccessful securitization.

Another clear nuclear securitization case can be seen in the example of Ostrovets NPP. Lithuania's political actors, namely the President, the government and the Parliament, unanimously viewed Ostrovets NPP as an existential threat to Lithuania's national security, its people's personal and environmental health and adopted extraordinary measures - introducing laws, proclaiming Ostrovets NPP unsafe and formally denying access to the Nordic/Baltic market to electricity, produced at unsafe nuclear power plants. The last legal measure is considered controversial since Lithuania and Belarus are both connected via the BRELL, exchange various power balancing and reserve services and Lithuania imports electricity from Belarus. The other Baltic countries and the EU, although generally supporting Lithuania's stance regarding nuclear safety of Ostrovets NPP, did not agree with these extraordinary measures and, much to Lithuania's dismay, have not taken the same measures. In fact, Latvia has begun negotiations with Russia with a view to re-instating old power connections arguing that they could not afford the risk of electricity shortage, which is a very real possibility should Lithuania disconnect Belarus supplies. Whether this securitization move is successful, is yet to be seen, once Ostrovets NPP produces its first electrons. What is evident, however, is that domestic national interests of different countries matter and do affect foreign relations.

The second observation is related to perceptions of renewables. The renewable energy sector is not securitized, whereby policy makers view society and consumers/prosumers to be protected from a range of environmental and economic threats. Kustova (2018) suggests that "desecuritization is more likely to occur once the socio-economic role of the resource is viewed as non-strategic by participants". I believe this is the case in Lithuania. In addition, politicians seem willing to delegate some of their responsibilities to market-led instruments, for example, encouraging prosumer concepts in the solar power development and promoting technology-neutral renewables auctions. Those are indicators of depolitisation. They involve a reduced role for central/regional government in certain issue areas (Kustova, 2018). As a consequence, it can be reasonably be expected that the energy sector will become more and more decentralised and deregulated (regarding pricing, for instance) thereby opening up opportunities for more environmental and social aspects of energy security.

The third observation is that the political debate is visibly narrower regarding the symbiosis of energy security and renewables, which constitute late-comers in the discourse. Debates lack a constructive and holistic view and generally very few issues (namely intermittency and costs) are discussed. When mentioned, the discussion of renewables has been characterised by much optimistic rhetoric without much substance. Lithuania was so pre-occupied by the threats (realistic or otherwise) from the East, that the implications of renewables were not seriously considered. Consequently, this premature optimism and enthusiasm about renewables is troubling and can be viewed as irrational considering the experience of countries, which are far more advanced in renewables deployment, including, for example: balancing, storage, grid congestions challenges, notwithstanding geopolitical implications and the need for close regional cooperation. This lack of critical analysis regarding renewables can be attributed to lack of experience and the novelty of energy transition. Policy makers need to address these issues sooner rather than later if they are seriously to commit to their energy targets.

The fourth observation is that energy independence is a dominant aspiration in Lithuania's energy security discourse, stemming from geopolitical considerations. For Lithuania's decision makers, the most concerning vulnerabilities lie in the sovereignty perspective (Cherp & Jewell, 2011). The energy related issues derive from a foreign actor's (Russia's) actions, and threats are articulated out of fear of energy weaponisation: that is, utilising natural resources for political purposes (Kuzemko et al., 2016; Lillestam & Ellenbeck, 2011; Månsson et al., 2014; Smith Stegen, 2011). This is unsurprising given Lithuania's (and the region's) history which has been punctuated by painful historical memories. On top of historical reasons Lithuania's fears of invasion from the East were reawakened by 2014 events in Ukraine: these provided new material for Lithuanian politicians portraying Russia as a threat (Siddi, 2018). Russia is perceived as a mistrusted "Other", not least because Russia has shown little respect for the Baltic countries and refuses to act "on the basis of the objective pre-established norms and regulations" (Sprūds & Rostoks, 2009, p. 156). Lithuanian politicians do not think interdependence works with Russia, so have not pursued any ideas of cooperation or deepening this interdependence. On the contrary, they have pursued all the opportunities to minimize ties with Russia and embraced Western liberal values, with which Lithuania now identifies itself.

Were these threats real or perceived? Lithuania accused Russia of following a strategy of "energy diplomacy" for political gains rather than the principles of a market economy, and consequently

sued Gazprom (Molis, 2011). Some scholars argue that it is debatable, however, since Gazprom was exploiting its position as a monopolistic supplier, and hence was pursuing economic, not political goals, with the purpose of charging higher prices (Siddi, 2018). As Casier (2011) points out "a country will only be vulnerable if it has no escape route, no alternatives on offer" (p. 541). Following this argument, Lithuania's threats were real until 2015. However, after 2015 decision makers continued to repeat this narrative even though Lithuania had alternatives. (Geo)political motives over economic arguments can also be attributed to the wish to withdraw from the BRELL agreement. Since the 2001 BRELL agreement there have been no power supply shortages reported and even the European Network of Transmission System Operators for Electricity (ENTSO-E) indicates that "the tight connection of the Baltic States with Russia and Belarus provides reliable, flexible and secure system operation within the Baltic States and the whole BRELL ring" 29. Moreover, a 2013 feasibility study has shown that "even though synchronisation with the Continental Europe area is possible, the associated costs outweigh the commercial benefits" (Gothia Power, 2013). Another example is related to measures to attain energy security and energy independence, "which may be achieved by actively enabling domestic production and supporting domestic energy companies" (Kuzemko et al., 2016, p. 159). Lithuanian policy makers clearly prioritised import diversification first. This can also serve as a suitable policy option as long as it is economically efficient: that is, the cost of providing the security of supply would be lower compared to the marginal dependence cost (Bhattacacharyya, 2011, p. 475). However, in the case of withdrawal from BRELL, Lithuania chose to replace energy import dependency from one country (Russia) to the EU, thus practically constraining energy supply choices and potentially reducing the possibility of lower prices. These moves can consequently be interpreted as reducing energy security. It can also be concluded that policy makers securitized the energy issue by misleadingly using an energy independence narrative.

Finally, perhaps the most important observation, is related to the hypothesised explanation of what enabled rapid renewables promotion, that is, the increased level of perceived energy security. This result involves two aspects. First, it affirms that material energy realities matter in shaping energy security perceptions, and, second, it illuminates "the real" status of renewables in Lithuania. The energy security and renewables relationship is non-linear: the most pressing energy security issue

29 https://tyndp.entsoe.eu/2016/insight-reports/baltic-synchronisation/

– energy dependence from Russia – had to be taken care of *before* policy makers started to believe in renewables and dared to propose ambitious targets. This presents a case when "exogenous reasons such as happening or several happenings between two points in time, cause the actor to think differently about the topic" (Carstensen, 2011, p. 598). After 2015 perceived vulnerabilities transform from sovereignty to resilience perspective since energy independence had been "achieved". Hence renewables have also experienced a transformation in the politicians' perceptions as now being a suitable measure to further enhance energy security, increasingly from the evolved climate change perspective. It can be interpreted that energy security was a forceful driver for the latest strategy and renewables were to bring an additional – bonus prize – as a solution to climate change.

Some shortcomings and possible objections related to inferences can be drawn. One can argue, for example, that the essential grid connections and LNG terminal opportunities could be pursued only with the help of the EU financial funding: therefore, EU membership was more important over the energy security argument as a forceful driver for the strategy. It is acknowledged that these two variables are inter-connected and arguably overlap. I still argue, however, that EU membership was insufficient as shown by the examples of the other member states with far less ambitious targets. On the one hand the EU encouraged the development of physical infrastructure, provided financial support and acted as mediator when Baltic states could not reach agreement (Pakalkaitė & Posaner, 2019, p. 230). On the other hand, without strong political will and cooperation beetween the governments these projects would not have materialised.

Furthermore, it is recommended to expand the list of independent variables in order to further strengthen or weaken the energy security argument. For example, renewable energy prices as a variable were not included in my analysis, though their continuous capital cost reductions could be significant in choosing the renewable energy pathway compared to other sources.

This study adopted a combined Cherp & Jewell's (2014) and the revised Copenhagen Securitization School's approach to energy security through the lens of threats and vulnerabilities. It considered vulnerabilities as "political constructs defined and prioritized by various social actors" (Cherp & Jewell, 2014, p.419). It was deemed an appropriate tool to understand how energy security perceptions shape energy policy and their central role in policy making. The literature shows that renewables are being deployed at different rates in different countries. This is no

surprise as countries pursue different goals based on their perceptions. Energy policies are competing and can not be implemented all at once (Sovacool & Brown, 2010). Hence priorities matter: Lithuania concentrated on the safety of energy supplies while environmental concerns emerged later. This study therefore points to applying a similar approach in other countries in order to understand and advance policy making and learning. Recommended future research includes:

- ➤ cross-country comparative analysis of countries with similar issues
- follow up of the deployment of renewables and their implications. How are they perceived in relation to energy security?
- > re-assessment of energy security perceptions after synchronisation.

8. CHAPTER 8 – CONCLUSION

The objectives of the thesis were to examine "subjective" aspects of energy security perceptions in the Lithuanian context and to explain how energy policy in the power sector evolved between 2009 and 2019. Two research questions have been addressed:

- 1. How did Lithuania's policy makers perceive energy security in 2009-2019?
- 2. What drivers enabled the energy policy shift from nuclear power to renewable energy?

Due to the difficult historical past of the 20th century, being tightly connected with Russia (the former Soviet Union) politically and in energy terms, Lithuania has always striven for independence. Even though the country re-instated its sovereignty in 1990, up to this day *independence* has had a significant symbolic meaning for politicians and society at large and in various discourses is arguably persistently over-used, not least in energy debates.

Through the lens of vulnerabilities/threats perspectives (Cherp & Jewell, 2014; Cherp & Jewell, 2011), combined with referent objects and counter-measures from the revised Copenhagen Securitization School (Heinrich & Szulecki, 2018) and applying constructivist approach, this thesis aimed to scrutinise energy security perceptions and the role they play in energy politics. The study has shown that subjective energy security perceptions have had a significant role in shaping energy policy. Energy independence as a key condition for energy security was the dominant narrative in the political energy discourses in the last decade. Energy dependence on Russia was perceived as a major (even existential) threat to Lithuania as a sovereign state, its economy and consumers. Therefore, several counter-measures were adopted to balance that threat: 1. integration with the European grid market (via installed grid connections with Sweden and Poland and planned synchronisation project whereby disconnecting from BRELL ring and IPS/ UPS system); 2. natural gas supply diversification by constructing LNG terminal, and 3. increasing domestic power production. The last measure involved political power struggles between pro-nuclear and anti-nuclear discourse coalitions (during 2009-2012) which after a contested period of debates culminated with the emergence of renewables as a serious objective for development in 2018.

The second part of the empirical analysis concerned the hypothesis that energy security was the main driver for the latest energy independence strategy based on renewables. Key events during 2009-2019 depicted by conducting a process tracing approach revealed that energy security

expressed as a desire for energy independence was the most significant factor in driving the strategy, compared to environmental concerns, including climate change, and the influence of the EU. However only after Lithuania breached energy isolation and connected to European power systems (albeit asynchronously as yet), did the government gain confidence in renewables as major contributors to energy security. In other words, the positive shock of material energy change created a new political energy reality and opened the window of opportunity for the new policy for renewables. The hypothesis was therefore partly supported and therefore called for re-formulation: a higher degree of perceived energy security enabled rapid renewable deployment in Lithuania.

This study demonstrates that energy security perceptions have a significant role in shaping energy policy. At the same time, they were shaped by historical past, identities and perceptions of Russia as a dangerous "Other". Decisions were driven primarily by (geo)political motives while economic arguments were often pushed somewhat aside. This indicates that geopolitics/geoeconomics continue to play a role in international relations and is far from fading away. These considerations will most likely continue to influence policy decisions and relationships even in the renewable energy context, albeit differently and in more complex manner (see Criekemans, 2018; Hache, 2018; Scholten, 2018).

After much struggle Lithuania is finally breaking the last ties with Russia and entering a new, renewable energy world. This is a major achievement and a success story in the face of climate change threats. However, it is precisely due to this new threat that states need global action and cooperation especially with neighbouring countries. For the time being there are no signs of Lithuania and the Baltic States (perhaps with the exception of Latvia) being willing to cooperate with Russia. Yet, the perceptions involved are fluid entities and may change depending on international developments and domestic discourses.

Will renewables bring about more energy security? Or will Lithuania represent a policy case of jumping out of the frying pan into the fire? This proverb has today unfortunately become a harsh reality in some countries, though thankfully related to the terminal fossil fuels industry and not the renewable energy context. The implications of the development of renewable energy to energy security in Lithuania are still too early to assess. Critical analysis by Lithuania's policy makers is urgently needed.

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APPENDIX A. INTERVIEWS, POLITICAL STATEMENTS AND MEDIA SOURCES

List of interviewees

Nr	Affiliation
1	Member of Parliament, representative of Social Democratic Party and a member of Energy Committee,
	a former Prime Minister
2	Member of Parliament (one of the leaders of Homeland Union/ Christian Democratic Party)
3	Government official, working in the Climate Change Management Group (former Renewable Energy
	Department) of the Ministry of Energy
4	Government official, working in the Energy Security Group of the Ministry of Energy
5	Energy expert from an influential and highly rated think tank "Lietuvos Laisvos Rinkos Institutas"30
6	Energy expert affiliated in Vilnius University, specialising in energy policy and international relations
7	Energy expert from NATO Energy Security Centre of Excellence based in Vilnius.
8	Energy expert, who directly contributed in preparation of the latest energy strategy (affiliated in the
	Lithianian Energy Institute)
9	Energy expert affiliated in the Lithuanian Energy Institute

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³⁰ According to 2017 Global Go To Think Thank Index Report (McGann, 2018).
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APPENDIX B. INTERVIEW GUIDE

Energy security

- 1. How would you define energy security?
- 2. What is the connection between energy security and energy independence?
- 3. What are the main indicators/factors of Lithuania's energy security?
- 4. What are the main threats/vulnerabilities to Lithuania's energy security?
- 5. How would you propose Lithuania should deal with its threats to energy security?

Lithuania's Energy Independence Strategy (2018) and renewables

- 1. Is the new Lithuanian energy security strategy suited to achieve energy security for Lithuania? How is it better/worse compared to the previous 2012 strategy?
- 2. Will the implementation of the new strategy make Lithuania more energy secure? Evaluate through availability, affordability, reliability and sustainability indicators.
- 3. What were the drivers/enablers for the latest energy strategy?
- 4. How do renewables contribute to energy security in Lithuania?
- 5. In terms of energy security, what are the risks and benefits posed by renewable energy and how can they be managed?

Nuclear power:

- 1. How will Lithuania's energy security be affected by Ostrovets NPP?
- 2. Do you perceive the Ostrovets NPP a threat to energy security? Why or why not?
- 3. Why did Lithuania dis-continue the Visaginas NPP project? Is the door terminally closed?
- 4. Do you think Lithuania missed the opportunity to build its own NPP?

APPENDIX C. CONSENT FORM

Are you interested in taking part in the research project "Energy Security Discourse in Lithuania"?

This is an inquiry about participation in a research project where the main purpose is to explore and describe the energy security discourse in Lithuania in relation to the new energy independence strategy and renewables. In this letter, we will give you information about the purpose of the project and what your participation will involve.

Purpose of the project

The project is part of a Master's thesis, focusing on the energy security discourse in Lithuania. The purpose of the project is to examine subjective energy security perceptions by policy makers in Lithuania and understand the strategy shift from nuclear power to rapid acceleration of renewables. Views and opinions of policy-makers, energy experts and officials will be of interest. The main research questions are: How is energy security perceived in Lithuania? How do energy security perceptions shape the debate over the country's energy policy? What enabled the latest strategy based renewables?

Who is responsible for the research project?

University of Stavanger is the institution responsible for the project.

Why are you being asked to participate?

My research is seeking views from policy-makers and energy experts, who contributed to the energy independence strategy creation and have the deepest understanding of the issues.

What does participation involve for you?

I would like to have an interview with you lasting up to one hour. The interview includes questions described above. I will record the interview and I will take notes.

Participation is voluntary

Participation in the project is voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. All information about you will then be made anonymous. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy - how we will store and use your personal data

We will only use your personal data for the purpose(s) specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act).

- The data collected will be accessed by student and supervisor.
- I will replace your name and institution you work for with a code. The list of names, contact details and respective codes will be stored separately from the rest of the collected data
- Participants will not be recognizable in publications.

What will happen to your personal data at the end of the research project?

The project is scheduled to end 15.01.2020. Personal data, including any digital recordings, will be deleted at the end of the project.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with University of Stavanger, NSD – The Norwegian Centre for Research Data AS has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- University of Stavanger via Associate Professor Thomas Sattich, by email: thomas.sattich@uis.no or by telephone: +47 51 83 27 97.
- NSD The Norwegian Centre for Research Data AS, by email: (personverntjenester@nsd.no) or by telephone: +47 55 58 21 17.

Yours sincerely,

Project Leader Student (Researcher/supervisor)

Consent form

I have received and understood information about the project "Energy Security Discourse in Lithuania" and have been given the opportunity to ask questions. I give consent:

- \Box to participate in an interview.
- □ to participate in Skype calls and email communication.

I give consent for my personal data to be processed until the end date of the project, approx. 15.01.2020

(Signed by participant, date)