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ESTONIAN AND LITHUANIAN ENERGY SECURITY: A CHANGE IN THREAT
PERCEPTIONS IN RELATION TO RUSSIAN NATURAL GAS IMPORTS FROM 2009-
2020

MA thesis

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I have written this master's thesis independently. Any ideas or data taken from other authors or other sources have been fully referenced.

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List of abbreviations and acronyms

EU – European Union

TFEU - Treaty on the Functioning of the European Union

BEMIP – Baltic Energy Market Interconnection Plan

GIPL – Gas Interconnector Poland-Lithuania

NATO – North Atlantic Treaty Organization

BRI – Belt & Road Initiative

IEA – International Energy Agency

LNG – Liquefied Natural Gas

CEN - Continental European network

TJ – Tera joule (measurement unit of energy)

TWh – Terawatt hours

TPES – Total primary energy supply

TFC – Total final consumption

3SI – Three seas initiative

Bcm – Billion cubic meters

QUAD - Quadrilateral Security Dialogue

Introduction

The aim of this thesis is to evaluate the evolution of the energy relations of the Baltic states of Estonia and Lithuania in parallel to an escalating sense of threat perceptions vis a vis Russian natural gas imports. Estonia and Lithuania were chosen as case studies because even though they are similar regional entities tied together by their 100% dependence on Russian natural gas, they demonstrate several differences in their respective energy domains, which is why it is significant to evaluate if they chose to exhibit a similar response to threat perceptions. The period of study for this research paper is from 2009 to 2020 because it includes events and developments in the region that may have caused feelings of threats or risks to emerge triggering the evolution of the energy sector and energy securities of the two nations of Estonia and Lithuania.

The paper will thus evaluate the energy policies, energy backdrop, energy mix and evolving measures in the energy domain of Estonia and Lithuania to evaluate if the Russia-Ukraine gas crises of 2009 and the Crimean annexation in tandem with other factors such as high dependence and consequently escalating threat perceptions triggered a reaction in these states and what measures, if they did, Estonia and Lithuania took to enhance their energy security as a response to the crucial developments and the associated feelings of threats in the region and if these responses were similar. The challenges and hurdles in the domain of energy relations for Estonia and Lithuania will be examined and it will be studied how the two states had many differences in the domestic scenarios of energy dependence on Russia, for example, in the volume of gas import, the percentage of usage of gas in the total domestic consumption, their domestic energy mixes and capacity for domestic production and challenges to implementing diversification plans. It will be assessed if in light of these differences in the domestic energy scene, did Estonia and Lithuania react differently or did they exhibit similar responses to the perceived Russian threat. The theoretical framework of the study will be Stephen Walt's Balance of threat theory, the aspects of which will be customized to study the domain of energy and energy relations.

Energy security is of the utmost importance since it can be crucial in maintaining national security. As demonstrated in the energy crisis in Ukraine, energy can go above and beyond the realm and can prove to be detrimental to national interests. Dependence on Russian natural gas imports have consistently been a sore point for the Baltic nations, steadfastly remaining one of the legacies from their Soviet heritage. Events such as the annexation of Crimea, the shutting down of crucial nuclear plants such as the one at Ignalina in Lithuania and 100% gas imports from Russia have only served to heighten the energy insecurity in the region, which is why a study focusing on the energy policies and their evolution in the Baltic nations of Estonia and Lithuania is significant. Such studies can highlight the importance of maintaining energy security and the significance of diversifying options and can lend insights into if and how states respond when confronted with an acute sense of threat perceptions and how these responses can be categorized from a theoretical perspective.

Thus, the research puzzle here is to investigate how states react when encountering another powerful state on which the former exhibits a level of dependency and how this dependency in tandem with other factors can heighten the existing sense of threat perceptions. In the case of this thesis, the research puzzle revolves around Estonia and Lithuania in relation with their energy relations with Russia as a primary and sole supplier of natural gas. When this dependency and other events and developments that exacerbate the same triggers feelings of threat perceptions, whether real or imagined, in the domain of energy for the dependent states, how do they react to this threat? Do these states then adapt measures to align with the threatening power or do they take concrete steps to move away from this alleged threat, or in terms of Stephen Walt's Balance of threat theory, do the states balance or bandwagon? The study of this phenomena thus constitutes the main research puzzle for this thesis. Additionally, an aspect that needs to be investigated is that when states are indeed dependent on this seemingly threatening supplier state, do they react or respond in the same way even if there are considerable differences in the various elements of the dependency.

This thesis aims to explore the data surrounding Russian natural gas imports for Estonia and Lithuania from 2009 to 2020 and analyses if this period symbolizes a significant change for the energy policies of these countries. The research question that forms the crux of the study is how did the energy policies of Estonia and Lithuania develop during 2009-2020

in context of the threat perceptions centered on Russia and what explains these policy developments?

The data will involve a mix of quantitative and qualitative. The research involves qualitative analysis as documents and news stories will be analyzed. The sources for this research paper are drawn from data on the economic and energy sectors of Estonia and Lithuania. Data is drawn from the energy ministries of Estonia and Lithuania and also from the website of Eurostat. Other data sources include data from the IEA, GEA and news reports from media organizations in the Baltic. The author also conducted semi-structured interviews with energy experts from Estonia and Lithuania to fulfill the research ends.

The paper consists of three parts. The first part is a literature review and encompasses sub-chapters the first of which focuses on the Baltic states' dependence on Russian natural gas imports, following which the subsequent sub-chapter deals with the respective energy relations of Estonia and Lithuania. The subsequent sub-chapter delves into the various factors that have proven to be a hurdle for the energy securities of Estonia and Lithuania. The second chapter is a look into the Balance of threat theory and how this particular theory can be utilized to comprehend energy relations veering from its conventional path of examining power relations, after which the data sources and methodology used for this paper are described. Chapter 2 goes into detail on how the balance of threat theory is used to study 'gas power', following which the sub-chapter applies this theory to analyze if Russia fulfills the criteria to emerge as a threatening energy power. The following chapter 3 analyzes if Estonia and Lithuania did in fact make a move to balance or bandwagon against the possibility of Russia being perceived as a threatening energy entity with the following sub-chapters devoted to the respective responses and reactions of Estonia and Lithuania. The following sub-chapter delves into the role of the EU in bolstering the energy securities of Estonia and Lithuania and the last sub-chapter in this section evaluates the responses of Estonia and Lithuania through the framework of balance of threat theory and the concepts of 'balancing' and 'bandwagoning'.

Keywords: Energy security, energy supply, natural gas, energy consumption, threat perceptions

CERCS code: S170

1. Literature review: Baltic energy politics

The aim of this chapter is to assess the energy relations of the Baltic region in general and Estonia and Lithuania in particular, in addition to evaluating the theoretical literature that explores these issues. The dependence of the Baltic states on Russian gas imports will be discussed as will be the factors that contribute and sustained this dependency.

The main research question that guides this study is: how did the energy policies of Estonia and Lithuania develop in context of threat perceptions centered on Russia during 2009-2020 and what explains these policy developments?

1.1. Energy relations of Estonia and Lithuania

This section will give an overview of the state of energy relations of Estonia and Lithuania. Therefore, the thesis will discuss briefly the aspects which characterize both countries' energy policies, starting from the European Union's common energy policy and moving on to the national specificities. The following section will give an overview of the factors that confront Estonian and Lithuanian energy security and thus accentuate the sense of energy insecurity.

Estonia was dependent on Russian gas imports and the energy equation between the two triggered wariness in Estonia about the potential threat that Russia may pose as an energy supplier nation that also once occupied Estonia. Some authors, such as Tarus & Crandall (2018), found instances of Estonia balancing away from Russia by taking measures such as reducing the volume of gas imports from Russia, and investing in alternate projects like energy cables, power plants and wind parks.

In a study of the challenges and choices that the Lithuanian energy sector is confronted with, Baran (2006) elaborates on three principal ways that this energy security is vulnerable. First, the extreme dependency of Lithuania on Russian energy imports brings with it considerable risks. Second, this dependence on Russia was exaggerated when the Ignalina nuclear power plant was shut down. Finally, the Nord Stream, which is Russia's plans to divert gas to Western Europe by bypassing the Baltics will fortify the label of the 'energy islands' that the Baltics was associated with. Lithuania's energy independence thus depends on countering these various factors. (Baran, 2006)

In a twist Russia and Lithuania's energy interdependence is highlighted by Misik & Pracharova (2016), arguing that Lithuania in 2014 was in a position to nullify Russian dependence because it itself was key as a transit of Russian supply to the Russian enclave of

Kaliningrad. However, they do admit that Russia is more willing to use the ‘energy weapon’ as compared to Lithuania and also that Russian ‘reliance’ on Lithuania is extremely low (from the perspective of portion of gas imports). Critically, the authors say that securitization of energy can be connected to a perception of limited energy security rather than actual low levels of energy security.

According to Umbach (2015), several political developments such as the Russia-Ukraine gas crisis of 2009 and the Crimean annexation in 2014 made the Russian threat more acute for the Baltic states, what with the energy dependence on Russia, especially in the context of gas imports already being a lingering issue.

The heavy presence of Gazprom in the domestic gas domain of the Baltics may have also added to the perception of Russian threat. Gazprom had some added advantages during the process that ushered in privatization and sales in the gas sector in the Baltic states in 1992. The governments in these states made it possible for Gazprom and Itera, to acquire large stakes in the gas companies that were endemic to the states of Estonia and Lithuania (Grigas, 2012, pp. 36-56). The gas disputes of Gazprom with Ukraine in 2006 and then Belarus in 2007 and also the Russian conflict in Georgia in 2008 should have then galvanized the Baltic states to take action that would better consolidate their respective energy security.

The theoretical literature has revealed that the authors agree upon the issue of energy security being highly controversial in nature. However, this thesis will examine how the Baltic states of Estonia and Lithuania amended or adjusted their respective energy policies as a response to the developments in the region and whether this was a reaction to perceived threats or exacerbation of existing threats.

It was the Ukrainian crisis of 2009 that underscored how energy disruptions could attain severity in light of such disputes and made the Baltic states painfully aware of their own vulnerability and lapses in energy security. This period is crucial because this was also when the Ignalina nuclear plant of Lithuania, which was key in supplying a large fraction of the state’s energy needs was decommissioned. Thus, this factor combined with the increased dependence on Russian gas imports and Russia’s aggressive policies in the region vis a vis Crimea should have made the perceived Russian threat more pronounced. This is thus logically the period when Estonia and Lithuania should have strategized to develop their energy policies.

In 2014, the EU orchestrated a gas stress test that was used to evaluate how resistant or vulnerable the European energy system was to a possible gas crisis. The test went on to show that along with Finland, Bulgaria and Hungary, the Baltic states would bear the brunt of such a crisis (European Commission, 2014b). This was a period when the Baltic states demonstrated absolute dependency on Russia for their gas imports, importing 100% of natural gas and the report reflected the implications.

The report says, “the most affected Baltic, Central and Southeast European Member States and Energy Community Contracting Parties are however very likely to have to undertake curtailment of non-protected customers, particularly towards the end of the modelled period. Cooperation is therefore key as, for instance, in the Baltic region the position of the Inčukalna storage is so crucial that, if it cannot rely on it, Estonia would run out of gas to even supply its protected customers within five days”. (European Commission, 2014b, pp. 16-17)

When looking at Estonia from a Baltic perspective, the country seems to be most inclined to be relatively more energy independent as compared to its regional peers. Estonia was prominent as the least dependent state on energy imports not just in the Baltics but also in the entire EU, second only behind Denmark. Estonia’s import dependence was much lower than what was the EU average, not to mention its domestic energy mix of shale oil and renewable energy sources (Whist, 2009, p. 106). Moreover, what makes Estonia relatively more self-reliant is the low share of gas in the energy mix. (Whist, 2009, p. 106). Thus, it can be argued that Estonia would not be as vulnerable to pressure in the domain of energy as compared to its Baltic counterparts.

Estonia’s dependency was also mitigated by the fact that its domestic shale oil contributed to 60% of domestic energy consumption. Shale oil in Estonia was at a whopping 81%, while further renewables accounted for 15.2% as of 2012. In contrast to its regional cousins, Estonia is also the smallest of all the Baltic state in addition to having the smallest number of populations. This small size thus translates into diminished demand for energy sources and ultimately imports. Moreover, because of its shale reserves Estonia is also the most energy independent of all the Baltic states, in addition to having lowest demand for gas in the region as well. (Dudzinska, 2012)

Meanwhile, in the context of Estonia’s total energy supply, gas made up for a measly 10% or in other words, 0.7 bcm. (Umbach, 2015) But in 2009, Estonia too was importing

100% of natural gas from Russia. Moreover, during this period the Russian energy giant, Gazprom had significant stakes in this Baltic states' natural gas companies. Thus, Gazprom wielded 37% of stakes in Estonia's Eesti Gaas. An additional 10% of stakes in Eesti gas was also incidentally owned by ITERA, which was yet another gas company originating in Russia. (Hoellerbauer, 2017)

In spite of Estonia's relatively lesser dependence, Estonia as part of the Baltic states, was considered to be one of the 'energy islands', a rather murky term that seemingly demonstrated the states' physical isolation from the common European energy sector and their heavy dependence on Russian energy imports. Even though this dependence is largely tuned towards gas and electricity, it was a factor that imperil Estonian energy security, at least from a theoretical perspective. However, all things aside, the energy sectors in the nation still lacked the wherewithal to consolidate a full or drastic reduction on Russian energy imports.

Furthermore, from a contemporary perspective Estonia's ample shale oil reserves may not be ideal since it has been under increasing scrutiny in recent years because of the conflicting stance it takes with regard to the EU's environmental position. Shale oil is one of the most polluting fuels and with possibility looming for the EU's green policy on trading in carbon dioxide emission allowances to be tightened the future of shale oil may well be questionable, not to mention that these restrictions will also lead to a parallel rise in the price of shale oil through the next half decade. A major fraction of Estonia's CO₂ emissions is triggered by its vast shale oil industry (ERR, 2021b).

Thus, even though Estonia is much better poised relative to its Baltic peers thanks to its unique energy mix and less dependency rates, the reliance on a single source of fuel such as shale oil creates a paradoxical vulnerability. Estonia had large reserves of shale oil that secures its domestic energy market, but the future of this highly polluting fuel may be questionable since it may acquiesce to more environmentally friendly alternative directives launched by the EU. As late as 2021, Estonia has used shale oil to fuel 70% of its primary energy supply and thus any uncertainty over shale oil's future will have a significant impact not just on Estonia's energy security, but the Baltic region as well. (Pederson, 2014, p.9)

Lithuania was also dependent on Russia for its gas imports in 2009, sourcing 100% of Russian natural gas, in addition to bearing the brunt of high prices for the natural gas supply. Moreover, in 2009 in Lithuania, the shutdown of the nuclear reactor that was located in

Ignalina, a primary element in generation of domestic energy needs, considerably changed the power dynamics in the state, curtailing its energy independence significantly. This loss of energy needed to be accounted for by relying on usage of other fuels and by an incline in energy imports. The reshuffle in the energy dynamics thus prompted the Lithuanian authorities to source expensive gas and the costs incurred were reflected in rising heating costs. The energy dependence rate of Lithuania shot up after Ignalina was shuttered down following which in 2010, the state's dependency rate registered a massive 60% incline. The shift in power dynamics was inevitable as Ignalina was Lithuania's biggest source of domestic energy. (Asymmetric Operations Working Group, 2015)

In 2012, Lithuania was most dependent on Russian gas imports in absolute terms, importing 3.3 billion cubic meters. In terms of percentage then Russian gas formed 27% of the total primary energy consumption in Lithuania, while in Estonia it was a mere 9%. (Mauricas, n.d) When examining the use of gas imports on a sectoral scale, Lithuania had the highest relative exposure to Russian gas imports because gas was being used extensively by the country's industrial companies. On the other end of the spectrum, industrial companies in Estonia did not have much to do with gas imports. Moreover, the climate conditions prevalent in the Baltics during winter means that gas is used widely for generating heat, with this share of the gas used in heating being 48% in Estonia as well as Lithuania. (Mauricas, n.d)

In sharp contrast to Estonia in 2012, Lithuania exhibited a heavy dependence on Russian gas imports and thus stood out as the most vulnerable of Baltic states as regards its 100% import of gas from Russia, while share of gas in its national energy consumption was 37% (Umbach, 2015). As Ignalina shut down Lithuania's energy security slid down in 2009 and since this plant contributed to 70.7% of the electrical needs of Lithuania, this was a sharp blow for its energy security. These factors in turn accentuated the country's dependence on Russia for energy imports, thus triggering issues on the overall energy security of the Baltics. (Umbach, 2015)

In 2014, Gazprom had a 37% stake in the domestic gas company of Lithuania, Lietuvos Dujos. With such considerable stakes in the domestic gas markets of the Baltic states, Gazprom could successfully influence strategies and policies that were the cornerstones of these companies. In the aftermath of 2014 though, the new European regulations that came into the fore caused Gazprom to kick off selling these stakes in the Baltic gas companies. (Hoellerbauer, 2017)

On a slightly optimistic note, Lithuania retains the status as the only Baltic state that serves as a transit point not to the EU nations, but to the Russian territory of Kaliningrad. Estonia did not and still does not have the advantage of serving as transit point for transport of Russian gas. The territory of Kaliningrad is cut off from the main Russian mainland and one has to cross through Lithuanian and Belarusian territory to get to it. Therefore, since the 1990's Lithuania wielded the advantage of serving as a gas transit point for Kaliningrad, thus acquiring a sort of tacit promise that gas supply to Lithuania would never be disrupted since any interruption would also affect Kaliningrad. Furthermore, this factor has been used by Lithuania on multiple occasions to set conditions with Russia (Drezner. 1999, p. 217). However, Russia acknowledging this interdependence with Russia has taken a two-pronged approach to eliminate this dependency by working on massive gas storage facilities and also linking Kaliningrad to the infamous Nord Stream pipelines.

Energy security has been a key factor that allows to make clear distinctions between the domestic circumstance of Estonia and Lithuania. When the energy security levels of the Baltic states were compared by Vytautas Magnus University (2015), especially in context of the levels prevailing in the gas sector, it was found that they differed most markedly in the gas sector, making it one of the critical aspects that dictate overall energy security of a state. Moreover, this study conducted surveys among the population of Lithuania on opinions on Russian imports and the general energy situation in Lithuania. The findings of the survey revealed that opinions among the Lithuanian population had undergone a shift in the aftermath of the occupation of Crimea by Russia. After the events that supposedly showcased Russia's offensive intentions, respondents of the survey were more aware about the energy sector with a greater number of respondents agreeing that energy issues should be controlled by domestic factors while more respondents developed feeling of distrust towards Russian energy policy. (Vytautas Magnus University, 2015, p.22)

Post the wariness that perhaps triggered fears on energy security, Lithuania along with its Baltic counterparts should have thus taken steps to combat the risks of being energy dependent on Russia and adapted measures to counter the risks accordingly. As the Tables 1 and 2 demonstrate the states vary in their levels of dependency and the quotient of fuels in the domestic domain. The Tables 1 and 2 show the energy mixes and energy dependence rates of Estonia and Lithuania in 2013. Both states relied on a mix of natural gas, petroleum products,

solid fuels and renewable energy sources. However, the two states are tied together by the conspicuous 100% imports of Russian natural gas.

Table 1
Energy mix of Estonia and Lithuania in 2013

	Natural Gas	Total petroleum products	Solid fuels	Renewables
Estonia	8%	15.5%	64%	19.9%
Lithuania	35.5%	40%	4.5%	20%

Source: Compiled by author based on data from Statista, 2013; Statista, 2013a; Eurostat news release, 2013b

Table 2
Energy dependence rates of Estonia and Lithuania in 2013

	Natural gas	Total petroleum products	Solid fuels	Overall dependency
Estonia	100%	59.9%	-.1%	11.9%
Lithuania	100%	93.2%	99.7%	78.3%

Source: Compiled by author based on data from Statista, 2013; Statista, 2013a; Eurostat news release 2013b

Although energy security is a shared competence between the EU and its member states Bjorkman (2009) argues in the context of the EU that a common policy is reflective of cooperation, solidarity, agreement, in addition to conveying a sense of unity among the member states of the EU on specific issues that are critical or significant. Moreover, he says that this unanimity is accomplished through Europeanization or in other words when the decision-making mechanism reaches the supranational level. Since Estonia and Lithuania are member states of the EU they too need to have a common energy policy that reflects the solidarity in the Baltic region.

When it comes to the Energy Union, the EU aims to address issues in the energy domain such as import dependency, limited diversification and high energy process, security risks affecting supplier and transit states among others. Every member state, however, according to the tenets of Article 194 (2) of the Treaty on the Functioning of the European Union (TFEU), (EUR-Lex, 2010) has the right to customize its energy domain in sync with

its specific needs and distinct choices for energy even though certain areas of the policy demonstrate a tendency for a common energy policy. Thus, the central focus of the EU energy policy is to induce measures that seek to usher in security of supply, in addition to a fully integrated energy sector.

The objectives of the Energy Union of 2015 are most significantly to diversify Europe's energy sources and establish energy security through solidarity. Moreover, it also aims at ensuring a fully functional integrated energy market, which would be conducive to seamless energy flow through the bloc. Critically, the objectives also target reducing dependency on energy imports and to enhance the efficiency of the energy sector. Other objectives include gradually moving towards a low carbon economy and to promote clean energy technology. (European Commission, 2017e)

The Energy Union, however, falls short of evincing a common policy. It is a lack of a common regional energy policy that was also the bane of the Baltic states. The Baltic states of Lithuania and Estonia have taken steps to increase their energy security over the years. However, this diversification trajectory is separate for the states rather than being part of a cohesive part of common diversification plans. All the states are markedly different when it comes to the determinants that dictate their respective energy policies, even though they are united in their Russian energy dependency, with common priorities also being sought in sync with domestic intricacies. This may be stemming from the different energy mix that defines the energy sector of the individual Baltic states and may even prove to be a challenge when it comes to cooperation in the field of energy. (Dudzinska, 2012)

1.2. Factors challenging Estonian and Lithuanian energy security

Ever since the disintegration of the Soviet Union, Russia has seldom ceased its attempts to maintain its influence on what it perceives to be states within its former sphere of influence. These include Estonia and Lithuania, where the Russian state tries to exert influence on their economy and political landscape. Russia tries to exert control by demonstrating its hold over the transit and energy infrastructure with measures such as disruptions to supply, high prices levied on supply of gas and establishing of close relations with the political elites in these countries. The integration of the Baltic states with the EU was thus not as swift and seamless as one would have liked it to be. A factor that was working in favor of Russian attempts to maintain its influence were the political elites in the Baltics who were veering between the newfound inclination to adapt to the new EU-NATO landscape and

the reluctance to let go of the cooperation with Russia which was deemed to be economically beneficial.

Estonia and Lithuania share the legacy of their Soviet past and furthermore also share their energy dependence on their Soviet neighbor. Especially after the events that triggered these worries such as the gas disputes between Russia and Ukraine in 2006 and 2009, the 2014 incursion into Ukraine and the eventual annexation of Crimea in addition to the Donbas military intrusion, the Baltic states have become serious enough to acknowledge that a united front could be a factor in standing up to a neighbor as formidable and powerful as Russia. Despite these factors, a deeply united front had not yet emerged in the domain of energy, which was unfortunately riddled by a deep discrepancy between regional and unilateral policies, not to mention national policies that did not do much to combat energy dependence either. Thus, these weak and patchy responses to energy security challenges had far reaching effects.

Foremost, it reflected the failure of the energy union to implement a common aspect to energy policy of the EU. Furthermore, the chinks in the Baltic armor provided Russia with the ability to flex its diplomatic muscles and use its geopolitical influence to thwart the Baltic region's attempts to diversify its energy supplies. The lack of a unified front when it came to energy issues was a result of absence of inter-regional agreements between the relevant actors. This was succinctly captured by the Baltic Security Strategy Report (2020, p. 120) that said, "Regional cooperation is also limited by the domination of the self-help principle and the lack of trust among the states." Cooperation in the domain of energy in the Baltics region was thus surprisingly lackadaisical given the wide spectrum of challenges that Estonia and Lithuania faced. Often, a cohesive regional energy policy or measures were trumped by national or domestic priorities of the Baltic states. Moreover, because of the different levels of dependence that the nations demonstrated, the level of urgency to diversify may also have varied. For instance, Estonia was not as dependent on Russia on the same level as Lithuania and therefore was liable to not exhibit the same level of enthusiasm to cooperate on issues of energy security, in addition to lack of agreement on specific methods of implementing the synchronization of the Baltic electricity grid with the Continental European network (CEN) and locations of LNG terminals in the region. Motives pertaining to small term national gains thus trumped regional policies that could alleviate the Russian energy dependence factor.

This absence of cooperation and unity in the energy field had ultimately led to a regional level approach that is still uncoordinated and lacks a specific trajectory. (Riva, 2020).

Moreover, during the period of this study there were other factors that posed a hurdle to cooperation in the Baltic energy domain such as the fact that energy markets were relatively small, the states were confronting high levels of energy dependence, and production on the domestic front was not exactly profuse. All these factors did not just diminish energy security of the region, but also laid bare their susceptibilities in the energy domain. The Baltic states do not just share complicated relationships with their Russian supplier, but this complexity is reflected in the ties of Baltic states with each other as well.

Even though they had shrugged off their Soviet identity, symbolically the Baltic states were still bound to the old occupier, Russia, through energy dependency. The result was that this energy insecurity prompted Russia to call the shots and indulging in coercive measures such as levying high prices for gas while the Baltic states had to constantly deal with the possibility of a cut-off or short-term disruptions. Lithuania's energy dependence on Russia faced a sharp incline as its nuclear plants were shut down as part of the larger process to accede to the EU. In 2009, Lithuania's last nuclear reactor was shut down with the state's energy import dependency registered a swift spike as it climbed from the earlier 50% to 80%. (Pederson, 2014, p.9)

Yet another factor that works in the favor of the Russians when it comes to the Baltic energy domain is that the Baltic states with the exception of Lithuania (transit only to Kaliningrad and not the EU) do not serve as transit points for further supply to other EU nations. Thus, this ensures that in the case of a potential supply disruption by Russia, Estonia and Lithuania cannot be certain that the EU would put pressure on Russia to resume supplies. From an argumentative perspective, Russia would think twice about disrupting supplies if it felt that this disruption would have ripple effects on other EU nations as well. Even Ukraine serves as a transit point which is why when gas supply was disrupted to the nation, the EU immediately scrambled a coordinated response to Moscow in 2009. Perhaps, these fears are unfounded as being members of the EU and NATO, any ill effects on the Baltics nations would almost certainly elicit a response from the EU.

In the case of the Baltic energy domain, the main culprit that creates issues is ironically not higher levels of energy dependence per se, but the potential security risks and possible implications and threat perceptions that accompany such dependence. Moreover, the

import levels and thus dependency factor among the three Baltic states vary widely, with Estonia's dependence being way below the EU average while Lithuania's dependence not only exceeds the EU average but goes much higher. Thus, it emerges that energy dependence in itself does not create security risks, but it is a lack of diversifying options that actually stokes this risk and thus leads to threat perceptions. (Grigas, 2012, p.78)

Estonia and Lithuania joined the EU in 2004, extending their allegiance to this new body by also allying with NATO in the same year. Perhaps, being a part of these organizations and finding themselves to now being part of the powerful EU, these two states entered a state of complacency regarding their relationship with Russia. However, it was the events that started with the Ukrainian gas crisis leading on to the annexation of Crimea and their own dwindling energy securities and intensifying threat perceptions that should have had the Baltic states question the level of their own security once again, this including the critical domain of energy security since Estonia and Lithuania were still connected to the Russian gas infrastructures with 100% natural gas imports from Russia.

In the aftermath of the developments which highlighted their own energy security vulnerabilities, Estonia and Lithuania should have been compelled to reevaluate their energy nexus with Russia. In light of the events, the authorities in these states should have been wary not of a direct military intrusion by Russia, but of indirect measures used for economic and political coercion, such as energy disruptions. The states could have feared that this could directly affect their territorial integrity and could also influence the internal security apparatus. In other words, the states should have logically mounted a response to increased levels of threat perceptions.

Thus, the developments in the region should have forced the Baltic states to go ahead with measures directed at weaning away from Russia gas imports and fortifying the levels of their own energy security. Ironically, these circumstances would have been ideal for affecting such drastic changes since there would have been little or no resistance from factions within the government or sections of society that were inclined towards pro-Russian sentiments. Before the developments forced these nations to reevaluate their energy securities a key argument that was used against attempts to diversify away from Russian gas imports was that sourcing gas from other regions would not be economically feasible. However, aggressive actions by Russia during 2009-2020 highlighted and brought to the fore once again of how

important energy security was in maintaining the overall security situation in the Baltics. (Hyndle-Hussein, 2015)

Table 3 demonstrates the various challenges that confronted Estonian and Lithuanian energy security in 2009. Even as both states were importing 100% of Russian natural gas, they also were battling other factors such as being connected to the old Soviet pipelines and being isolated ‘energy islands’ cut off from other potential suppliers. Gazprom controlled large stakes in the domestic gas companies of both states and the lack of regional cooperation did not lead to any breakthroughs in the energy domain. Moreover, the Ukraine crisis of 2009 and the shut-down of the Ignalina power plant highlighted Lithuania’s vulnerability even though it was not directly affected, underscoring the ramifications of a possible gas cut-off. Furthermore, the construction of Nord Stream heightened the energy security fears as the possibility that gas would now be directly supplied to western Europe bypassing the Baltic region.

Table 3
Challenges to Estonian and Lithuanian energy security in 2009

Estonia	Lithuania
100% Russian gas imports (energy island) while connected to soviet gas infrastructure	100% Russian gas imports (energy island) while connected to soviet gas infrastructure
Gazprom and Itera stakes in Domestic domain	Gazprom stakes in domestic domain
Lack of regional cooperation	Lack of regional cooperation
No leverage as transit point	Ukraine gas crisis hints at vulnerability
No gas storage options	Shut down of Ignalina nuclear plant
	Paying highest energy price in EU (2011-15)
	High use of gas in domestic energy mix

Source: Compiled by author

2. Balance of threat theory and its application to energy relations

For accomplishing the motives of research for this thesis I will use Stephen Walt's Balance of Threat theory. Though the theory was used traditionally to study the complexities of power relations, in this context I will be applying its tenets to study the energy framework, specifically the energy relations between Estonia and Russia and Lithuania and Russia and whether Russia emerges as a threat or not.

The aim of this section is to explore the theoretical framework of this study by applying Stephen Walt's balance of threat theory in the context of energy relations. IR theory of defensive realism makes certain assumptions about power. Waltz (2010a, p.126) stated that states ultimately seek security, but power was crucial to achieve this very security which makes it the bedrock of survival. Thus, "neorealism sees power as a possibly useful means, with states running risks if they have either too little or too much of it...Excessive strength may prompt other states to increase their arms and pool their efforts against the dominant state...[so] sensible statesmen try to have an appropriate amount" (Waltz, 1989, p. 40).

This defensive realist school also incorporates the power balancing concept. This essentially means states that function in an anarchic system will move to balance when confronted with a powerful adversary. This balancing is a move to cement the balancing state's own security. Even though conventionally, these balancing acts consisted of making alliances with other states who also perceived the powerful state as an adversary, Waltz (2010a, p.118) categorizes them as internal and external balancing, wherein the former means the state relies on its own 'internal' capabilities.

However, in line with the thought that states will not always balance against powerful states, but against the notions of threats, Walt formulated his balance of threat theory. Thus, it was not power per se that made a state seem threatening but threat perceptions.

I will first elaborate on the theory itself and the potential it holds for studying the elements of hard power and then import the tenets of the theory to the domain of energy. Each aspect of the theory will be applied to the energy domain to accomplish the specific motives of research.

2.1. Balance of threat theory

The theoretical foundation of this study will be the balance of threat theory floated by Stephen M Walt, that made its debut in his work, *Alliance Formation and the Balance of World Power* (1985). The balance of threat theory served as a rehauling of the balance of

power theory that hinged on neorealism, a school in International Relations. According to this new theory, Walt theorized that states enact actions and responses as a reaction to the threats that they perceive to emanate from other states. He elaborates on the behavior of states and says that they can choose to either bandwagon with the threatening state or they may take measures to balance against this specific threat (Walt, 1985, pp.4-6).

To validate this theory, Walt gives the examples of the patterns of alliances that persisted before and during the course of the two world wars, when states came together to resist the onslaught of the threats from Germany. Similarly, when Colonel Gaddafi ruled Libya, the threat of this alleged rogue state provoked an unconventional alliance between the US, Egypt, Israel and Chad. He says that thus states that display aggressiveness will trigger a reaction from other states to balance against them. (Walt, 1985, p.12)

Sheehan (1996, p.55) reflects in a similar vein that “States do not simply ally against power per se. There has to be an accompanying perception of threat. For the states of Western Europe American power was not seen as threatening after 1945 whereas Soviet power was.”

Thus, this theory sheds light on the assumption that the power variable in itself is not sufficient when it comes to perceiving of alleged threats. Power is a significant part of the equation but is in itself not grounds for forming threat perceptions. Thus, power when combined with several other factors gives rise to threat perceptions.

In this respect, Walt makes use of four critical factors that can be utilized to evaluate the degree of threats that emanates from another state. Thus, the four criteria are aggregate strength or power, geographic proximity, offensive capabilities and offensive or hostile intentions. The aggregate power of a state relates to the volume of its total resources such as population, military strength, advances in technology and industrial power among others. Thus, the greater the strength of this aggregate power, it follows logically that stronger will be its ability to pose a threat to other states. (Walt, 1985, pp.9-10)

The geographic proximity refers to the ability of the stronger state to project potential threats to states that are geographically nearer to it. Thus, in light of threats emanating from a proximate power, states can take the response to align, because the capacity to project power decreases in proportion to the increases in distance. A weaker state that is geographically far from the offensive state will be better inclined not to perceive threats. (Walt, 1985, pp.10-11)

With offensive capabilities, it is only natural to assume that states that have greater military might and wield offensive capabilities can project threats that will trigger other states

to form alliances or balance, especially if these states are weaker having the ability only to launch a defense. Thus, the greater the offensive capabilities of the powerful states, the greater will be the threat perceptions. This is also a scenario where the said powerful state can create 'sphere of influence' (Walt, 1985, p.11)

Offensive intentions, finally, refer to states that are more than willing to adapt an aggressive or hostile posture and thus in turn cause other states to balance against this posturing. Thus, according to Walt's theory, the more states perceive an opposing power to wield these factors, the more they are liable to perceive it as a threat and subsequently move to balance the threats and thereby weaker states in the region may be forced to bandwagon instead of allying with other states. (Walt, 1985, p.12)

The concept of realism was modified by the balance of threat theory, by viewing power and threat as two separate factors. Especially, in the wake of the nonexistence of the Soviet Union, the balance of power theory seemed even more inept to deal with the facets of state behavior. Thus, according to the balance of threat theory, states will balance against a powerful state only if it projects threats, not merely because it is a powerful state.

To understand this concept, better, we can take the case of the United States and China. The United States is a powerful nation and yet we do not find instances of states trying to balance against it. This is because the US is projecting power as opposed to threats. Thus, we see less powerful states allying with the US instead of forming alliances against its power. In the same vein, China's formidable rise has certainly been perceived as a threat not just by nations in the region but also the US itself. Thus, we see nations like Australia, India, Japan and the US (QUAD) forming alliances that transcend regionalism and designed to counter the rise of China. This is because China projects threats more prominently than power by trying to dominate weaker states not just in its vicinity but as far away as Africa and Europe through its Brick and Road Initiatives (BRI) that many sceptics view as evidence of its attempts at soft imperialism. China's apparent projections of threats and its ramifications can be comprehended as President Biden has now called for democratic nations to team up to kickstart an infrastructure plan that would rival the BRI, a move that is clearly meant to curb the political and economic expansion of the Chinese juggernaut (Al Jazeera, 2021).

Similarly, we can see that to counter the effects of a mighty and seemingly offensive Soviet Union, states formed an alliance to form the NATO against what they deemed as clear threat perceptions. Here, the Soviet Union was not just a powerful state but also projected this

power in juxtaposition with intentions that were construed to be hostile. Thus, while the balance of power theory viewed power as a demonstration of offensive intentions, the balance of threat theory streamlined the concept to reflect threat as the factor that triggered balancing. Power is indeed an important factor but not the critical one when it comes to triggering balancing behavior in other states. When states perceive a state to be a threatening power, they move to ally against or with the offensive state as opposed to when they perceive the said state to be merely powerful.

Schweller (2006, p.166) points out on the concept of balancing that “balancing means the creation or aggregation of military power through internal mobilization or the forging of alliances to prevent or deter the territorial occupation or the political and military domination of the state by a foreign power or coalition”.

However, balancing does not need to be necessarily restricted to the domain of arms or the military power. As He (2012) expands the broader framework of balancing, he says, “military alliances and arms buildups are not the only balancing strategies states can use to pursue security under anarchy” (He, 2012, p.156). Thus, balancing behavior can be applied to other domains as well such as the critical domain of energy security. In the following section, I will explore how the balance of threat theory can be used to study security through the prism of energy.

2.2. Balance of threat theory as a framework to understand energy relations

Even though the balance of threat theory was largely tuned towards the military capabilities of states, this study will make use of it and apply it to the domain of energy. In today’s world the energy sector is as crucial as the military one, if not more. Especially, in the case of the Baltic states, which are vulnerable to Russian influence given their Soviet history, energy can be used as a weapon to influence economic and political policies. Russia and Gazprom have come to denote factors that have important implications on the domestic scene in the Baltics. Thus, as this study attempts to establish if Russia was a perceived threat to Estonia and Lithuania’s energy security from 2009 to 2020, the balance of theory helps us to understand the same by applying the logic to the energy sector.

Even though the domain of energy relations was studied through the balance of threat theory to establish Russia as a perceived threat in context of Estonian energy security by Tarus & Crandall (2012), this study will aim to expand this concept and use the balance of

threat theory to study threat perception vis a vis Russia and its energy relations with Estonia and Lithuania.

Each of the four factors of aggregate power, geographical proximity, offensive capabilities and hostile intentions will be examined in the context of Russia as a potential threat to Estonia and Lithuania in the field of energy and will be used to evaluate energy security and energy dependence. Thus, I will examine if these factors caused these Baltic states to indulge in balancing or bandwagoning behavior and why. For the purpose of this study, the concept of threat will have to be streamlined to fit in with the motives of research and in line with the definition of energy security. Thus, here threats in the field of energy will include supply disruptions or even the potential of it, whether the supply of gas is procured at fair prices, whether energy has been used by Russia as a bargaining tool or method for coercion and if future supply is assured.

The four factors will be further attuned to the energy domain. Thus, aggregate power will be Russia's energy supplies and capacity to export to other states. Meanwhile, geographical proximity is self-explanatory, referring to the geographical distance and location of the respective countries. It is already assumed that Russia is a proximate power since it has shared borders with Estonia and Lithuania. However, this proximity is also examined in terms of supply or the pipeline infrastructure and absence of alternate suppliers. Offensive capabilities will refer to Russia and its ability to use energy as a tool and weapon to influence domestic and economic policies of other states and will also examine Russia's strategies when it comes to exporting energy and using transit points. Offensive intentions will offer the chance to examine Russia's intentions when it comes to energy. Has it used energy to accomplish its policy motives, or has it had conflicts that have directly or indirectly affected the export of gas?

In this study, I will be examining how energy security and threat perceptions vary among individual Baltic states of Estonia and Lithuania, in context of their dependence on Russian gas imports. This study examines specifically the period from 2009 to 2020, in which I will seek to evaluate whether the events and developments during this time were a turning point for the Baltic states of Estonia and Lithuania to redefine their energy security goals and diversify increasingly away from Russian gas imports. I will attempt to examine Estonia's and Lithuania's levels of energy security on Russia and what was their response and reaction to the perceived threats that emanated from the Russian state. Thus, the path of this study is

dictated by two central concepts, that are energy security and threat perceptions. To better understand the focus of this study and where it intends to head, it is thus obligatory on my part to explain the concepts in the framework that I intend to present them in.

What is then energy security? The term itself is an umbrella term that encompasses a wide spectrum of issues, thus making the task of specifically defining it rather complicated. Energy security—defined as how to equitably provide available, affordable, reliable, efficient, environmentally benign, proactively governed and socially acceptable energy services to end-users—has in recent years grown as a salient policy and political issue (Sovacool, 2011). Meanwhile, the International Energy Agency (IEA, n.d.) defines energy security as the uninterrupted availability of energy sources that comes at a realistic price. The definition of energy security thus hinges on energy supply that does not impede the economy and does so in a sustainable manner.

Energy security can also be evaluated based on the dual dimensions of the internal and the external. The internal dimension deals with internal energy facets such as liberalization and solidarity whereas the external dimension involves relations with supplier nations or the security of supply (Mišík, & Prachárová, 2016).

However, energy security is dynamic and is always evolving which is why it is difficult to hone on to a single definition. Moreover, most definitions of “energy security are concentrated around the type of energy, time scope for energy threats, the securitizing actor or the referent object and the level of analysis”. (Johnson, 2016, p.71)

Energy security has been termed by the Cambridge Energy Research Associates (CERA) as a vast swathe that has under its ambit several layers of political and economic factors, which comprise elements such as diversity of supply, fair prices, security of supply, infrastructure security, accessibility to new sources of supply, energy used as a tool and war, among others. Thus, these factors are relevant to the receivers and supplier of energy since they can serve as a link between economic development and political power (CERA, 2006, pp. 8-9).

When we look at energy security, we must take into account the aspects that form its cornerstone, such as the level of access to energy supplies, the reliability of this access, whether this supply is procured at fair prices and is affordable, whether it is easily deployable and if it is sustainable from a political and environmental standpoint. Meanwhile, energy dependence is studied in the context of the energy supply that is imported, which is then

evaluated as the proportion in the state's energy balance. The risk of being energy dependent on another entity is that this often leaves the receiver state's national economy and political setup vulnerable to external influence while also creating an incline in trade imbalances for the receiver state, in other words creating the possibility of potential threats. (Roberts, 2008)

In a similar vein, as security, threat and threat perceptions have been at the forefront in international relations. Thus, threat perceptions can refer to situations wherein a powerful state can trigger feelings of insecurity in the weaker, dependent state and cause the latter to assume that the former means harm. In context of threat perceptions, when states are dependent on other states for their energy imports, sometimes the potential of threats, real or imagined, can loom large. In the contemporary world, energy sits high amongst the various factors that impact national security. Moreover, the energy factor has a significant place in the smooth functioning of the economic machinery of any state. (Nandakumar, 2007) But the fact is that energy security or the lack of it can have implications for both the political and economic machinery of a state, which is why sometimes 'threats' can be equated or rather the term can also be replaced by 'risks' when it comes to the economic context. Threats in the field of energy "is hardly tangible and can be assessed only based on previous experiences, practices and interactions. Therefore, taking into account that energy security is both economically and politically grounded, both notions of 'threats' and 'risks' can be used interchangeably if applied to energy security discourse" (Johnson, 2016, p. 73-74).

After the domain of electricity, it is natural gas that is the most utilized source of energy (Natural Gas, 2013). Thus, threats or threat perceptions in the field of energy include supply disruptions, manipulations of energy supplies, political situation in exporting countries, competition over energy resources and energy dependence on foreign states, among others (Wesley, 2007). When energy supplies are sourced from a foreign supplier, the security of supply is susceptible to factors that arise from conflicts the exporting state has in-house or with other regional entities and the vested interests of the exporter. Moreover, when there is a conflict or a strike action, the resulting instability can cause supply disruption as it happened during the Russia-Ukraine and the Russia-Belarus gas crises. Furthermore, when compared to other energy sources, dependence on natural gas imports creates the possibilities for critical short-term risks. The crisis that emerged when Russia and Ukraine were involved in a tussle and the resulting instability saw EU states registering sharp drops in supplies are a

stark reminder of the same and the threat perceptions that can arise in the field of energy because of alleged aggressive actions on the part of the supplier state.

The Global Energy Assessment Report lists among the factors that may be a fair criterion to lead to the manifestation of threats, the deliberate motive to cause harm, lingering uncertainty because there may be gaps in information and the possibility of events happening based on projections. (Johansson & Patwardhan, 2012)

The threats in the field of energy can be real or imagined, however, they may still create risk perceptions amongst the import dependent nations and may thus invoke a response to the real or imagined threats. As Thanos Dokos said in response to an interview for the Green European Journal, “in any debate about real or imagined security threats, one should remember that perceived threats are as important as real ones. The dominant school of thought in Europe today is one that could be described as rather alarmist because of its strong emphasis on what it considers as too high dependence of the EU on Russia for its needs in the natural gas sector. Related concerns have intensified because of the two energy crises involving Ukraine (2006 and 2009), as well as the increasingly aggressive Russian behavior after the Ukraine conflict”. (Green European Journal, 2017, para. 2)

This study looks at energy relations between the entities and examines the causal linkage between energy security and threat perceptions by establishing that when there is absolute dependence, energy security dwindles or security of supply is not assured or there is a potential of supply disruptions, threat perceptions can loom large and the dependent states can fear aggressive actions by the threatening state which is why logically they should take steps and adapt measures to counter the same. The four elements of balance of threat theory are applied to Russia to see if they provoked a reaction from Estonia and Lithuania. As visible from the table below, specific indicators have been chosen to study the respective element from theory.

The first element is aggregate power, and its corresponding element in energy relations is conceptualized as 1) Russia’s energy supplies and its capacity to export to other states, and 2) its capacity to influence domestic energy. In order to operationalize this, the indicators to measure the element include 1) volume of gas reserves and gas exports to other states, 2) Gazprom’s stakes in Estonian and Lithuanian gas companies (Eesti Gaas and Lietuvos Dujo, respectively).

The second element is geographic proximity and its corresponding element in energy relations is the pipeline infrastructure and the absence of alternate suppliers of natural gas. The indicators used to study this element are the extensiveness of the Russian pipelines and the Baltic states inherent connectedness to them and the issue of Estonia and Lithuania being ‘energy islands’.

The third element is offensive capability and its corollary in the energy domain is the ability to use energy as an economic and political tool of coercion. The indicators used to study this element are whether Estonia and Lithuania act as transit points and the prices levied on these states for gas supply.

The final element is hostile intentions which can be interpreted as the disruption of gas supply during conflicts or crises. The indicators used to study this element are the instances of conflicts that were used as an excuse to disrupt supply.

Table 4

Balance of threat as applied to Russian energy power

Element of theory	Corresponding element in energy	Indicators
Aggregate power	Russian energy supplies and its capacity to export to other states and influence domestic energy	Volume of gas, Gazprom stakes in Eesti Gaas & Lietuvos Dujo
Geographic proximity	Pipeline infrastructure, absence of alternate supply	Issue of Baltic Islands, Russian Pipelines only Link?
Offensive capabilities	Energy as tool for political, economic coercion	Gas prices Levied, are Estonia and Lithuania Transit points?
Hostile intentions	Supply disruptions provoked by conflicts	Supply Disruptions, Disputes used as excuse for interrupting supply

Source: Compiled by author based on Tarus & Crandall (2012)

Relying on the literature review above and on the balance of threat theory outlined above, the thesis sets forth the research question. In order to clarify the energy relationship between Estonia and Russia as well as between Lithuania and Russia, the thesis will describe and compare the policies of both Baltic countries. Therefore, the research question is:

RQ – How did the specific energy policies of Estonia and Lithuania develop in the period of study from 2009-2020 in relation to threat perceptions centered on Russia and what was the trigger behind these policy developments?

The hypothesis that sets the tone of the thesis is as follows: *The more powerful and proximate a state is the more likely that aggressive acts by it will trigger a change in threat perceptions experienced by states that exhibit dependence on it.*

2.3. Methods and data

This section focuses on the methodology and the analysis that will guide this study. Thus, the chosen research method will be explained in addition to the variables and the indicators used to study them. Moreover, I will also briefly discuss the types of data and how and from where they were sourced.

In this study, I will make use of the Most Different Systems Design. This way of research thus employs comparison of different cases. However, these different cases have the same dependent variable while the independent variable will be the factor that makes them different in a key manner (Anckar, 2008). Thus, for this study I choose the cases of the Baltic states of Estonia and Lithuania, and I will examine if the varying levels of their dependence on Russian gas imports result in the same level of energy insecurity or a similar response to Russian threat perceptions, in the framework of the 2009-2020 period. Thus, the independent variable in this case study is energy security while the dependent variable is threat perception.

I chose the cases of Estonia and Lithuania because even though they are commonly perceived to be quite similar because of their shared geographical location and soviet heritage, but as the literature review has demonstrated, they do differ in the context of the energy sector. However, one prominent factor that is in common for both Estonia and Lithuania is that they exhibit 100% dependence on Russian natural gas imports, demonstrating a conspicuous absence of any other supplier while being connected to the old soviet infrastructure, starkly highlighting their isolation from the rest of the EU common energy market. In this context, they both bear the tag of ‘energy islands’. The research puzzle thus centers around if and how two states that have a significant factor in common but have

different circumstances in their domestic energy domain and level of dependence can exhibit a similar response to feelings of threat perceptions.

The time period of study from 2009 to 2020 is also relevant to the energy security of Estonia and Lithuania because it marked a phase that witnessed a spike in gas imports from Russia due to the shutdown of Lithuania's Ignalina nuclear plant that not only impacted its domestic energy supply but regional as well. Moreover, 2009 also saw tensions in the region simmering because of the Ukrainian gas crisis and its aftereffects that impacted the EU. Furthermore, Russia upped the ante on its aggressive motives by annexing Crimea, heightening security fears among the Baltic states.

The aim of this study is to evaluate the energy securities of Estonia and Lithuania before and after the events and developments in the region and to see if these acts of alleged aggression by Russia against other states and the resulting implications for Estonia and Lithuania's energy security made the threats perceived by these Baltic states from Russia even more acute. By applying the balance of threat theory to this scenario, I will examine if these two Baltic states did make similar 'balancing' or 'bandwagoning' acts as a response to the perceived threats emanating from Russia, in spite of their differences in respective energy security levels.

As part of the data collection, the author conducts semi-structured interviews with energy experts from Estonia and Lithuania. I took a deductive approach to the qualitative analysis of the interviews as opposed to an inductive approach since a deductive analysis supported by a premeditated approach. Thus, I built the questionnaire and categorized them so that I could connect the interview responses to the specific categories. I relied on the capability of deductive analyses to lead the trajectory of the interviews towards the crucial themes that are endemic and significant to my research. So as not to compromise on the accuracy of the data and to keep from losing track of key facts while transcribing I recorded the interviews and made every attempt to accurately transcribe them to text. This made sure that the transcribed content was free from inaccuracies and loss of important data.

Semi-structured interviews, which are premeditated but yet are open ended were chosen so as to allow more flexibility for the author and lead the interviewee to reveal more information about the topics on hand. This type of interview was also helpful since I would get only one chance to interview the experts and the presence of a previously developed interview guide would thus ensure the smooth progression of the session. Moreover, since the

questionnaire was already revealed to experts when permission for the interview was sought, it would also ensure that the experts could be prepared beforehand and would have had time to ponder over the questions, thus lending answers with greater clarity and forethought.

In all, 4 interviews were conducted with 2 experts from Estonia and 2 from Lithuania through a period of 2 months. The interviewees were experts in the field of energy with experience working in the energy ministries. The interview was conducted through skype, in person and also through phone. The average duration of the interviews was 40 minutes. (Appendix A)

The interviewees were contacted through e-mail and methodological procedures were followed to the book. Thus, the email (Appendix B) included details about the author's research work, a brief background about the study, the interview questions and the interview consent forms (Appendix C). The interview encompassed 10 questions (Appendix D, E) that aimed to delve into the energy policies and energy security situation of Estonia and Lithuania from 2009 to 2020. The interviewees were given the option to be named in the study or remaining anonymous. They were also asked for consent to record the proceedings of the interview, following which the data was transcribed. (Appendix C)

The data will involve a mix of quantitative and qualitative. I chose quantitative data because of its ability to remain without bias and the flexibility it offers to check repeatedly and crosscheck the results, not to mention that this type of data is also readily available, and it is rather straightforward to collect it. The research involves qualitative analysis as documents and news stories will be analyzed. I chose to back the quantitative data with qualitative in order to counter the lack of context in the former. Thus, the qualitative part of the research gives insights into why the trajectory of the quantitative data points in a certain direction. The sources for this research paper are drawn from data on the economic and energy sectors of Estonia and Lithuania. This data will be used to evaluate the evolution or devolution of energy security in these Baltic states from 2009 to 2020. Other data sources are drawn from the website of the IEA. Since this paper also uses the qualitative case study, it will analyze several cases to examine if the studied states chose to balance against Russian threat perceptions in the field of energy.

Therefore, to evaluate if Estonia and Lithuania responded to Russian threat perception in field of energy, I used data from regional and Eastern European news networks such as ERR, The Baltic Times and OSW Commentary, sourcing relevant news stories by using the appropriate keywords such as Ukraine gas crisis, gas supply disruption, Russian energy

dependence, Baltic energy security, energy security and Baltic LNG terminals. International news networks such as Reuters and The New York Times were also accessed for relevant news items related to the Baltic energy domain.

Public documents from the European Commission's official website on Baltic regional energy projects such as the BEMIP, Balticconnector, Estlink and Lithuanian energy terminal were also accessed, with specific dates for search being from 2009 to 2020. Moreover, I also evaluated reports that were generated by international organizations such as American Security Project, Baltic Security Foundation and Asymmetric Operations Working Group to access information, which are not just accurate and systematic but also based on long term research and studied for international motives, which vouches for its veracity. Such documents were valuable for research and moreover, were easily available online.

I also accessed information from the Estonian Foreign Ministry and the Lithuanian Ministry of National Defense, which gave insights into how these states responded to the factor of Russian energy dependence, the risks of which were made more acute by the regional developments and their broader implications.

I obtained the statistics and figures for Estonia and Lithuania in context of gas imports from Russia. The data is also used from the statistical database of the EU, the Eurostat. The Eurostat data helps in ascertaining the energy dependence levels of the studied states and also the gross inland energy consumption levels. This can be done from the database of the statistics of each country from the Eurostat website. Eurostat also has data on the volume of gas imports in a nation specific manner, which reveal the energy security levels of the states that are being studied. Statistics can be compared to measure the relative energy security of each country. Since all the data are for public use, their availability is assured. The challenge will be not to gather the data, but to present it in a manner that makes it understandable and meaningful to the research and make it easy to make deductions and assumptions.

The energy ministry of Lithuania and Estonia also have data on imports of natural gas. The reliability is fair since these datasets are quite transparent and accurate. Moreover, the validity may also be fair since the data can swing back a couple of years and refer to the years that are under scrutiny in this study. The documents on energy strategies of Estonia and Lithuania give insights into their respective foreign energy policies.

2.4. Balance of threat theory to evaluate Russian ‘gas power’

The aim of this chapter is to analyze whether Russia fulfills the criteria of the balance of threat theory as applied to the domain of gas imports and whether it emerges as a potential threat to the Baltic states of Estonia and Lithuania. Depending on whether Russia emerges as a potential threat or not, the response (or lack of it) of Estonia and Lithuania will also be evaluated through the assessment of news articles, statements by politicians and developing energy policies.

The balance of threat theory and its four elements of aggregate power, geographic proximity, offensive capability and hostile intentions are applied to Russia as an energy supplier to Estonia and Lithuania.

Aggregate power - As a gas giant, Russia had access to about 1,688 trillion cubic feet of proven gas reserves as of 2017. This essentially makes Russia the world leader in gas reserve volume and makes up for roughly 24% of total gas reserves globally. These figures translate into Russia having confirmed reserves that are more than 100 times its yearly gas consumption. Thus, if the consumption levels of the time were to be considered, Russia would have more than 100 years in which to consume its vast gas reserves, this is while excluding unproven gas reserves. (Worldometer, 2017)

The shares of Gazprom in the domestic energy domain of Estonia and Lithuania during the period of study were substantial. Gazprom retained about 37% share in Estonia's Eesti Gaas while Itera held another 10% of stakes. Gazprom additionally also held about 37% stakes in Lithuania's Lietuvos Dujo. Thus, not only is Russia an aggregate power when it comes to actual volumes of gas but also retained a large quotient of monopoly in the domestic gas domains of both Estonia and Lithuania, which it could potentially use to manipulate energy policies.

Proximity - The gas supply and its routes to Estonia and Lithuania from Russia are greatly influenced by circumstances that find their roots in history. Until 2013, Estonia and Lithuania were integrated with the soviet gas infrastructure, a legacy they inherited along with their soviet past. Thus, this connection to the soviet infrastructure virtually rendered these two Baltic states the unenviable status of ‘energy islands’ since not only were they cut off from the main EU supply framework, but there were not any other additional supply routes as well. Thus, these factors strengthened the gas dependency on Russia. Not only was Russia a proximate neighbor, but the interconnectedness of the gas infrastructure between it

and the Baltic states made them even more proximate, increasing Estonia and Lithuania's energy isolation. Moreover, the states received 100% of their natural gas supplies from Russia. However, the narrative gets more complicated if the fact that Gazprom held a majority of the shares in UGSF were also to be considered. (Ābolīņš, 2011)

The Baltic dependency on Russia was the outcome of a combination of factors, one of the most significant which was that the Baltic states still retained the gas infrastructure that was in place since the Soviet days. This network was instrumental in connecting all the states to their Russian energy provider and moreover cut them off from the European supply options. Other factors that helped the energy dependence thrive were that importing gas from Russia was economically feasible and there were tangible links between the business elites in Russia and the economic and political actors of the Baltic states, that kept the impetus on imports constant and consistent. (Grigas, 2012, p.34.) These factors played a huge role in impeding the political inclination to look elsewhere for energy needs or simply look for ways to reduce this glaring dependence. Even as far as the late 2000s, the Baltic states' import network reflected a hearty cooperative venture between the states and Russia.

Thus, Russia's gas monopoly or proximity was absolute leaving no room for any potential of competition or changes in the existing mechanism. Russia can thus be considered a proximate power when it comes to energy relations framework with Estonia and Lithuania, considering the aspects of Baltic states' historical association with its primary supplier, receiving natural gas through a sole supplier through a sole route, absence of other suppliers, and Russian monopoly in the domestic gas sectors.

Offensive capability - Estonia does not serve as a transit point for the further supply of Russian gas and hence does not hold any leverage over Russia. On the other hand, Lithuania serves as a transit point for supply of gas to Kaliningrad and supposedly would have a certain amount of leverage. But it is important to note that even Lithuania's transit is not in context of supply to other EU member state, which makes the aforementioned leverage not so substantial. Moreover, the Nord Stream project of Russia also included plans to make a connection to Kaliningrad so as to make Lithuania's role as a transit point redundant. Thus, Estonia and Lithuania lack the advantage that being a transit point to the EU would have brought them. Moreover, if Russia were to disrupt supply to these states, it would not have to contend with the factor of disruptions to other EU states, thus making the process of disruption that much easier.

In context of using energy as a tool, Hendenskog and Larsson (2007) conducted a study at the Swedish Defence Research Agency on the topic of Russian leverage. The study revealed that from the period of 1991-2006, Russia had used its energy policy as a coercive measure on several occasions. Out of this, Estonia was the target of these coercive measures on two occasions while Lithuania was targeted on 17 different occasions. The different types of coercive measures that Russia used included threats that were not backed up by action, unfair pricing and supply cuts, among others. Moreover, the study found that Gazprom and Itera, among other agencies, were the representatives of this Russian coercive policy. (Hendenskog & Larsson, 2007, p.53)

The study also established that Russia had made changes to its capability of using energy as a coercive tool over the decades. While, in the 90's the approach was more visible and aggressive, it had morphed towards a more subtle style of straddling the domains of economy and politics. Thus, the experts suggest that Russia now increasingly used its energy policies in a bid to strengthen its strategic goals and reassert its geopolitical inclinations. (Hendenskog & Larsson, 2007, pp.46-59)

As Baran (2007a) put it in context of energy dependence that this dependence strengthens the influence that Russia has over the dependent states, this influence impacting both the political and economic domains. He further adds on Russia's lack of inhibition about wielding the original soviet energy infrastructure as a tool of control and coercion, underlining Moscow's inclination to use this tool so as to add to its revenues while also attempting to quell any measures aimed at liberalizing the economy and furthering the process of democratization. Thus, it emerges that since economic stability and national security are directly proportional to the quotient of energy security, energy security is significant in the whole equation.

Gazprom also singled out Lithuania for high gas prices as compared to the EU average and Lithuania paid as much as 30% more than Germany, paying US\$460-490 per 1000 cubic meters and thus Lithuania paid a heavy price for its Russian gas imports from 2011-2015 (Umbach, 2015). As the EU member state paying the highest price for natural gas, Lithuania was certainly at the receiving end of one of Russia's most potent offensive capabilities with regard to natural gas imports. Every time gas prices are raised it is ordinary citizens who feel its ramifications. This is especially so for households that revolve around the usage of gas, for instance, for the purposes of heating, cooking and even heating water.

Thus, when ordinary citizens bear the brunt of gas price hikes, governments are forced to pay attention.

Thus, we can see that not only does Russia have the ability to harbor offensive capabilities but has also wielded this capability on several occasions to fulfil its strategic, political and economic ends.

Hostile intentions - One of the criteria that contributes to energy security is security of supply, in the absence of which energy insecurity is painfully exposed. In the wake of Russia-Belarus disagreements over gas, Lithuania's energy vulnerability was highlighted in 2004, when Gazprom cut off gas supplies through Belarus without lending any early warnings to the affected states. Thus, natural gas supplies were halted for almost 24 hours, and left states such as Germany and Lithuania without the essential gas needed for heating households and working factories, as Russia and Belarus tussled over what Moscow alleged was Belarus siphoning off gas from Gazprom pipelines for its own domestic use. However, Gazprom did make amends to continue gas supplies to western Europe through Ukraine, but Lithuania had to resort to a decisive last-minute action of obtaining its supplies through Latvia. However, this plan was not entirely adequate considering that during the supply cut off imposed by Gazprom the Latvian supply could only account for half of Lithuania's needs, with commercial users being asked to conserve usage. (The Baltic Times, 2004)

The fact of the matter is that Lithuania could merely helplessly observe and mull over its own energy vulnerability while disputes between Russia and Belarus caused damage to domestic gas consumption. As Vladas Gagilas, director of the energy resources department at the Economy Ministry succinctly captures the situation of the Lithuanian gas dependence vis a vis Russia, "We can pass any law we like, but in the end the situation doesn't depend on us at all. There are no plans at the moment to look for a different source of gas. The fact is that there are no other possibilities for supply". (The Baltic Times, 2004)

Meanwhile, even though Estonia has been lucky enough not to encounter any protracted gas supply interruptions from Russia, it did have a brief moment in 1993. In 1993, Russia cut off gas supplies to Estonia as a swift response to the Estonian residency law that Moscow dubbed as an ethnic apartheid. Even though the popular Russian rhetoric on the cut-off was ostensibly because Estonia did not pay its debts, opinions are vehement that it was a retribution to the citizenship act. As Russian President, Boris Yeltsin condemned the new law as a violation that impinged on the rights of ethnic Russians, he also sinisterly added that

Russia "has possibilities to remind" Estonia of "some geopolitical and demographic realities" (The New York Times, 1993). Similarly, in 2007, amidst the row on the bronze soldier relocation, Russia again cut off fuel supplies, even though supply of gas was not affected. This was yet another instance of Moscow flexing its energy muscles to intimidate its weaker neighbors. (Reuters, 2007) Even though these disruptions happened before the period of study of 2009-2020, it can serve as a precedent for the potential course of events.

A major fraction of the concerns over Russia's motives can be traced to January of 2009 when Ukraine and Russia were involved in the infamous gas dispute. Ukraine after protesting the gas prices levied by Gazprom and the transit fees for transporting supplies to Europe found itself entangled in a confrontation with Moscow following which Gazprom halted all gas supplies going to and through Ukraine. Over the next 20 days, the gas shortage was felt not just in Ukraine but also in several states of Southern and Eastern Europe. In all, 16 EU states felt a drastic shortage in gas supplies during the crisis, with the Balkans undergoing a humanitarian crisis with households unable to heat their homes (Pirani et al., 2009). Thus, Russia's hostile intentions towards its gas dependent neighbors becomes apparent during minor or major disputes that may not even have directly involved Estonia and Lithuania.

When examining Russia through the prism of balance of threat theory specifically adapted to energy relations, Russia fulfills all the four criteria of being a powerful state that has adequate aggregate power or gas reserves, has a gas infrastructure that is proximate enough to tie in the dependent states so as to cut them off from alternate sources, retains the offensive capability to use energy as a coercive tool to influence the economic and political landscape of its dependent neighbors and has demonstrated its offensive intentions to cause supply disruptions to states that are dependent on it and have no other sources to import gas. Moreover, Estonia and Lithuania were completely dependent on Russia while at the same time being cut off from the main EU energy market and left without any alternate suppliers. Thus, as all the conditions are fulfilled where a powerful state causes a weaker state to bandwagon or balance, Estonia and Lithuania should logically have taken measures to do either of the two.

3. Was there a response to perceived threats from Russia?

This section will analyze the empirical data to establish whether Estonia and Lithuania did adapt measures to counter the perceived threats from Russia as a primary

supplier of natural gas. The development of the energy sector in both these nations and critical events in the same will be studied in the time frame of 2009 to 2020 to check if they were manifestations of a response to nullify the heavy influence of Russia and Gazprom in the energy domains of Estonia and Lithuania.

3.1. Did Lithuania move to respond against Russia

Until 2009, the functioning of the Ignalina nuclear plant in Lithuania ensured that the electricity that the state relied on was not dependent on natural gas to a great extent. This was because the nuclear plant accounted for a whopping 75% of Lithuania's electricity while the rest of the electrical needs were powered by renewable, auto and hydro sources. However, as part of the agreements made when Lithuania joined the EU, Ignalina was decommissioned after which the state had to revert to using its spare electricity which was fired by fossil fuels, thus on the parallel also increasing its natural gas imports. Thus, now electricity was more dependent on natural gas and subsequently Lithuania's electricity was at risk in case of disruptions in the supply of natural gas. (Findlater et al., 2010)

The Centre for Strategic Studies carried an economic security study in which it is stated, "the energy sector differs from other state sectors in the existence of the vast potential of a "threshold effect". This "threshold effect" points to the state cross-sectorial vulnerability – the more separate state sectors are integrated (interdependent), the more serious damage for the state may cause cut of supply of energy sources. Hence interruption of supply of energy sources will have negative effect not only for energy sector but to a lesser or greater extent for other state sectors too. In this regard, energy security is directly interrelated with military, political, economic, ecological, communicative/informative, and other sectors of state security. Thus, threats posed to the energy security will embrace other state security levels.³⁹ Taking into consideration the potential of threats to the energy sector to spread, it can be said that economic and national security can be ensured only after having ensured the energy security". (as cited in Švedas, 2017, p.193)

After 2004 and 2009, when Russia was involved in a gas crisis with Belarus and Ukraine, respectively, Lithuania was made aware of its apparent vulnerabilities when it came to gas supply from Russia, following the lapses in its supply in 2004 and what it observed happened to about 16 EU member states in 2009. Moreover, as Russia annexed Crimea in 2014, Lithuania and other Baltic states were increasingly perturbed over Russia's motives and whether this event was a harbinger for future annexations. Moreover, the dependency on

Russian gas imports at this time was a stark reminder of how much leverage Moscow held over the Baltic states.

As part of attempts to end Gazprom monopoly in its energy sector, the government in Lithuania had already taken additional steps to implement the EU's Third Energy Package of 2009, a move which set the stage for Gazprom's monopoly to end in Lithuania's domestic gas company, Lietuvos Dujos. Of all the Baltic states, Lithuania was the first to go about implementing the Third Energy Package from 2010 to 2021 and went about it in the most rigorous manner of ownership unbundling, to make the gas domain more dynamic and kickstarting the process that would separate the production, trade and transport of natural gas. Thus, Lithuania went about the unbundling plans scrupulously and passed amendments that changed the state's natural gas laws. (Dudzinska, 2012)

"Lithuania's implementation of the third energy package was one of the first concrete evidences of its attempts to wean away from Russia. Even though Lithuania was within its rights to ask for a derogation because of the isolated nature of its gas market, its lack of connectedness to other gas markets in the EU whereas Latvia did not count because it itself was an isolated energy market and 100% dependence on Russian gas, a number that was above the 75% market share that was mentioned in the directive. Lithuania did not choose derogation even as other isolated markets such as Estonia and Latvia put their gas market liberalization plans on hold based on derogation. Experts in Lithuania posited that if derogation was to be availed, Lithuania would continue to tread the same path and the gas domain would continue to be characterized by the heavy subtext of Gazprom, isolation, soviet pipelines and the inexorable monopoly. Perhaps, this is why Lithuania undertook unbundling with an enthusiasm that was exceptional". (Interview, LT1)

As a measure to ensure prioritizing its energy independence by the year 2020, Lithuania in 2012 approved the National Energy Independence Strategy. According to this strategy energy independence would involve a free choice of energy resources in addition to choosing the ways in which they could be supplied. The strategy honed on to the most significant aspect of this energy independence goal by stating that it was essential to "to move to an absolutely different geopolitical environment with different values, based on market and competition". (as cited in Švedas, 2017, p.197-198)

Another major development in the Baltic about fostering regional energy independence was regional cooperation in the field of energy. Regional cooperation was key

to shrugging off the tag of ‘energy islands’ since it helps to carve new niches in regional gas markets and seek alternate connections while seeking to blend into other markets, among others. As part of the Baltic Sea region countries, Lithuania and the consortium of states formed a cooperative venture that was the Baltic Energy Market Interconnection Plan.

The BEMIP primarily sought an open and integrated regional electricity and gas market in the Baltic region. As a corollary, several regional infrastructure projects were completed to facilitate integration with the Nordic energy market, the most important ones being the Estlink, Nordbalt and Lipol Link, focused on improving security of supply. Moreover, other aims included the synchronization of the Baltic states with the EU network by 2025. Thus, in 2009, the first MoU on the BEMIP was signed, which lay emphasis on gas and electricity markets. In 2015, another MoU extended the ambit of the project to include energy efficiency, security of supply, renewable energy, in addition to working on synchronizing integration and operation of Baltic states electricity network to the main EU network. (European Commission, 2014) Thus, “all projects that are devoted to the diversification of energy supply increase energy independence of the states. In Lithuania’s case, this stepping away from Russia was a gamble that paid rich dividends as today Lithuania is no longer an energy island. Now we are looking forward to connecting to the main European energy market which will mean that the only way for Lithuania’s energy security is up” (Interview, LT1)

Referring to these regional networks and in a veiled reference to Moscow’s energy weapon strategy, Lithuanian President, Dalia Grybauskaitė, said that Lithuania’s synchronization with the energy networks of continental Europe would not only elevate the state’s energy security but would also augment its political independence. (The Baltic Times, 2015a)

Lithuania took concrete steps not just to wean away from Russian dependence but to foster its own energy independence. It was thus a momentous day when the aptly named ‘Independence’ LNG terminal arrived at the Lithuanian port of Klaipėda. This terminal was the first step towards combating Russian monopoly in the gas supply domain, not just securing Lithuanian energy security but Baltic energy security as a whole. (Kojala & Keršanskas, 2015)

The Klaipėda terminal was leased from Norwegian shipping company, Høegh, for the purpose of importing LNG. The terminal was leased for a period of 10 years at a cost of 430

million euros and was connected to Lithuania's gas networks at additional costs. The advantages of being able to ship LNG by ship, thus negated the sole dependence on pipelines to import gas. It is notable that Lithuania accomplished this without the support of the EU, kicking off operations in Klaipeda in the winter of 2014. During this time, Litgas, the state-owned Lithuanian gas company also made contracts with Norwegian gas company, Statoil, and made arrangements to import gas from 2015 to 2020. This was in addition to other Lithuanian gas companies signing deals with Statoil as well. (Hoellerbauer, 2017)

In the wake of the Klaipeda terminal's impending operations, Lithuanian President, Dalia Grybauskaitė, said that Lithuania would now consider doing away with long term gas agreements with Gazprom. Citing the incentive of "real independence from Gazprom" (Gas Processing & LNG, n.d., para. 2), she said that once the LNG terminal would start operations, Russia would no longer be in a position to dictate political and economic terms to Lithuania. She also said that talks with Gazprom was political pressure veiled as negotiations and transcended the domain of energy. The significance of Klaipeda was adequately captured as she said that now Lithuania was in the enviable position of not being forced into having agreements with Gazprom. (Gas Processing & LNG, n.d.)

By the end of 2014, the Klaipeda LNG terminal was operational, with an initial capacity of 4 billion m³ per year. Owing to the new operations of the terminal, by the next year, the capacity of the Lithuanian gas transmission system was considerably elevated. Gas was thus enabled to be transported from the LNG terminal and could account for more than 80% of the gas supply demand in the Baltics. Klaipeda was thus key in diminishing the threats of gas cut offs in addition to also staving off fears from possibility of the Nord Stream project bypassing the Baltic states. Now, natural gas had two supply points into Lithuania – one from Russia through Belarus and the other through Klaipeda. Moreover, Lithuania also had two gas exchanges namely, GET Baltic and Baltpool and the gas domain now took on a transparency amidst which Gazprom had to vie with other competitors. (Švedas, 2017, p.201)

With Lithuania's gas diversification in overdrive, it was no surprise that in 2016, the country imported volumes of natural gas from Norway that exceeded import volumes from Russia. Even though Klaipeda's viability has been under scrutiny, it was established that with an annual capacity of 4 bcm, the terminal could be instrumental in making up for the demand for a major fraction of the Baltic states' natural gas requirements. (Hoellerbauer, 2017)

The establishment of Klaipeda did not just elevate Lithuania's security of supply but improved the supply security of gas in the Baltic region as well. Moreover, there were also other projects that were tuned towards improving the security of supply, for instance, the increase in capacity of the Klaipeda-Kiemenai pipelines, that was key in the gas trade between Latvia and Lithuania. Thus, 2015 can be considered the 'breakaway' moment when energy security of Lithuania as well as the overall Baltic region underwent a significant boost. (Jakstas, 2019)

Lithuania's domestic gas sector took another step towards 'independence' from Gazprom as in 2014, Gazprom announced its decision to sell the stakes it had in the nation's domestic gas distribution companies, Amber Grid and Lietuvos Dujos. This decision came in the wake of the Lithuanian government fining Gazprom for what it said was the latter's actions to keep competitors from entering the domestic fray. As Gazprom prepared to eject itself from the Lithuania domestic market, Lithuania's former energy minister quipped on the significance of the event, predicting a major upheaval in the relations between Russia and Lithuania. Meanwhile, in Moscow, President Putin lambasted Vilnius as a "robber". (Reuters, 2014b)

In 2015, the Three Seas Initiative (3SI) brought together 12 nations, among them Estonia and Lithuania, to cooperate and contribute, among other things, to energy security. That the initiative is significant can be gauged by the fact that it is tuned towards the development of the economic and security infrastructure of Central and Eastern Europe, notably to negate Russian influence. The initiative aims to counter the infrastructural imbalance that is conspicuously on an east-west trajectory. Thus, the axis supports the old pipelines that bring in Russian gas in turn fostering the dreaded energy dependence. The initiative aims to cut through Russian influence by developing the north-south route, which will thus strengthen energy and other key issues in the region, creating more avenues for diversification. For instance, the creation of a LNG terminal in Krk, Croatia that will be connected to the terminal in Klaipeda. Furthermore, the Polish-Lithuanian gas interconnector (GIPL) project is also one of the primary agendas of the initiative, heralding greater diversification, strengthening energy security and further weaning away the Baltic region from Moscow's power periphery (Baltic Security Foundation, 2020).

The GIPL project is also significant because it will link the Baltic states with the Central European gas market. This connection will create diversity of supply sources for the

region through the Polish LNG connection, in a gas domain that would be open, thus also creating favorable conditions for competition in the gas market. (IEA, 2019)

Lithuania has shrugged off its dependence on Russian gas imports and switched to domestic biomass to supply its heating needs, as demonstrated in 2017 when its renewable energy shares had soared. During the time the Director of Lithuanian Energy Institute, Dr. Sigitas Rimkevičius, said, “In 2013, we still produced most of our district heat with natural gas imported from Russia. Since then, our energy transition from gas to renewable energy sources has set a world record both in speed and dimension. As a matter of fact, only three years later, the share of renewable energy had grown to almost 70%, which makes it one of the highest shares of renewable energy in Europe. We call it a European record”. (Cision News, 2021, para. 4)

One of most significant aspects of Lithuania’s transition from being heavily energy dependent has been to make energy affordable. Since 2011, prices have been on the decrease, owing to technology and indigenously sourced biomass. The average price when it comes to district heating using local biomass is around a third of the price when natural gas is used. From 2009 to 2020, Lithuania’s energy domain was characterized by developments such as “natural gas supply that was diversified by introduction of LNG terminal in Klaipėda; Electricity sector integrated into EU continental network: SWEDEN-LT, POLAND-LT etc. interconnectors. District heating sector have been converted from gas firing to local biomass and city waste (80% of fuel structures). These implemented projects reflect change and a willingness to implement and further regional cooperation” (Interview, LT1) in Lithuania’s energy security circumstances during 2009-2020 even though “prioritizing of energy independence and diversification started far earlier” (Interview, LT1). On the future of energy security in the region “Lithuania in fact has solved this problem of dependency on Russian natural gas imports and there is now no risk of Russia’s impact. Baltic neighbors should support and join Lithuanian activities in this field. Lithuanian energy independence has been achieved, but infrastructure built has caused energy cost to final consumers. Baltic countries must cooperate closer in this field and share the burden of costs. However, unfortunately agreements are hardly achieved”. (Interview LT1)

By switching from Russian natural gas to biomass in converting its heat supply, Lithuania has managed to set in motion one of the most rapid energy transitions in the EU. As the dynamics changed, the share of renewable energy in district heating surged to 66% in

2017, whereas it was 23% in 2011. The figures reflect the share of renewable energy as being one of the highest in the EU. Consequently, the age-old dependence on Russian gas imports has dwindled significantly. (Cision News, 2021)

“The issue of dependence on Russian natural gas imports have always reigned high in the energy security discourses in Lithuania. This is especially true for Lithuania as compared to its Baltic peers because Lithuania was paying a high price for relying on Russia as a sole supplier of natural gas. The gas crises in the region and incursions in Crimea were not the trigger but the catalyst in making Lithuania aware of the need to accelerate its energy security agendas”. (Interview, LT2)

In 2017 in a highly symbolic development, Lithuania seized the rare distinction of being the first ex-Soviet state to import natural gas from the United States, Lithuania’s energy minister describing the move as “politically desirable and commercially viable” (Financial Times, 2017, para. 9) This also coincided with a phase when the US pledged to help the EU diminish its reliance on Russian gas imports. The move came in the wake of the Russian annexation of Crimea triggering Lithuania looking to obtain robust backing from the US. In what was an apparent sign to powerhouses in Moscow, Lithuania sends a clear message that it retains the wherewithal to diversify its natural gas supplies, sourcing it from Norway and now from the mighty United States, challenging further the monopoly that Gazprom has long established in the Baltic region. (Financial Times, 2017)

Following the development Agnia Grigas, Atlantic Council fellow in Washington DC, and an expert on the Baltic-Russia natural equation and author of ‘The New Geopolitics of Natural Gas’, said, “this shipment of US LNG is historic and symbolic as Russia sees Lithuania as it’s backyard and traditionally one of Gazprom’s monopoly markets. It’s also a signal from the US LNG industry showing that they can go to any region and challenge Gazprom, while Lithuania hopes to deepen commercial ties with the US to ensure Washington’s commitment and support”. (Financial Times, 2017, Para. 5)

Even though Gazprom contends that it retains the capability to challenge the US on gas prices, Lithuania’s energy minister Zygimantas Vaiciunas confirmed that the natural gas sourced from Cheniere Energy’s export terminal on the US Gulf Coast to the Klaipeda LNG terminal was procured from the US at competitive prices. On the new avenue of diversification, the energy minister also conveyed his satisfaction on the fact that sourcing natural gas from the US was financially and commercially viable, shooting down the long-

held misconception that Russian natural gas was the only financially practical avenue for supplies. Moreover, the minister also emphasized on the political prudence of the move. US President Donald Trump made a statement in July the same year that politicians in the Baltic and Central European states who were clearly pro-NATO had warmly embraced the concept of importing US natural gas. (Financial times, 2017)

“Diversifying Lithuania’s supply sources to include Norway, the US and its own capability in terms of the Klaipeda LNG terminal and additional projects that are in the pipeline such as the GIPL have been instrumental in getting rid of the erstwhile Russian dependence factor. This time political will and the inclination to adapt measures to strengthen energy security went hand in hand to finally enable Lithuania to gain ‘independence’ from energy insecurity”. (Interview, LT2)

In 2018, as the Baltic states celebrated the 100th anniversary of their independence, Lithuanian President, Dalia Grybauskaitė, was in Washington to ink a deal that would see US natural gas seeing higher import levels to Lithuania. This was despite the dynamics of distance that prescribed that most of Lithuania’s imported gas would be sourced from closer states such as Norway. With dependence on Russian gas imports decelerating, gas interconnections are being built or refurbished. Following the decommissioning of its Soviet era nuclear plant in 2009, Lithuania utilizes gas for a major fraction of its electricity generation. (American Security Project, 2018)

In 2018, the Seimas, the Lithuanian Parliament, approved the revised National energy Independence Strategy, which divides Lithuanian energy policy into four main pathways, energy security, the development of green energy, efficient energy consumption, and competitiveness and innovation. As the strategy was approved, the Lithuanian Energy Minister, Žygimantas Vaičiūnas, said, “After six years, Lithuania has a new national energy strategy that is progressive and ambitious not only in the regional context, but in the pan-European context as well. We now have clearly defined targets that we are moving towards and striving to achieve. Our main aspirations are to end Lithuania's energy dependence on Russia once and for all, and no longer be either an energy island or peninsula. Also, to expand clean, climate-friendly energy, and to develop and introduce innovations that will allow the consumer to save and the economy to grow. (Ministry of Energy of the Republic of Lithuania, 2018, para. 2)

The strategy sought to strengthen Lithuania's energy security by integrating it with the main energy markets of the EU, also defining key targets for 2030 and the developments in the energy domains as far as 2050. (Ministry of Energy of the Republic of Lithuania, 2018)

In 2019, gas transportation through Lithuania's Klaipeda LNG terminal reached record levels when 65% (19.6 TWh) of the total amount of gas was routed to the EU market, whereas only a year earlier in 2018, the percentage of transported gas was 35%. Investments made in the Lithuanian gas domain and construction of interconnections between nations in the region has seen a 2.6-fold surge in transportation of gas to the Baltic states being registered, compared to 2018 (Ministry of Energy of the Republic of Lithuania, 2020a). With the Klaipeda terminal, "diversification of gas supply has become real, but the fact is that natural gas is also gradually being replaced by renewable energy sources. So it may happen that the significance of natural gas may go down in the coming decades" (Interview, LT1)

Amber Grid, the Lithuanian gas transmission system operator, confirmed that natural gas that was transported to Estonia and Latvia made up 20% of the total amount of gas meant for Lithuania and its Baltic counterparts. This phase also marks the highest ever amount of gas transported to Latvia, witnessing a 10-fold increase over the years, in increasingly visible signs that Lithuania was at a key position in the regional gas market, spurred by favorable factors such as competitive pricing and effective infrastructure. This key position of Lithuania in the gas domain is projected to strengthen at the end of 2021 when the gas connection between Poland and Lithuania is up and running, also heralding bolstered levels of energy security as supply of natural gas from western Europe and other sources would be more conducive through the Polish connection. The acting CEO of Amber Grid, Nemunas Biknius, said on this achievement, "Lithuania's well-developed gas infrastructure i.e., Klaipėda LNG Terminal and a developed and properly maintained gas transmission system, has proved to be effective. Timely investments allowed Lithuanian market participants as well as participants of other states of the Baltic market to make use of very favorable gas prices. The interaction between the low prices and the well-used infrastructure evidences that the market operates and that Lithuania has become a crossroad of the regional gas market". (Ministry of Energy of the Republic of Lithuania, 2020a, para. 2)

About half a decade back, Lithuania bore the dreaded tag of ‘energy island’ along with its Baltic peers and its natural gas domain was defined by its inexorable dependence on Russian gas imports while being well under Gazprom’s dominance. Today, Lithuania has not only shrugged off much of that dependence but has established itself as a major player in the natural gas market of the region, thanks to a host of factors such as the creation of a value chain in the realm of imports of LNG, its increasingly solid reputation as a dependable LNG operator and consistent and growing supplies to nations in the region. (BRE Review, 2020)

Ever since the Klaipeda Terminal was established its growth trajectory has been on the incline, with its utilization rate rising every successive year, reaching 50% in 2019. The trend is also reflective of the trends in the EU LNG domain and is indicative of competitive prices as well. Now, Norwegian gas forms the major fraction of imports into Lithuania and have constituted 82% since the LNG operations commenced. (BRE Review, 2020)

“When the Ignalina nuclear plant and its two nuclear plants shuttered down in 2004 and 2009, Lithuania witnessed a major transition in its energy dynamics making the switch from net exporter to net importer, thus consequently leading to bigger share of natural gas. Now everything has changed. Lithuania’s energy policy has always focused on energy security and now it has borne fruit. Challenges in the domain of energy still persist but the future of Lithuanian energy security is certainly bright. The Russian factor is a thing of the past and is clearly not even a burning issue anymore. The events that led us to this point were fortuitous to say the least. Moreover, Lithuanian energy security is not just auspicious for Lithuania itself but also for the Baltic region wherein other Baltic nations such as Estonia can also now rely on an alternate supplier, one that comes without any catch or ulterior agendas”. (Interview, LT2)

In 2020, natural gas imports through the Klaipeda terminal were more than the gas imported through the pipelines. Moreover, there were phases from 2020 through 2021 when more than 68% of the natural gas that was supplied to the natural gas grid were done so through the LNG terminal. In 2020, it was revealed that Lithuania had doubled the natural gas exports to other nations in the region such as Finland and other Baltic nations, spurred by the kickstarting of the Balticconnector. (BRE Review, 2020)

In 2009, Lithuania was importing 100% of its natural gas from Russia, but the measures it took to hitch up its domestic energy landscape resulted in Lithuania cutting this dependency to 82.6% in 2015, in addition to diversifying the sourcing of 17.4% of natural gas

imports from Norway. Thus, the import volume of Russian natural gas fell from 101 849.0 TJ in 2009 (Eurostat, 2009a) to 46 245 TJ in 2019 (Eurostat, 2019d).

3.2. Did Estonia move to respond against Russia?

Even though Estonia has been relatively less energy dependent when compared to Lithuania and has been largely reliant on its vastly developed supply of Shale oil, the state was importing 100% of its gas imports from Russia in 2009. Moreover, it had encountered gas supply interruption once in 1993 when Russia cut off supplies as a retaliation against the Citizenship law. Furthermore, Gazprom had a major influence in Estonia's domestic gas market as it held the status of sole importer in addition to wielding stakes in Estonia's biggest gas supplier, Eesti Gaas and also in AS EG Võrguteenus, the gas transmission system owner and operator, AS EG Võrguteenus. (Pöyry, 2011)

In 2012, in accordance with the EU's Third Energy Package, Estonia followed in Lithuania's footsteps and unbundled its own gas market. As Estonia unbundled its gas pipelines, Gazprom's stakes in Eesti Gaas were rendered virtually redundant. Gazprom along with Itera held about 47% of stakes in Estonia's domestic gas companies. Following this development, Gazprom sold its stakes in Eesti Gaas. Estonia was now confident of its security of supply since the opening of the LNG Terminal in Klaipeda now offered an alternate supply of gas other than Russian gas. (Intellinews, 2016)

Commenting on the end of the Russian monopoly in gas supply, Elering CEO, Taavi Veskimägi, said that Estonia's dependence on Russian energy imports was in the past which should ideally translate into natural gas being used more in the domestic mix, given its environmental sustainability. He said that gas was in the past linked to security threats, but the equation had now changed. (ERR, 2015)

The positive mood was palpable as in 2014, Estonia obtained what was the first natural gas imports from Lithuania, making a break from the conventional Russian gas. Even though the import volume was not significant in volume, it was symbolically important and was a harbinger for similar moves in the future and it also proved that Russian monopoly had finally ended in the Baltics. Speaking on the development, Vinsents Makaris, the spokesman for Latvijas Gaze confirmed that Latvijas Gaze had transported 100,000 cubic meters of gas from Lithuania to Estonia. Significantly, Lithuania's Energy Minister Rokas Masiulis, said that the development proves that the regional gas market was not just a fantasy but one that exists in real (Reuters, 2014a)

“The Klaipeda LNG terminal decreased the price of natural gas in Lithuania as well as in Estonia. It provided natural gas suppliers of all Baltic states an additional supply channel and signifies a pivotal point for Baltic energy security” (Interview, EE1). “Natural gas is heavily infrastructure bound and so infrastructure does play a crucial role on how a state manages and dictates the course of its energy security. During this period there was much talk and discussion and a constant stream of ideas on constructing LNG or energy terminals and finally Lithuania went ahead and accomplished it”. (Interview, EE2)

“The Estonian gas market has now transformed into a conventional market because earlier it was bound by contract to a sole supplier. Now there are options for diversity to reduce the market power of Russia. So, Klaipeda and Balticconnector helped in carving out bigger markets. Now in reality the market can function normally rather than as a monopoly market as it was before. So, Klaipeda has increased more market centric natural gas market in Estonia as well”. (Interview, EE2)

The energy policy of Estonia has followed a definitive trajectory over the years – aimed at steadily decreasing the gas import dependence on Russia. In addition, Estonia has also worked on fortifying its domestic energy mix, including shale oil that forms the crux of its domestic power. Moreover, Estonia has also increased renewable energy sources with an eye on future security of supply. The motives to increase energy security is clear as Estonia has invested in energy projects and connected its grid with Finland (Tarus & Crandall, 2012). From 2009 to 2019, Estonia’s natural gas imports from Russia registered a clear drop from 24 429.0 TJ in 2009 (Eurostat, 2009) to 18 461.8 TJ in 2019 (Eurostat, 2019e).

In 2015, Elring bought Gazprom’s 37% stake in the gas transmission network for 19.9 million euros, with the company looking to focus on the creation of a common gas market in Finland and the Baltics. (ERR, 2015)

The three Seas Initiative (3SI), which also involves Lithuania, was significant for Estonia as well. The partners of the initiative are notably Germany, the US, and the European Commission. Launched in 2015, from the Estonian foreign policy perspective, the platform was one of priority. Estonia also was the coordinator of the initiative in 2020 and also hosted the fifth summit in the same year (Estonian Ministry of Foreign Affairs, 2020). Notably, among other things, the initiative focuses on the developing of energy infrastructure and ensuring energy security.

Estonia has been efficient in utilizing renewable energy. In 2017, 17% of Estonia's electricity was sourced from renewable energy. Moreover, the country has a long-term plan to switch majorly to renewable resources to generate up to half of its electrical needs and almost 80% of heat. Furthermore, in what may be a collective attempt to finally put an end to Gazprom's lingering monopoly, the states are building interconnectors that will facilitate the transfer of gas between them and also to the common EU market. Diversifying has been key in elevating Estonia and its Baltic counterparts' energy security, whether it be diversifying sources or diversifying the ways in which to source their energy needs. (American Security Project, 2018)

Estonia has been rapidly working on increasing its security of supply as is evident from the IEA's (2020) report on the nation's energy policies. In 2018, the total supply of natural gas in Estonia was 0.50 billion cubic meters (bcm), which was about 7% of the total primary energy supply (TPES). The figures show that this was the third lowest share of natural gas among the IEA nations, average being 23%. During the last 10 years the share of natural gas in TPES and total final consumption (TFC) has declined sharply due to several factors such as the image of natural gas a risky fuel because of the lingering geopolitics, the 2008 gas crisis, low demand for gas for heating purposes and industry and also a considerable switchover to sources of renewable energy. (IEA, 2019, p. 81)

In a bid to up the ante on enhancing natural gas security, Estonia encourages the production of biogas or biomethane at home. Following the complete unbundling of the natural gas market in 2016, the competitiveness in the natural gas market in Estonia has improved significantly. Moreover, in 2017, to further encourage competition in the gas market licensing that was earlier necessary was usurped by a mere registration as supplier, while Estonian companies could also now gain access to the GET Baltic gas exchange. (IEA, 2019, pp. 82- 84)

In 2017, gas imports into Estonia stood at 0.49 bcm. This marked a 51% decline that was in sync with the decade-long plummeting demand for gas in the country. Whereas in 2014, Russian gas imports stood out conspicuously as Estonia's only source for supply, now Estonia was connected to the Klaipeda LNG terminal, thus making up for diversification of supply. In 2017, 88% of Estonia's natural gas was sourced from Russia while 12% was brought in from the GET Baltic gas exchange in Lithuania. (IEA, 2019, p. 84).

“Gas consumption during the period 2008-2020 and the volume of gas consumption in Estonia has decreased by almost 50%. This declining trend was rapid between 2008 and 2009. It was 2008 that was the last year when the huge fertilizer production facility in Kohtla-Järve was still operational. It accounted for 50% of Estonian natural gas consumption. Due to the economic crisis, high energy prices etc, Nitrofert closed down the production and Estonian consumption fell drastically down. On the demand side Estonia has been doing a lot to reduce consumption of natural gas. In 2010 and forward there Tallinn municipal heat was produced from natural gas but after that Eesti Energia built in 2013 a waste incineration plant that produces heat while Utilitas energy company built two wood chip powered co-generation (combined production of heat and power) plants. So, Estonia has really diversified the ways from demand side as well”. (Interview. EE2)

From 2009 to 2020 “the most significant change in energy consumption during that period was the decrease of the share of natural gas in producing heat energy and the increase of the share of locally produced biomass (mostly residues of forestry and wood industries) for the same purpose” (Interview, EE 1)

In 2020, the Balticconnector between Estonia and Finland, transporting gas between the two nations kickstarted operations. Other than Estonia, the connection also put an end to Finland’s isolation from the rest of the common EU gas market. As operations commenced on the pipelines that have a capacity of 7.2 million cubic meters of gas per day (European Commission, 2020f), the Energy Commissioner Kadri Simson heralded the landmark quality of the energy project and commented on its capability to provide safe and sustainable options to source energy for not just Estonia and Finland but also for the regional energy system, underlining its worth as a project that was an apt reflection EU solidarity.

Until the connections and pipelines that have been constructed as well as the ones that are in the pipeline Estonia was a stonewalled dead end for gas supplies. With the new connections, Estonia is poised to be a significant aspect of the overall transit system, providing a connection between Finland and the Baltics and furthermore linking the region to the rest of Europe once the GIPL project kickstarts operations in 2021. (IEA, 2019, p. 94).

The gas connection between Estonia and Finland was yet another avenue that cut down the conventional Russian gas import dependence., boosting the security of supply for Estonia. The connection promises to enhance the reliability of the gas system and provides decentralized gas, in addition to promoting the use of LNG and biogas. Moreover, the

pipeline also has the potential to be integrated with the EU common gas market through the Lithuanian-Polish gas interconnection GIPL, which is scheduled to be commencing operations in 2021. (ERR, 2019a)

One significant and symbolic aspect of the Estonia-Finland gas connection was that the Finns managed to find a company at the last moment to file the application for the project, which was Baltic Connector OY. This was on the heels of the other Finnish company, Gasum, which interestingly enough is partly Russian owned, retracted its participation from the investment application. The energy security strategy of the European Commission perceives this new gas pipeline as a significant security project at the level of the EU. Moreover, the financing application also pertains to the enhancing of the gas connection between Estonia and Latvia, underpinned by the construction of a compressor station at Puiatu and the rebuilding of the gas metering station in Karski. The projects underline the Estonian desire to be integrated with the broader EU market and shrug off the legacy of Russian gas import dependence. (Lithuania Tribune, 2015)

On the future of natural gas for Estonia, “the Russian hold on the region is less of a factor now because we want to diversify away from natural gas and it is a bigger idea here than say, for instance, in Germany. In Germany for example, they see even more natural gas as a part of the future energy mix. However, in Estonia and in the Baltic region natural gas will play a smaller role in the future considering the new proposed renewable and nuclear power plants in Estonia. It creates a situation here where natural gas will play less and less role. Russia was more of a theoretical threat for Estonia. Considering the place of natural gas in Estonia and in its energy mix there was not much to hold Estonia to ransom. So, it was a theoretical threat but the fact is Estonia still responded to it by reducing the demand of natural gas. It was a theoretical threat that was never realized. In long term it was a good bet”. (Interview, EE2)

3.3. EU support for Estonian and Lithuanian energy security

As EU member states, Estonia and Lithuania are also dependent on the EU’s common energy policy. In the following, we will look at the developments on the EU level and if they did indeed help in shaping Estonia’s and Lithuania’s energy policy.

Energy security has always been one of the priorities on the EU’s agenda. It supports the attempts of member states to accentuate their respective energy securities through a series of legal frameworks and mechanisms. It was Lisbon Treaty of 2009 that brought energy

security to the fore shifting aspects of national energy policy of member states to the EU, calling for unity and solidarity between individual member states to strengthen energy security, work on building interconnection energy networks and switching to renewable energy resources. The European Energy Security Strategy of 2014 calls for “coordination of national energy policies and speaking with one voice in external energy policy”. The EU has allocated funding for energy projects since 2009 in a bid to create indigenous European energy networks. It allocated a sum of 5.85 billion Euros for cross border energy projects, one of them being the BEMIP tuned towards the development and interconnection of the Baltic electricity and natural gas market. (Sprūds, 2014)

After the gas crises of 2006 and 2009 it emerged how gas supply disruptions could have major consequences for import dependent states and thus the EU’s 2010 Security of Gas Supply Regulation put in various measures that could potentially alleviate any impending gas supply crisis. These measures include a solidarity principle, wherein if a member state underwent supply disruptions, neighboring states would aid with supplying gas to households and essential services. Moreover, the regulation advocated a regional approach as opposed to a national approach in the domain of security of supply measures. (EUR-Lex, 2010) On ‘energy islands’ and ending regional isolation, the regulation said, “sufficient and diversified gas infrastructure within a Member State and across the Union, including in particular new gas infrastructure connecting current isolated systems forming gas islands to their neighboring Member States, is essential for tackling supply interruptions. Common minimum criteria on security of gas supply should ensure a level playing field for security of gas supply while taking into account national or regional specificities and should create significant incentives to build the necessary infrastructure and to improve the level of preparedness in case of crisis. ((EUR Lex, 2010, para. 14)

Miguel Arias Cañete, Commissioner for Climate Action and Energy, said on the issue. “after the gas crises of 2006 and 2009 that left many millions out in the cold, we said: 'Never again'. But the stress tests of 2014 showed we are still far too vulnerable to major disruption of gas supplies. And the political tensions on our borders are a sharp reminder that this problem will not just go away. Today's proposals are about a reliable, competitive and flexible system in which energy flows across borders and consumers reap the benefits. They are about standing together to protect the most vulnerable. And they are about securing our

clean energy future: I can assure that our commitment to a clean energy transition is irreversible and non-negotiable”. (European Commission, 2016d, para. 7)

In 2014, perhaps triggered by Russia’s antics in Crimea, the European Commission displayed its will to establish a European Energy Union, triggered by two main concerns on energy insecurity. The first issue was the visible chinks and gaps in visualized integration of the common EU energy market, which brought to the fore the Baltic region and Central European nations that were relatively isolated from the common market, while the second issue was predictably the disruption of supplies. As a solution to countering these specific issues, the Energy Union puts the emphasis on negating the presence of ‘energy islands’ from the EU energy domain and putting in place mechanisms to deal with potential energy disruptions. One distinctive motive of the Energy Union is to direct resources towards securing diversifying options and weaning away from Russia, perceived as unreliable on several occasions. The communication published by the EU was a definitive sign that it had finally grasped that energy policies could influence foreign policies and thus the need of the hour was to put in place a sustained energy policy that would be key to securing EU energy security. (European Council on Foreign Relations, 2015)

Among the measures to strengthen collective energy security of the EU, the Energy Union recommended allocating a watchdog role to the commission so as to ensure that any energy deals would be in line with EU rules and security of supply motives, thus enabling it to raise the alarm when a potential project undermined the security of any nation in the EU. The other measure was to provide a recourse to the Russian dependency factor, with the communication mentioning four alternate diversifying options and natural sources such as the MENA region, the Southern Gas Corridor, the United States and Australia, in addition to boosting internal connections and working on expanding existing links between EU member states. (European Council on Foreign Relations, 2015)

In 2014, in what was to herald a series of measures aimed at boosting energy security, the European Commission (2014a) declared, “The European Energy Security strategy consists of short-, medium- and long-term measures. In the short term, the strategy proposes conducting energy security stress tests to assess how the European energy system can cope with security of supply risks, and to facilitate the development of contingency plans. In the longer term, the strategy proposes action in five keys areas: increasing energy efficiency; increasing energy production within the EU and diversifying supplier countries and routes; completing the

internal energy market; presenting a unanimous position in external energy policy; and strengthening emergency mechanisms to cope with disruption”. (European Commission, 2014a, para. 2)

In 2015, as the grant agreement on the GIPL was signed (European Commission, 2015c) it was anticipated how the deal would end the isolation of the Baltic Sea region and herald a novel economic dynamic. It marked a phase that would see security of supply being strengthened and the bolstering of the collective European energy sector, also reinforcing the EU’s Energy Union strategy that seeks to fill the gaps in the bloc’s energy infrastructure. The European Commission promoted the creation of energy networks that would ensure that the energy flow was directed to regions that were in need while also ensuring the member states would have the choice of accessing their energy needs from three sources, with construction of missing links between the EU energy domain and the Baltic region being one of the top priorities. As the deal was signed, the then President of the European Commission, Jean-Claude Juncker said, “today’s signature is about European solidarity. It is about leaders taking responsible decisions to increase our security and strengthen our resilience. Today we have done much more than bringing the energy isolation of the Baltic States to an end. We have brought the region further together. Today we have agreed on European infrastructure that will unite us, instead of dividing us”. (European Commission, 2015d, para. 6)

The European energy union strategy that was published in 2015, was definitively aimed at establishing an energy union that was targeted towards providing consumers in the EU with ‘secure, sustainable, competitive and affordable energy (European Commission, 2016d). Accordingly, the energy union works on reinforcing five specific aspects which are security, solidarity and trust, an internal energy market that is fully integrated, energy efficiency, climate action and research and innovation. Clearly, the strategy was primarily guided towards opening up new avenues for diversifying the EU’s energy supply and enabling member states to cooperate. Moreover, the motives of strengthening energy security were further intensified with the aim of an integrated energy market based on sound infrastructure and sans regulatory hurdles that would be conducive to the flow of energy throughout the EU.

In 2020, a press statement (European Commission, 2020g) by President von der Leyen with President of Lithuania, Gitanas Nausėda, and Prime Minister of Estonia, Jüri Ratas, among others said, “today is a very important day for Europe. We are taking a big step

towards connecting Europe. And we are showing European solidarity in action. Last night, we awarded EUR 720 million from the Connecting Europe Facility to link the Baltic energy grid with the rest of the Europe. This project is a landmark moment. It is a landmark moment in ending the isolation of the Baltic energy market. Most of the funding will go to a new interconnector in the Baltic Sea. And I cannot think of a better name than 'Harmony Link'. It will reduce the region's over-dependence and over-reliance on a single source of energy imports by connecting it in full harmony to the rest of the European Union". (European Commission, 2020g, para. 1-3)

As part of the EU, Estonia and Lithuania have and continue to receive support from the EU to strengthen their respective energy security scenarios. Perhaps it is this robust support in tandem with national strategies and home-grown energy resources that have enabled both nations to shrug off their isolation from the common EU energy market.

3.4. Estonia and Lithuania – Balancing or bandwagoning?

Security politics is an aspect among the international relations states that is significantly impacted by power and resources and their quotients among states. By this logic, the trajectory of thought follows that small states that have low volumes of power and resources may lack the wherewithal to effect change in policies in international relations. Probably, Walt (1987) captured the import of this scenario by stating, "the weaker the state, the more likely it is to bandwagon. Balancing may seem unwise because one's allies may not be able to provide assistance quickly enough. . . . States that are close to a country with large offensive capabilities (and that are far from potential allies) may be forced to bandwagon because balancing alliances are simply not viable". (Walt 1987, p.25)

Since the Russian perceived threat has thus been established through the four aspects of the balance of threat theory, it needs to be seen if Estonia and Lithuania chose to respond by balancing or bandwagoning. Walt (1987) said that states would often be inclined to bandwagon in a situation where allies are simply not enough or just unavailable. However, in the case of Estonia and Lithuania, not only are allies available but as they are already part of the EU and are part of the coalition of states in NATO, a form of allying has already taken place but not towards the threatening entity and thus in face of the Russian threat, these states should have balanced.

Mearsheimer (2001) attributes two factors that trigger a reaction of balancing among states. The first is that in the face of a hegemonistic power (such as Russia) states may feel an

impending existential crisis or a threat to their identity and survival if they do not take steps to counter the hegemon by allying with other weaker states. The second factor is that states often believe that joining an alliance of weaker states will mean that they would have more leverage to effect change within the alliance.

Thus, we see in the reactions of Estonia and Lithuania to perceived Russian threats that they did not just balance against it but also stepped-up regional cooperation to counter the energy hegemony of Russia. This regional cooperation can be viewed as an alliance of relatively weaker states such as Estonia and Lithuania against a powerful hegemon.

“Regional cooperation especially political cooperation is a bit tricky. Even though the states share concerns in energy they are still competing for investments and economic gains. There was a scramble to build LNG terminals in each country and this was a good example of how cooperation could have been better. In the end they did cooperate, but it could have been quicker and more structured” (Interview, EE2). “The main outcome of the Baltic political cooperation on energy issues is the Baltic Energy Markets Interconnection Plan (BEMIP), which helped the building of power lines between Poland and Lithuania, Lithuania and Sweden, 2nd Estlink between Estonia and Finland, natural gas connection between Poland and Lithuania in co-financing with the EU”. These energy projects show that regional cooperation was now well and thriving (Interview, EE1).

Both the states have balanced in the aftermath of 2014 when the Russian threat stemming from aggressive acts became even more acute. We also see that even though Estonia and Lithuania had different set of conditions with regards to energy security, energy dependence, domestic energy mixes, and pricing of gas imports, among other factors, they still perceived Russian energy power as a threat in a similar manner and choose to take significant measures to balance against it, thus revealing that their perspectives on threat perceptions were the same even though their domestic energy scenarios were different.

After 2014, the Baltic region saw a palpable increase in tensions and thus carried out balancing measures. These included remodulation in security policies, increase in defense budgets towards fortifying the defense capabilities, making measures to bolster the strength of their respective societies and rehauling the military to lend them modern competencies. (Ministry of National Defense of Lithuania, 2017)

Moreover, Estonia and Lithuania also stepped up their bilateral defense cooperation with their most significant ally, the United States. The threats projected by Russia now

triggered a balancing reaction among these states that caused them to also work on strengthening regional cooperation not only in energy but also in the domain of defense capabilities (Szymański, 2015).

From 2009 to 2019, Estonia and Lithuania's gas import trends registered a palpable rehaul. Not only did both nations succeed in cutting down the volume of Russian natural gas imports but also diversified the supply options. In 2009, Estonia was relying on Russia for 100% of its natural gas imports while importing 24 429 Tj (Eurostat, 2009) of natural gas. In 2019, Estonia brought down the Russian natural gas imports to 18 461 Tj (Eurostat, 2019e) while also diversifying its supply to include Lithuanian natural gas. Similarly, in 2009 Lithuania's natural gas dependency on Russia was all too obvious as it sourced 100% of its supply from Russia importing 101 849 Tj (Eurostat, 2009a). In 2019, Lithuania's import figures for Russian natural gas swung significantly downwards with 46 245 Tj while diversifying options for supply now included Norway (now the primary supplier nation) and the United States, who supplied 57 392 Tj and 3240 Tj, respectively (Eurostat, 2019d).

Table 5

Estonia and Lithuania Natural gas imports 2009

	Estonia	Lithuania
Importing nations	Russia	Russia
Natural gas imports (in numbers)	24 429 Tj	101 849 Tj
Source: Eurostat, 2009, 2009a		

Table 6

Estonia and Lithuania Natural gas imports 2019

	Estonia	Lithuania
Import diversification	Russia, Lithuania	Norway, US, Russia
Natural gas imports (in numbers)	Russia – 18 461 Tj	Norway – 57 392 Tj
	Lithuania – 18.2 Tj	Russia – 46 245 Tj
		US – 3240 Tj

Source: Eurostat, 2019d, 2019e

3.5. Discussion on findings

Estonia and Lithuania as Baltic regional entities have long grappled with dependence on Russian gas imports, a dependence which creates additional risk factors for the economy and political landscape. From 2009 to 2020, the energy domain in these states underwent an evolution that was triggered by key events such as the Russia-Ukraine gas crisis of 2009, the shutting down of the Lithuanian Ignalina nuclear plant in line with EU directives and the Russian aggression in Crimea in 2014. The balance of threat theory adapted to the energy domain and its elements customized to study corresponding elements in energy established that Russia fulfilled the criteria of being a powerful and threatening energy supplying entity and the abovementioned events did cause a heightening of threat perceptions for Estonia and Lithuania.

The study thus found that as the Russian threat perception, whether real or imagined, became more acute Estonia and Lithuania took measures to balance away from it and adapted their respective energy domains to wean away from Russian gas import dependence. Estonia drastically reduced its natural gas consumption registering a 50% drop through the period of 2009 to 2020 and upped the ante on its domestic energy domain by investing in regional energy projects such as the Balticconnector and sourcing supply from Lithuania as well. For Lithuania, the kickstarting of the Klaipeda LNG terminal, the switch to biomass for domestic heating, and diversifying supply sources were some of the most significant events in securing its energy security. Today, both states are less dependent on Russian gas imports having successfully cut down on consumption and diversifying supply sources and rely on domestic energy mixes, including shale oil, nuclear energy and renewable sources.

The balance of threat theory contends that when states are under threat from another powerful state, they may mount a response that can take either of two paths – balancing or bandwagoning. Balancing involves moving away from the source of threat while bandwagoning would translate into attempts by threatened states to align with the threatening state. In the case of Estonia and Lithuania, the findings reveal that as the potential of threats and feeling of threat perceptions arising due to dependence on Russian natural gas imports loomed larger, these states adapted measures not to align with Russia but rather to move further away from its sphere of influence by annulling this energy dependence through supply diversification, strengthening of indigenous resources, switching to biomass for heating,

kickstarting regional cooperation, and cementing national policies on energy. Thus, this instance was a clear case of ‘balancing’ in context of the balance of threat theory.

Conclusion

The aim of this study was to evaluate the development of the energy security and policies of Estonia and Lithuania in relation with their natural gas import dependence on Russia and the threat perceptions arising from the same. The main contention of the work was to establish that Estonia and Lithuania were compelled to reevaluate their respective energy policies and strengthen their own energy security because of events from 2009 to 2020 that heightened their energy vulnerabilities in question and thus made the feelings of threat perceptions arising from Russia more acute.

The paper thus takes a look at the energy policies of both nations and their evolution during this period and evaluates if indeed the policies evolved in sync with the developing energy situation and an escalating sense of threats or risks in the region and if the countries did adapt measures and initiate collaborations that contributed to bolstering their respective energy security circumstances. In lieu of the above the main research question of the paper was how did the energy policies of Estonia and Lithuania develop during 2009-2020 in relation to threat perceptions centered on Russia and what explains these policy developments?

This study is important because it demonstrates how threats in context of states can be real or imagined but how the states in question can move to balance or bandwagon against these very real threats or perceptions of threats in accordance with their distinct political and economic intricacies. Moreover, since in contemporary times, energy has come to be synonymous with national security and energy security or the lack of it can influence political will and policy it is important to study how energy can be used as a tool of coercion.

For accomplishing the motives of study on the basis of a suitable theoretical framework, Stephen Walt’s Balance of Threat theory was applied in the context of energy relations to evaluate if Russia did indeed emerge as a threatening entity. The balance of threat theory and its four tenets of aggregate strength or power, geographic proximity, offensive capabilities, and offensive or hostile intentions were originally applied to study the military power of states, but in this thesis, it was adapted to the domain of energy. The theory thus enables to study if and how Russia fits the profile of a threatening state and factors behind it

and if and how this threatening posture may trigger a response of balancing or bandwagoning in weaker and dependent states.

To study this phenomenon the methods applied were both qualitative and quantitative in nature. The data was collected through media reports from sources such as The Baltic Times, ERR, Reuters, BBC, the energy sectors of Estonia and Lithuania, Eurostat, the IEA, Eurostat, Statista and the U.S. Energy Information Administration and semi-structured interviews that were conducted with energy experts from Estonia and Lithuania.

This findings of the thesis show that Estonia and Lithuania did indeed demonstrate a reaction to perceptions of threat emanating from Russia as a primary energy supplier of natural gas and during the period of study from 2009 to 2020, these feelings of threat perceptions were exacerbated because of key events in the region such as the gas crises of 2009, the Russian annexation of Crimea, the decline in Lithuania's domestic energy production because of the shutting down of Ignalina nuclear plant and the prevailing absolute dependence of Estonia and Lithuania on Russian natural gas imports pointing towards their isolation from the EU energy market and thus earning them the unfortunate tag of 'energy islands'. In the face of these developments and increased feelings of threat perceptions from 2009 to 2020 not only did both countries manage to cut down the volume of gas imported from Russia but also managed to diversify their supply sources, in addition to reducing the presence of gas in the domestic energy mix and also strengthening their home-grown energy resources. Moreover, regional cooperation was bolstered with cooperation being demonstrated in the field of energy in the form of new regional pipelines and connections, in addition to new projects being planned for the future not to mention an integration with the main common EU energy market that is envisaged for 2025. This thesis demonstrates that it is possible to study energy relations through the use of this theoretical framework even though originally it was used to study military alliances.

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Appendices

Appendix A List of interviews

Code	Affiliation	Format	Date
EE1	Independent energy analyst	In person meeting	26-11-2021
EE2	Estonian Oil Association	WhatsApp call	17-11-2021
LT1	Lithuanian district heating association	Zoom	4-12-2021
LT2	Political analyst	Skype	03-01-2022

Appendix B Interview request form

Dear Mr/Ms,

To introduce myself, I am Roopa Parmar and I am a Master's Student at the University of Tartu which is located in Estonia.

At present, as a part of my master's Thesis, I am conducting a research, which focuses on the energy security and policies of Estonia and Lithuania vis a vis their dependence on Russian natural gas imports from 2009-2020.

I would vastly appreciate the opportunity to interview you since you have extensive experience analyzing the complex domain of energy with insights that I am convinced will be crucial for accomplishing my research goals.

I am quite aware of the fact that you may have punishingly busy schedules and of the fact that you receive many requests for interviews or conversations such as mine.

Nevertheless, I can assure you that I will not cut too much into your valuable time and that this interview will be short (around 45-60 mins) and would be of invaluable help for my research.

If you have the time in the upcoming days, might we be able to speak over Skype/Zoom?

I am available to speak over any other preferred method of communication as well.

If you would like to know anything more about me and/or my research, I would be happy to provide all the needed information and answer all of the questions. Additionally, if you prefer to remain anonymous with your inputs of information this too would be a feasible option.

With best regards,
Roopa Parmar

Appendix C Interview consent form

Dear Sir/Madam,

Thank you for agreeing to participate in the research project. By signing this form, you confirm that:

- You have voluntarily agreed to participate in the project.
- You have been informed about the researcher's professional interest and scope of research.
- You have been told about the purpose and topic of an interview.
- You have been able to ask questions about the interview and they have been answered.
- You have been informed about the interview process.
- You have given consent to the digital recording of the interview and use of your responses.
- You know that you have the right not to answer the question and leave the interview if you do not want to continue it.
- You understand that any attributed quotes from the interview will only be used for academic work. If we have agreed to conduct the interview anonymously, quotes will be attributed to 'a source familiar with the situation'.
- You know that you have a right to see the completed research product and request changes if you do not like the use of your responses

Appendix D Interview questions – Estonia

1. Please give a brief overview of Estonia's energy supply and energy security circumstances in the period between 2009-2020. Have there been any significant changes during this time and, if so, what are they?
2. Would you say that it is possible to distinguish between different time periods in Estonia's energy security circumstances during 2009-2020? If so, please identify them.

3. Did the annexation of Crimea change the perception about energy security vulnerabilities in Estonia/? If so, how? Did it also materialize in any particular policy decisions?
4. Please describe, whether and how have Estonia addressed the issue of energy dependence on Russia (above all, regarding natural gas) during 2009-2020?
5. Please describe the role of the Klaipeda LNG terminal for Estonia's energy security? Has it changed the energy dynamics in the country?
6. What is the role of the Nordic interconnections and the new pipelines such as the Balticconnector between Estonia and Finland in terms of increasing energy independence?
7. Are there any other factors which may have influenced the energy dynamics in Estonia, in addition to the ones previously discussed?
8. Please describe the Baltic political cooperation in terms of increasing energy independence from Russia during 2009-2020. Have there been any significant changes in the extent of political cooperation?
9. In your opinion, what is the future of Baltic energy security and energy diversity, particularly with respect to Russian energy imports?
10. Is there anything else that you would like to add about Baltic energy security which has not been mentioned during the interview.

Appendix E Interview questions – Lithuania

1. Please give a brief overview of Lithuania's energy supply and energy security circumstances in the period between 2009-2020. Have there been any significant changes during this time and, if so, what are they?
2. Would you say that it is possible to distinguish between different time periods in Lithuania's energy security circumstances during 2009-2020? If so, please identify them.
3. Did the annexation of Crimea change the perception about energy security vulnerabilities in Lithuania? If so, how? Did it also materialize in any particular policy decisions?
4. Please describe, whether and how has Lithuania] addressed the issue of energy dependence on Russia (above all, regarding natural gas) during 2009-2020?
5. Please describe the role of the Klaipeda LNG terminal for Lithuania's] energy security? Has it changed the energy dynamics in the country?
6. What is the role of the Nordic interconnections and the new pipelines between Estonia and Lithuania and the upcoming one with Poland in terms of increasing energy independence?
7. Are there any other factors which may have influenced the energy dynamics in Lithuania, in addition to the ones previously discussed?
8. Please describe the Baltic political cooperation in terms of increasing energy independence from Russia during 2009-2020. Have there been any significant changes in the extent of political cooperation?
9. In your opinion, what is the future of Baltic energy security and energy diversity, particularly with respect to Russian energy imports?

10. Is there anything else that you would like to add about Baltic energy security which has not been mentioned during the interview?

Resümee

EESTI JA LEEDU ENERGIAJULGEOLEK: MUUTUS OHUTAJUMISES AASTATEL 2009-2020

Roopa Parmar

Käesoleva lõputöö eesmärgiks on hinnata Eesti ja Leedu energiapoliitikat Venemaa maagaasi impordi taustal. Töö uurimisperiood on 2009–2020, periood, mil mõlema riigi gaasivaldkonnas toimusid olulised muutused ja murrangud ning nende energiapoliitika ja energiapoliitika arenesid. Lõputöös väidetakse, et Eesti ja Leedu olid sunnitud oma energiapoliitikat ümber hindama ja püüdsid vabaneda suurest sõltuvusest Venemaa maagaasi impordist mitmete sündmuste taustal, mis tõid esile nende haavatavuse energiasektoris, samuti riske, mis võivad laieneda ka riiklikule julgeolekule.

Just Krimmi agressioon Ukrainas koos muude sündmustega, nagu 2009. aasta gaasikriis ja sissetungid Gruusiasse näitasid, kuidas sõltuvus ühest tarnijast võib energia ebakindlust süvendada. Selle uuringu teoreetilise raamistikuna kasutatakse Stephen Walti ohu tasakaalu teooriat, mida on käesoleva artikli kontekstis laiendatud ka energiavaldkonnale. Teooriat kasutatakse selleks, et uurida, kas Venemaa täidab kõik kriteeriumid, et tõusta "ohuks" Balti riikidele, käesoleva töö kontekstis Eestile ja Leedule. Venemaa gaasiimpordiga seotud ohutaju kutsub eeldatavasti esile Eesti ja Leedu reaktsiooni kaasaminemise või tasakaalustamise näol. Walti sõnul eeldatakse, et riigid tajuvad võimsate toimijate ohtusid. Eesti ja Leedu reaktsioone, kui need üldse toimusid, analüüsitakse, et hinnata, kas need kinnitavad arusaamu tasakaalustamisest või kaasaminemisest.

Töös hinnatakse seega Eesti ja Leedu energiapoliitikat ja selle tausta, energiaallikate kombinatsiooni ja arenevaid meetmeid energiavaldkonnas, et hinnata, kas gaasikriis ja

Krimmi annekteerimine vallandasid nendes riikides reaktsiooni ning milliseid meetmeid võtsid Eesti ja Leedu energiajulgeoleku tõhustamiseks kasutusele vastusena Krimmi annekteerimisele. Vaadeldakse Eesti ja Leedu väljakutseid ja takistusi energiasuhete vallas ning uuritakse, millised olid erinevused kahe riigi siseriiklikes Venemaa energiasõltuvuse stsenaariumides, näiteks gaasiimpordi maht, gaasikasutuse protsent kogu sisetarbimisest, nende kodumaine energiajaotus ja kodumaise tootmise võimsus ning mitmekesistamisplaanide elluviimise väljakutsed. Hinnatakse, kas Eesti ja Leedu reageerisid kodumaise energiamaastiku erinevuste valguses erinevalt või sarnaselt tajutavale Vene ohule.

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