Energy Politics Between Baltic States, Russia and European Union, 1991- 2014

Thesis submitted to Jawaharlal Nehru University

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DECLARATION

I declare that the thesis entitled ***Energy Politics Between Baltic States, Russia and European Union, 1991-2014*** submitted by me for the award of the degree of **Doctor of Philosophy** of Jawaharlal Nehru University is my own work. The thesis has not been submitted for any other degree of this University or any other university.

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CERTIFICATE

We recommend that the thesis be placed before the examiners for evaluation.

Prof. Archana Upadyay
Chairperson, CRCAS, SIS

Dr. K. B. Usha
Supervisor

Dedicated

To

My Amma

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LIST OF ABBREVIATIONS

AMBO	Albania, Macedonia and Bulgaria
BA	Baltic Assembly
CEE	Central and Eastern European
CFSP	Common Foreign and Security Policy
CIS	Commonwealth of Independent States
EIA	Energy Information Agency
BAFTA	Baltic Free Trade Agreement
BALTBAT	Baltic Battalion
BASREC	Baltic Sea Region Energy Cooperation
BASREC	Baltic Sea Region Energy Co-operation
BCM	Baltic Council of Ministers
BEMIP	Baltic Energy Market Interconnection Plan
BPS	Baltic Pipeline System
BRICS	Brazil Russia India China South Africa
BTC	Baku- Tbilisi- Ceyhan
BTE	Baku- Tbilisi- Erzurum
CBSS	Council of the Baltic Sea States
CBSS	Council of the Baltic Sea States
CBSS	Council for Baltic Sea States
CFSP	Common Foreign and Security Policy

EC	European Commission
EC	European Council
ECSC	European Coal and Steel Community
ECT	Energy Charter Treaty
EP	European Parliament
ERDF	European Regional Development Fund
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIPL	Gas Interconnection Poland-Lithuania
IAEA	International Atomic Energy Agency
IEA	International Energy Agency
IEF	International Energy Forum
IPI	Iran-Pakistan-India Pipeline Project
IRENA	International Renewable Energy Agency
LNG	Liquefied Natural Gas
LNG	Liquefied Natural Gas
MEAC	Ministry of Economic Affairs and Communications
NATO	North Atlantic Treaty Organization
NPP	Nuclear Power Plant
OECD	Organisation for Economic Cooperation and Development
OPEC	Organization of the Petroleum Exporting Countries

PCP	Permanent Partnership Council
RER	Renewable Energy Resources
SU	Soviet Union
TANAP	Trans Anatolian Natural Gas Pipeline
TAPI	Turkmenistan-Afghanistan-Pakistan-India
UAE	United Arab Emirates
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
VNPP	Visaginas Nuclear Power Plant
WTO	World Trade Organization

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Map of Baltic Sea Region

Source: Maps of World (2017).

Chapter 1

Introduction

Energy resources have become a major source of power projection, sustainable development, cooperation, integration, confrontation and even hostilities in international relations after the disintegration of former Soviet Union and end of Cold War. Energy and politics are intrinsically linked as a political element which is essential for economic development, human welfare and security. Energy politics is also linked to foreign policy, environmental and national security. In this background the aspect of energy politics and energy security in the Baltic states has gained momentum. At present the issues between Baltic states, Russia and European Union (EU) over access and control of energy resources in the contemporary Baltic Sea Region[1] (BSR) is an interesting case of energy politics. The energy politics of these three entities in BSR is linked to energy security, transit pipelines, infrastructure, national and geopolitical interests and policies. The energy security interests of Russia as an exporting country are related to supply, demand, security of transport, profit, and political factors. The stability of energy supply, access to energy at a reasonable price, low environmental impact and national security are some of the main priorities for energy deficient EU and Baltic states, which are termed as "energy islands".

As an energy producing and exporting country, Russia plays a significant role in supplying energy to importing countries in the BSR region. EU is an important consumer of Russian energy and primary trade partner of Russia. Considering the increasing energy demand and challenges in the energy sector, EU has to develop cooperation with energy producing Russia. The Baltic states, that were part of erstwhile Soviet Union, are predominantly

[1] Baltic Sea region is comprised of Russia, Germany, Poland, Finland, Denmark, Norway, Sweden, Estonia, Latvia and Lithuania.

energy importers and almost entirely dependents on Russia. However, since Baltic states perceive Russia as potential threat to their energy and national security; they have discontent with Russia allegedly in terms of supply interruptions and charging high prices. EU and US also view Russia's behaviour in its energy trade with its neighbours as sceptical; Russia is alleged of using its energy resources and pipeline projects as a political weapon in its foreign policy to influence other states in accordance to its interests.

Since Baltic states has lack of trust on Russia they believe the dependency on a single supplier for energy is a threat to their national sovereignty as Russia enjoys a significant position in the BSR. It is a matter of concern in terms of energy conflict and vulnerability. Baltic perception of Russia's identity as a potential enemy is constructed on the basis of history, memory and occupation theory and remains as a major barrier in cultivating normal relation with Russia. Baltic insecurity augmented after the Ukraine crisis and the rejoining of Crimea with Russia. This has developed a presumption that in the near future they will remain the targets of Russia. Therefore, energy security serves as a common interest in the national development priorities of Baltic states.

As EU members Baltic states are liable to follow common EU energy policies and other relevant laws. They look at EU for a coherent policy that considers their concerns and interests regarding energy security. However, EU energy policy reflects emphasis on energy cooperation with Russia, and EU occasionally deny the concerns of Baltic states as it is evident in the case of Nord stream pipeline project. Russian nuclear energy projects in Kaliningrad oblast and Belarus also is a political concern for Baltic states. The above circumstances shape the energy politics between Baltic states, Russia and EU. This study describes the complexities of energy and security politics between Baltic states, Russia and EU with a focus on Baltic states as small states that depend on both Russia and EU for energy resources.

Statement of Problem

Baltic Sea Region, a sub region in Europe, has developed into a hotspot of great power politics after the disintegration of Soviet Union and the former Soviet republics of Estonia, Latvia and Lithuania, re-established their independence. The BSR became an important strategic and geopolitical centre especially after the EU and NATO expansion towards Russia's borders and Ukraine crisis of 2014. The presence of the EU, NATO, Russia and United States in the BSR turned it as strategic region for political rivalry. The NATO expansion into Russian borders caused political tensions in the region. To counter the economic and military integration in BSR, Russia reacted to NATO expansion with its military exercises in the borders of BSR countries. Post-cold war period has witnessed multiple developments. China's presence in the BSR is also one of the important developments in the post Cold War period. China had strong economic cooperation with Germany and also it is very keen to develop trade relations with Baltic states. It is the largest trade and business partner of BSR from Asia. The Baltic states use China's transport services to import goods from Asian region (Paul 2017: 59). The powerful states like US, China, Russia, EU, Germany and UK are trying to develop their relations with BSR countries. These developments demonstrate the significance of the BSR in the world politics.

In the 21st century the security concerns of Baltic states became "litmus test" for the willingness and capability of United States (US) to influence Russian policy and ensure the security guarantee of Baltic states in the changing global order. Baltic states' security conceptions are based on integration and identity supported by a security discourse centred on "danger" from Russia and "protection" from EU and US. Baltic states treated EU and NATO as their close allies whereas Russia is perceived as a source of internal and external threat due to the presence of large minority of Russian speakers in Estonia and Latvia. Therefore, the elements of distrust and animosity towards Russia and

trust and confidence towards EU and US constitute the basis of the official security orientation of Baltic states (Usha 2015).

Baltic independence was viewed by the West as their victory and by Russia as a loss and decline of great power status. The west treats Russia's conduct towards these states as a measure of Russia's commitment to international norms and laws. Thus, Baltic security issue was constructed as a test for development of Russia as a true democratic state and for the west, handling Baltic issue in connection with NATO enlargement to post-Soviet space (Usha 2015).

In the changing context, the Baltic states underwent several political challenges in the post- independent era such as identifying or locating Baltic states in the global order and framing foreign policy[2] (Vares and Zurjari 1993: 9-10). Immediately after independence Baltic states began their political transition from authoritarianism to parliamentary democracy, from planned economy to market economy based on the norms and values of western democracies. National identity was constructed based on the principles of colonialism, Soviet occupation and particularly taking the historical injustice meted against them into consideration. Baltic states introduced political institutions essential for establishing democracy such as constitution, parliament, and an organized legal system. These developments lead Baltic states to become members of United Nations (UN), and became a part of international system. In 2004, they joined NATO and EU to ensure security and development by preventing potential Russian aggression.

Against this backdrop, the energy politics and security has emerged as one of the major contentious matter for the political and economic endurance of the Baltic states since their independence. In 2004, Baltic states' accession to NATO and European Union (EU) membership exposed Baltic energy security to multiple challenges. Lack of primary energy, resources has compelled the

[2] They had faced similar problems during 1920s declaration of independence, after the collapse of the Russian Empire.

Baltic States to rely on the imports from the Russian federation. The common and main energy security challenge for Baltic States is that these are "energy islands" that has inadequate energy production and remain isolated from energy interconnections with other EU member states. They are still in the then Soviet energy system which is under Russian control. Energy cooperation in the Baltic Sea region, interconnections with the EU member states and efficient use of natural energy resources are couple of the imperative factors for the Baltic energy security and energy independence.

Since the Baltic states view dependency on a single supplier as a threat, energy independence is their primary and common goal. They are in search of new avenues particularly in Europe for energy resources and are trying to develop cooperation with other countries in BSR. Integration with EU energy system is another challenge they are facing. Estonia, Latvia and Lithuania are actively engaged in building the Baltic Sea region aligning with other countries for strengthening energy security and development. At present Baltic states are considerably integrated into BSR. They are part of several organizational framework and institutional arrangements established in BSR to strengthen the Baltic Sea regional integration.

The BSR countries established several regional organizations and institutions. In 1992, they founded Council of the Baltic Sea States (CBSS) with eleven members including: Estonia, Latvia, Lithuania, Denmark, Finland, Iceland, Norway, Sweden, Germany, Poland and Russia. Regional integration, protecting BSR identity and proving security in the region were the main objectives of this organization (Paul 2017: 44). In 1999, the inter-governmental Baltic Sea Region Energy Co-operation (BASREC) was established in the Baltic region for energy cooperation. Baltic Sea Forum (BSF), Union of Baltic Cities (UBC), and Baltic Sea Parliament (BSP) also played a significant role in BSR integration process. Apart from these, Baltic Sea states are also able to form military based institutions and organizations to strengthen security of the region such as: Baltic Battalion (BALTBAT), the

Baltic Naval Squadron (BALTRON), the Baltic Defence College (BALTDEF COL) and the Baltic Free Trade Agreement (BAFTA).

European Union (EU) also initiated number of programmes to support the integration and construction of a Baltic Sea region (BSR). Eight BSR countries including Baltic states (Estonia, Latvia and Lithuania), Germany, Poland, Denmark, Sweden and Finland are members of the EU. The EU norms and regulations facilitated these countries to cooperate with each other to strengthen their economic and political security. The EU adopted number of projects to assist its member states to overcome regional security challenges. The EU Strategy for Baltic Sea Region (EUSBSR) is adopted European Union to develop and protect the region from internal and external security risks (EUSBSR 2015: 2). The EU initiated Trans-European Networks for Energy (TEN-E) to construct new pipelines and projects between the member states. Under this programme the EU launced a number of energy projects in the BSR (TEN-E 2017: 1). In 2009, the EU initiated the Baltic Energy Market Interconnection Plan (BEMIP) for the Baltic States. The main aim of this plan was to put an end to energy islands and integrate the Baltic States with other EU members (BEMIP Action Plan 2015: 6).

Many of the BSR countries, especially Baltic states are called as "energy islands" as they have remained isolated from EU energy system with absence of energy interconnections. They face similar energy security risks and challenges. Primary energy resources are imported from the Russian energy sector. Estonia, Latvia and Lithuania imports 100 per cent of gas and oil from Russia. Several post-Soviet EU member states from BSR region experienced energy disruptions from Russian energy companies Gazprom, Transnet and Lukoil.

The BSR region also plays a very significant role as a Russian energy transport route to Europe. The Baltic states, Ukraine and Belarus are energy transit countries for Russian Federation. Baltic states have succeeded in

bargaining with Russia by using energy transit route and EU membership. To avoid the dependency on Baltic transit route to supply energy to Europe, Russia initiated construction of Nord Stream pipeline under the Baltic Sea to supply energy resources to Germany. The construction of Nord Stream contradicts with the interests of Baltic states and violates the EU environmental regulations. The implementation of Russia-Germany bilateral Nord Stream project bypassing Baltic states as transit routes is the political element involved in it. Baltic states view Nord Stream as a politically motivated project and a threat to national security and well-being.

Therefore, energy is an important national security concern for Baltic Sea states. It is a central element in EU- Russia relations and Russia's approach towards Baltic Sea Region. Consequently energy has a political dimension, wherein it could be viewed as leverage by energy producing and exporting countries and as vulnerability for dependent and importing countries. This context makes Baltic Sea states vulnerable and prone to multiple challenges. On the one hand they have to abide by common European policy balancing national, regional and European interests and on the other finding solutions to overcome the dependency on Russia as a single supplier.

The EU integration of BSR region has improved and strengthened energy security of BSR. Since 2004, the BSR has witnessed several key developments in the field of energy security. In 2004, EU accession of Estonia, Latvia and Lithuania, and Poland changed the energy security framework of BSR. EU adopted BEMIP and EUSBSR to develop number of energy projects in the region; Development of Nord Stream pipeline between Russia and Germany turned as a game changer in Baltic Sea region. Construction of the Baltic Pipeline System (BPS) by Russia bypassing Baltic states to avoid energy transit risks; development of number of LNG terminals in BSR to reduce dependency on a single supplier; and de-nuclearization of the region by closing NPP such as Ignalina power plant in Lithuania are the

major changes and developments occurred in the BSR energy sector after the EU integration of Baltic states (Godzimirski 2015: 20).

As a result of their membership in the EU the Baltic states aimed to diversify its energy imports and reduce dependency on Russian energy sector. The EU also strengthened energy security by initiating special policies for Baltic countries such as EUSBSR. Another event that transformed the geopolitical and security situation in BSR is Ukraine-Russia conflict. The Ukraine crisis is also cautioned Baltic states in terms of energy security and supply. The Ukraine crisis established Russia's alleged dominance in the region to control neighbouring countries. Russia's reaction to its neighbouring countries pushed Baltic Sea states to adopt and develop secured energy strategies and plans for strengthening energy security. It has altered the political and energy sector circumstances in the region (Godzimirski 2015: 6).

Theoretical Framework

The study relies on a broader theoretical framework drawing from security theories of international relations and studies on energy security, pipeline politics, and intersections of energy relations with other sectors in order to examine complexities of energy politics between Baltic States, Russia and European Union. The theoretical framework is attempted on the basis of drawing insights contributed by various scholars such as Sovacool (2011); Yergin (2006); Shaffer, (2009); Ducaru (2014); Thomas (2013); Augustine J (2008); Bahgat (2011); Haluzan (2013); Henryk (2008); Tippee (2012); Tippee (2012); Dreyer and Stang (2013); Voser (2012); Rodrigue and Comtois (2016); Proedrou (2016); and Maza (2015). In the present world Sustainable development, energy technologies, and eradication of the poverty are feasible with the concept of energy security. Accordingly energy security depends on new innovation and technologies along with the cooperation between energy producers and consumer states (Badri 2008: 1)

Brinda Sahffer (2009) views energy politics and security as intrinsically interlinked. A country's capability to access energy resources determines its national security, state of economic development, environmental sustainability and so on. Energy politics is largely linked to energy security. Energy security plays a significant role in the political and economic growth in the current global politics.

Some of the important events of the 20th century like the German invasion of Baku during the First World War, Japans assault of the Pearl Harbour during the Second World War, the Suez crisis in 1956, the global oil crisis of 1973, protracted Iran- Iraq war, the Iraqi aggression of Kuwait in 1991 and disintegration of the Soviet Union in the last century are some of the instances displaying the way energy shaped and transformed the approach of international politics (Yergin 1991, in Mohapatra 2013: 2).

Most of the countries are dependent on fossil fuels such as coal, oil and natural gas for their economic development. This position of the present economy allows for energy security threats. It is inevitable for all countries to develop their domestic renewable energy sources to create energy security for their sustenance. Increased renewable energy leads to energy security and energy security leads to energy independence (Haluzan 2013: 2).

Energy security is defined in terms of factors such as availability of supplies at affordable price, devoid of supply disruptions and blockades, diversification of energy resources, sociable environment, and also considers energy border disputes between importer and exporter, alterations in the energy markets, environmental concerns, climate change threats, economic and political events of the world [Cherp 2016; Dreyer and Stang 2013; Tippee 2012; Yergin 2012; Muller 2008; Sovacool 2011; Barry et al 2004; IEA 2016; Dreyer and Stang 2013; European Commission's 2000].

Energy geopolitics is another perspective useful to describe energy policies of governments and companies. Changes in the international environment,

geographic location, energy exploration, development, transportation, markets, new technology and energy supply and demand are some of the factors pertaining to energy geopolitics. Energy is one of the determining aspects in the global politics. As energy is an important factor for the economy it subsequently plays a significant role in the development of a state (Thomas 2013: 3).

Efficient functioning of energy sector is very essential for modern economy. Majorly, all economy sectors are directly or indirectly connected with the production, export, import or transportation of energy resources. Efficient function of industry, transport and agriculture sectors largely dependent on access to energy supply. Energy sectors influence on economic and technical sphere in modern state economy is incredible. Energy security also influences social process, communication, ecology and politics thereby making it indispensable part of states economic security (Augustine J 2008: 8).

In today's globalized and liberalized economy energy sector has played crucial role. Mass industrialization and economic growth is unattainable in the absence of energy. Energy has enhanced the process of industrialization in multiple ways. Indirectly or directly energy provides employment facilities which will boost the economy and GDP. Energy is a key element for the industrialization in developing economies (Voser 2012: 1). Energy is essential in the initial stage of economic development (IEA 2015: 331). Haluzan pointed out that without energy there is no economy and without economy there is no progress in the society (Haluzan 2013: 1-2). Stable energy supply and reasonable energy price will results in economic development and also energy is very crucial for expanding the economy and markets. Energy relation and co-operation with other states and multinational companies will strengthen the international trade. Constructing new pipelines and energy projects will strengthen business cooperation between different nations (Voser 2012: 1- 2).

There is a direct link between energy sector and transportation. Both sectors are interdependent on each other. Transport requires a proportional amount of energy. Energy is used extensively in constructing roads, railways, terminals, tunnels, bridges, buildings, airports and ports. Major transportation modes depend on petroleum, diesel, gas, bio-fuels (ethanol, methanol and biodiesel), hydrogen and electricity. Price fluctuations, technical changes and environmental effects are three main issues in the transportation markets (Rodrigue and Comtois 2016: 2).

In taking energy policy decisions governments play a significant role. Prior to adopting energy policy or energy security strategy governance bodies of particular state have to provide priority to their energy security and cost of supply, economic development, environment, energy import dependency, resource income, and political relations. Most of the energy export companies across the globe are controlled by their specific governments. Government interference in the decision making of energy supply could be a threat to energy security. International and national governance institutions like International Energy Agency (IEA), United Nations (UN), European Union (EU), G20, G8, the International Energy Forum (IEF) and the Energy Charter Treat (ECT) are playing very crucial role in energy security decision making in global and national level (Graaf 2013: 12).

The group of G8+5 functioned effectively on energy security and environmental challenges. Likewise the UN played a key role in international energy sector. It adopted the "United Nations Framework Convention on Climate Change (UNFCCC)" and it is the only legal organization for environmental change and global warming debates in the world. Apart from these institutions, IEA is one of the governing institutes in terms of energy security concerns. It is the sole global organization that has the capability to analyse energy strategy, energy supply, pipeline politics and energy technologies (Grantham Institute for Climate Change 2012: 1-3).

Pipelines play a significant role in strengthening energy security. Pipelines are important mode of transportation of oil and gas. Across the globe Pipelines are the most preferred way of oil and gas transportation in comparison to transportation via containers. As there are limitations in other modes of transportation pipelines are the efficient mode of gas transportation (EurActiv 2011: 1-2). Gas can be transported effectively if infused into pipes, rather than converted into other forms, especially over land (Proedrou 2016: 1-2).

Pipeline infrastructure is an accessible way to connect neighbouring countries with complementary economic interests, such as producer and consumer. Pipeline trade creates ground for cooperation and alliances, and interdependence, if asymmetric it works as a power and bargaining tool or a means to establish one's supremacy over another (Proedrou 2016: 3). Oil and gas pipelines are not just simple steel tubes to transport energy from place to place. They are exposed to numerous impediments that disrupt the free flow of transportation. They are surrounded by political disputes, geo-politics and disputes over price and efficiency [Pfeifer 2013; Maza 2015; Sanati 2016; Proedrou 2016; and Shah 2011].

Energy efficiency is very crucial for achieving energy security. Renewable energy resources play a significant role in energy efficiency and diversification by reducing the fissile fuels. Most of the countries are investing in renewable technologies to reduce their energy dependency. Solar, wind, rain, tides and geothermal heat are the major resources produced from renewable energy. Solar energy is the primary source for renewable energy. Energy from sunlight (solar energy) is used widely for producing electricity, lighting houses and buildings, water heating and for number of other economical and industrial activities. Solar energy is one of the effective methods to produce sustainable and clean energy (UCSUSA 2016: 1).

Wind power is also considered as a most sustainable way of generating electricity without causing environmental hazards. The usage of solar energy

and wind power in electric production will reduce the possibilities of environmental pollution. The heat from the sun and earth rotation also contributes wind power and these can be used as an alternative to fossil fuels. Usage of renewable energy resources is witnessed in achieving clean environment energy efficiency, security and energy independence (UCSUSA 2016: 1).

Energy supply risks and challenges in the same will affect future energy security across the globe. Political conflicts, terrorism, civil wars, and personal interests between the countries lead to energy disruptions. Poor weather conditions, natural calamities and lack of appropriate infrastructure and interconnection between the consumer and supplier nations are also one of the primary concerns lack of energy generation and supply. Price variation in the energy market is also a threat to energy security supply. Environmental effects such as greenhouse gas emission, oil spills, nuclear accidents and global warming are also considered as obstacles to energy security (Checchi et. all 2009: 3-4).

Shah (2011: 1) argues that, dependency on foreign energy sources, rising dictatorship, terrorism, energy requirements of developing countries (China and India), population growth, lack of renewable and climate change are the major threats to energy security. Strong regional cooperation helps in strengthening energy security through constructing energy pipelines and infrastructure with mutual interests, transporting energy among member states and mutual investment to initiate larger energy projects. Regional cooperation facilitates states to develop agreements on energy trade in the regional level thereby creating a network that will accomplish energy requirements.

This study draws, Regional Security Complex Theory (RSCT) to explain the role of regional cooperation and integration in creating stronger energy security. Buzan (1983:106) defined “RSC as a group of security dilemmas restricted to particular geographical area. Threats and complexes are

interrelated between states and other political actors within the region". Further, he also states that, regional energy security complexities are formed by energy related interactions between two or more states in a limited geographical area such as: distribution of energy resources, energy dependency, production, imports and exports, price, pipeline politics and energy disruptions (Buzan and Waeaver 2003). These are the main reasons for creating energy security complex dilemma in any region in the world (Christou 2015: 1-2).

A noteworthy instance of such a situation is the EU, NATO and Russia's presence in the BSR. The EU and Baltic states dependence on Russian gas, oil and coal has led to the formation of interdependence complexes in the region. The energy politics and direct involvement of these external actors created energy security dilemma in BSR. Emergence of a new regional energy security complex and community is evident in BSR due to the implementation of Nord Stream project. The eight countries that are concerned about the project, Estonia, Latvia, Lithuania, Poland, Sweden, Germany and Russia form a Regional energy security complex while the Russia, Germany and Finland constitute Regional energy security community.

Focus of the Study

In the Background of the above framework the study seeks to focus on the following points.

- The role of energy in the relations between Baltic states and Russia.
- Influence of Soviet legacy and identity issues on Russia-Baltic energy relations
- The impact of Baltic energy dependency on Russia.
- The implications of Common EU Energy Policy and pipeline politics for Baltic states.
- The energy policy of Baltic states and regional cooperation.
- Russia-EU energy politics and The challenges of Baltic energy independence

Research Questions

The study aims to answer the following questions related to energy politics between Baltic states, Russia and European Union.

1. What are the main aspects of geopolitics and pipeline politics in the contemporary Baltic Sea region?
2. What are the major energy related issues in Baltic states?
3. Why do Baltic states consider energy as a source of threat to national security/ what are the factors that shape the agenda of Baltic energy policies?
4. What are the effects of EU common energy policy on Baltic states energy relations?
5. How energy becomes a foreign policy issue and foreign policy instrument between Baltic states and Russia?
6. How EU integration and NATO membership influences the Baltic states energy security and policies?

Hypotheses

In order to examine the above questions the study developed the following hypotheses.

1. EU- Russia energy cooperation as main focus of common EU energy policy and bilateral pipeline projects like Nord Stream contradict national interests of Baltic states, which maintain adversarial attitude towards Russia and have strained political relations.
2. Baltic states of Estonia, Latvia and Lithuania pursue their own distinctive energy security policies with Russia due to identity and historical reasons.
3. Lack of integration into EU energy infrastructure and effective common energy policy limits the EUs capacity to deal with energy isolation and security challenges of Baltic states.

Methodology

The study is analytical in nature and follows an interdisciplinary approach. It employs various theoretical insights from international relations, energy security studies, economics, environmental studies and geopolitics. The study refers to some of the important works by Daniel Yergin, Brinda Shaffer, Sudha Mahalingam, Agnia Grigas, Sovacool among others to define environmental politics, security and related dimensions. The above literature have facilitated in understanding and theorizing the politics of energy between Baltic states Russia and EU, and the way these entities employ energy as a foreign policy instrument. The study draws from Regional Energy Security Complex Theory and Securitization theory offered by Barry Buzan, O. Weaver and J. de Wilde. The study is based on both primary and secondary sources available in English, Russian and Baltic languages and translations. Primary sources include government and legal documents, reports, policy documents, speeches, interviews and news papers reports. EU's Baltic Sea Strategy, EUs Roadmap of Energy 2050, Energy Policies of Estonia, Latvia and Lithuania, Energy Policy of Russia, and EU- Russia Energy Dialogue, etc. These are some of the important primary sources documents that the study analysed to understand and conceptualise the factors that shape energy policies and politics of respective countries. Secondary sources include books, periodicals, journals, newspaper articles and internet.

Scheme of Chapters

The study is structured in seven chapters. The first chapter outlines the theoretical background of energy politics and security emerged in the Baltic Sea Region within the broader context of Soviet disintegration and post-cold war transformation in international politics. It also explains the multiple dimensions of energy politics and security energy. Chapter two discusses the influence of Soviet legacy and issues of identity and dependency involved in energy relations between Baltic states and Russia.

Third chapter provide a detailed analysis of effect of EU energy policies on Baltic states in terms of integration and cooperation. It examines the EU integration of Baltic energy market and the status of implementation of common energy policy of EU and third energy package in the Baltic states of Estonia, Latvia and Lithuania. It explores various strategies adopted by Baltic states and EU for market integration such as EU Strategy for Baltic Sea Region (EUSBSR) and Baltic states Energy Market Integration Plan (BEMIP). It highlights the challenges for Baltic market integration into EU. It also analyses the EU contribution and financial assistance to Baltic states energy market integration.

Fourth chapter describes the security concerns of Baltic states related to Russia-EU energy relations, pipeline and nuclear projects. It discusses the existing energy cooperation and dialogue between European Union and its impact on Baltic states. The fifth chapter examines energy policies of Baltic states and the effect of these on strengthening energy independence, regional cooperation and security. This chapter also analyses the regional cooperation between Baltic Sea states to promote energy security. It explains the effects of various energy projects and inter-connection plans in the field of electricity, gas and oil in the Baltic region such as the LitPol Link and Nord-Balt in ensuring energy security and independence.

The sixth chapter describes the complexities of energy politics and security in the Baltic Sea region involving Baltic States, Russia and European Union. It explains the varied factors over dependency, energy disruptions, price volatility, Gazprom dominance in Baltic energy sector, the status of EU as consumer of Russian energy and national interests that shapes the energy politics between Baltic states, Russia and EU. It also examines the political aspects of different energy projects and programmes between EU member states and Russia and its implication on Baltic States, such as Nord Stream. The last chapter provides summary of the study, states the validity of hypotheses and lists out the conclusions arrived.

Chapter 2

Energy Relations Between Baltic States and Russia: Soviet Legacy, Identity and Dependency Issues

Since the regaining of independence in 1991, Baltic states had strained relations with the Russian Federation due to energy security issues, historical experience and presence of Russian minority. The Baltic states are solely dependent on Russian energy and face similar security challenges. Estonia, Latvia and Lithuania are importing 100 percent of natural gas from Russia. Several times Russia used its energy resources as a "soft power", to counter Baltic states integration into EU and NATO. This chapter presents the politics of energy between Baltic states and Russian Federation. It also discusses about the Estonia, Latvia and Lithuania's energy policies towards Russia, and Russia's approach to each individual Baltic state. It highlights Russia's political and economic interests in the Baltic Sea region by addressing energy pipelines, over dependency, energy disruptions, price volatility and Gazprom dominance in Baltic energy sector. In this context, this chapter discusses the impact of Soviet legacy, identity perceptions and dependency issues that shapes the energy relations between Russia and Baltic states.

Russia-Baltic States Energy Relations: Influence of Soviet Legacy

One important problem in Russia-Baltic relations is the influence of Soviet legacy. The three Baltic states possess Soviet inheritance of their energy systems. After the incorporation of Baltic states into Soviet Union during the Second World War and aftermath Soviet occupation of Baltic states during 1940-1991 the Baltic states were completely integrated into centralized Soviet system and governed by Soviet leadership. Energy sector of Baltic states was fully integrated into Soviet energy system. Entire decisions regarding Baltic energy resources were taken by the dominant Soviet government without the

consensus of Baltic States. All the decisions of Baltic states regarding political, economic and cultural sector including energy sector were taken by the Soviet Union (Elletson 2006: 15). During the cold war period Soviet energy sector had emerged as a main actor in strengthening economic and political institutions. This development led Soviet Union emerged as the one of the largest oil producer in the world. It helped Soviet Union to strengthen its global position. Therefore, energy became significant factor in power politics and international relations in the cold war era.

It was under the interdependence norm the Soviet energy system worked. The Baltic states received energy at a lower price during Soviet occupation. But now they are facing problem with this Soviet legacy. Because the old Soviet energy infrastructure in which Baltic states are still part of is under the control of Russia. Lithuania's, Latvia's and Estonia's electricity sector grids are completely linked to the post-Soviet, Eastern system. The same is the case of gas sector also. These infrastructure is now is controlled by Russia. Therefore, all three countries have no option other than to import gas exclusively from Gazprom (Molis 2011: 21).

Baltic ports were main transit routes of trade in Soviet Union to Europe. After Soviet disintegration these ports are important for Russia as outlets to Baltic Sea. Therefore, Russia's economic interests are tied to Baltic states territories and ports which are useful in transporting Russia's energy to EU. Since Russia is one of the largest energy producers and its economy is based on energy exports to Europe. Baltic Sea region countries including Baltic states energy routes are very crucial for Russian energy exports (Grigas 2015: 2-3).

Russia has historical, political, and economic interests in the Baltic Sea region, especially in Estonia, Latvia and Lithuania. In Grigas opinion, the primary motive of Russian approach towards Baltic states is to counter the NATO collective security under Article 5. In the perspective Russia is following the policies of Russification and imperialization towards Baltic

states to keep them under its influence (Grigas 2015: 1-2 and Gotkowska 2014: 1).

The west alleges that Russia's main interest is to suppress the post-Soviet states politically, economically and militarily by incorporating them into the Eurasian Economic Union. Russia has its key interests in Ukraine, Estonia, Latvia and Lithuania Undermining the Baltic Sea region countries and obstructing them from joining and cooperating with NATO and EU is also one of the key motives of Russia. However, it is also to be noted that NATO's expansion to Russia's border and EU enlargement to post-Soviet space has clear geopolitical motivation to prevent the resurgence of Russia.

After Putin became President of Russia, he focused more on post-Soviet states by initiating new strategies like Near Abroad Policy. Putin considered energy as Russia's soft power and used it to control the energy dependent countries including those in Baltic Sea region. Putin's main agenda is to build Russia a global energy dictator by increasing energy production, high energy prices and using energy as a foreign policy and political tool (Bochkarev 2006: 1).

Russian energy policy is based on four core pillars: energy sector is becoming geo-political tool to influence world politics; state intervention in energy sector strategy and decision making process; energy sector is controlled by only few major companies like Gazprom and Rosneft; and oil and gas exports pipelines controlled by the government. These are the main Russian energy policy pillars under the Putin presidency (Bochkarev 2006: 2).

The main objectives of Russian energy policy under Putin's tenure are to: increase energy production and exports; energy transportation to Europe and Central Asia; attracting Foreign Direct Investment (FDI) to the Russian energy sector development; promoting Russian energy production activities in abroad; and promoting Russian energy companies' intervention and presence in foreign countries energy markets (Bochkarev 2006: 8). Baltic states share

very tense relations with Russia due to their past political, economic and military experiences with the Soviet Russia (Lamoreaux 2014: 1). This strained relationship has also contributed by identity and memory politics.

Impact of Identity and Memory Politics

The conflicting interpretation of Soviet occupation by Russia and Baltic states are the basis of politics of identity and memory in Baltic states. The Baltic states argue that they were independent states and forcibly annexed and occupied the Soviet Union during Second World War. But Soviet justification is that Baltic states have been voluntarily incorporated in Soviet Union. The memories bitter experience and torture under Soviet occupation is a dominant narrative in the national identity construction. Loss of independence formed the basis of legal continuity in the formation of national identity.

Baltic states were independent states during the inter-war period, 1918-1940. The collapse of the German and Russian empires during World War I resulted in the independence of Baltic states. In 1918, national councils declared independence and established governments while the Baltic homelands were under German occupation. However, the Baltic States were immediately faced with a Soviet invasion. Nevertheless, provisional governments survived the Soviet incursion. In 1920, the independence of Baltic States materialised with Soviets concluding the peace treaties. Subsequently in 1922, all the three states came to be recognized as members of the international community (Misiunas 2016: 1). All three states gained membership to the League of Nations and of the international society (Norgaard 1999: 1).

After achieving independence, the Baltic countries reformed their political, social and economic sectors. All the three countries adopted parliamentarian political system. Multi-party system was introduced and various dominant political parties emerged in the three states. Unfortunately due to lack of political experience these states developed authoritarian political system (Misiunas 2016: 3-4).

In 1939, Baltic states were forcefully annexed by Germany and USSR under the secret German-Soviet Non-aggression Pact. After the World War II, Baltic states became Soviet republics and their economic and political independence was trampled by the Soviet Union. Baltic states were subjected to major changes in all the sectors according to Russian planning and development (Misiunas 2016: 5). The three Baltic states had been susceptible to political control; their economies had been completely integrated into the Soviet economic system and thereby separating them from all the foreign political, economic, and cultural relations (Norgaard 1999: 2).

Baltic citizens faced several problems under the dictatorship of the Joseph Stalin thereby denying political, economic and cultural rights. From 1980s, the Baltic states were in a position to regain their independence from the Soviet Union. In 1985, Mikhail Gorbachev became the President of Soviet Union and he introduced political and economic reforms (*glasnost-perestroika*) (Norgaard 1999: 1), which allowed Soviet-republics to assert their independence. In 1988, the Baltic states witnessed a mass movement primarily aiming for political and economic change. The Popular Front of Latvia, The Popular Front of Estonia, and the Lithuanian Movement for Reconstruction (*Sajudis*) were in forefront in the struggle for independence (Misiunas 2016: 5).

In 1991, the world witnessed the collapse of the Soviet Union into 15 different states. The reasons for the collapse of the superpower may be seen in the deepening economic and political crisis, the geopolitical circumstances, the role of the United States and Russia's conduct towards the smaller republics such as Estonia, Latvia and Lithuania (Boguszewski 2014: 1). In 1991 Lithuania, Latvia and Estonia declared its independence. In the same year they joined the United Nations. All the three states adopted new constitutions, new government systems and new currencies. In 2004, The Baltic states Joined EU and NATO and experienced constant economic growth and closer relations with both the organizations (Norgaard 1999: 1 and Misiunas 2016: 7-8).

However, the attainment of legal independence from the Soviet system was the solitary step in a long run towards democratic governance, a market-based economy and their integration and assimilation into the newly emerging international system (Norgaard 1999: 1). They took western orientation because of the past experience. They keep mistrust on Russia and believe that Russia is a threat to their national security.

After the restoration of independence in 1991, the three Baltic states used politics of memory and historical justice as important nation building instruments. The main goal of identity formation process in Baltic states was to free the people from the identity inherited from the Soviet period. There are differences in interpretation of Soviet history between Russophone and titular ethnic majority. Russian speakers view Soviet occupation as a positive thing in terms of jobs, social welfare and industrialization. But ethnic Balts view Soviet past as occupation and show themselves as victims of Soviet occupation and oppression. They defined the nationhood on ethnic lines. This led to exclusionary policies of citizenship and language laws depriving the Russian speakers of political, economic and social rights (Usha 2012: 4).

Foreign policies are also based on historical narrative of occupation, collective memory and ethno-national identity in order to distance from Russia and be more close to Europe. The differing identity and memory narratives were perceived as hostile and antagonistic acts. Since Russian immigrants are viewed as instruments of Soviet oppression and a potential fifth column to be used by revanchist Russia, especially in Latvia and Estonia where nearly 30 percent of population are Russian speakers (Norgaard 1999: 157). There is fear that Russophone may be used by Russia against Balts.

Protecting Russian ethnic minority in Estonia, Latvia and Lithuania was the first priority of Russia. Existence of large Russian minority in Estonia (24 percent), Latvia (27 percent) and Lithuania (6 percent) is a political tool for Russia to destabilize Baltic states politics. Russia is trying to destabilize the

Baltic states politics and territorial integrity by putting pressure through military activities like violation of airspace etc. (Grigas 2015: 1-2). Russian language is considered to be second official language in all the three Baltic states. Russia is supporting minorities to establish Russian language educational institutions. Russia also succeeded in creating political instability through supporting minority political parties such as Russian Union and Electoral Action for Lithuanian Poles in Lithuania.

According to Lamoreaux (2014), three major issues such as: existence of considerable Russian speaking population in Estonia, Latvia and Lithuania; Russian control and influence on Baltic educational institutions and media; and Russia's involvement in Baltic states political and electoral processes lead to the development of strained relationship between Russia and Baltic states (Lamoreaux 2014: 3-5). The identity and memory also influence the energy relations between Russia and Baltic states.

Over Dependency on Russia: Threat to Baltic Security

The relation between Baltic states and Russia is extremely complex in the historical context (Apine 2014: 1). After the disintegration of Soviet Union, Russia emerged as a successful state of the union and continued the legacy of controlling Baltic States. After independence Baltic people observed Russia as a threat to their sovereignty and independence. The Baltic states developed deeper trust on EU and NATO. In 2004, they gained the official member status of these two international groups for security reasons. Russia opposed the Baltic states integration into EU and NATO groups quite vocally, but failed to prevent the accession. Since then NATO has turned into an aspect of primary security for Baltic states (Apine 2014: 3). This process of integration made Baltic states relations with Russia more hostile.

Russian ethnic minority population played a decisive role in Russia-Baltic relations. In comparison to Lithuania, Estonia and Latvia had strained relations with Russia because they had larger populations of Russian speakers

(Apine 2014: 1 and Karmazinaite 2014: 3). Over the past few years, Russian minorities have increasingly mobilized and political parties representing Russian speakers have gained prominence in local politics in the cities of Tallinn and Riga. This might be possible, if the Baltic states fail to integrate their Russian speaking populations they will lose the soft power war of gaining the loyalty of these populations. The Baltic states ought to take note of Ukraine's recent experience. Russia's annexation of Crimea demonstrates Moscow's capability to exploit domestic political instability and the presence of Russian speakers to achieve its aims and seize territory (Karmazinaite 2014: 3).

The economic challenges for Estonia, Latvia and Lithuania have been often related to Russia's conduct. Since the initial stage of independence mutual relations, particularly the economic relations have been tense. In spite of several setbacks, Baltic states are willing to develop economic ties with Russian Federation. However, Russia became one of the largest trade partners for three Baltic states after their separation from the Soviet Union (Riga Conference 2016: 1). In 2004, the EU and NATO enlargement affected the economic relations between Russia and the Baltic countries.

However, this integration process provided alternative economic partners for Baltic states. Nevertheless within a span of time trade relations were successful between Russian and Baltic states (Riga Conference 2016: 2). Political tensions between Russia and former Soviet members also influenced the Baltic relations towards Russia. Majorly Russia's approach towards Ukraine has made EU to place political and economic sanctions on Russian Federation. The current situations offer relatively slight hope for the normalization of trade relations between the Baltic countries and Russia in the nearest future (Ibid).

Since the independence of Baltic states, energy emerged as one of the main sources of tension between the Baltic states and Russian Federation. After the

fall of communism, the newly independent, sovereign democratic countries of Estonia, Latvia and Lithuania have made necessary modifications to their energy strategy (Boguszewski 2014: 1). In 2004, the Baltic states signed a declaration on securing a reliable energy supply. The main aim of the agreement was to form a common gas market and to create stable connections between the Baltic states and EU (Keating 2015: 1). At the same time Baltic states were focused on gaining independence and establishing political and military security. This led to their integration into EU and NATO. Since then energy security and energy independence became most important priority issues for the Baltic states (Grigas 2013: 103).

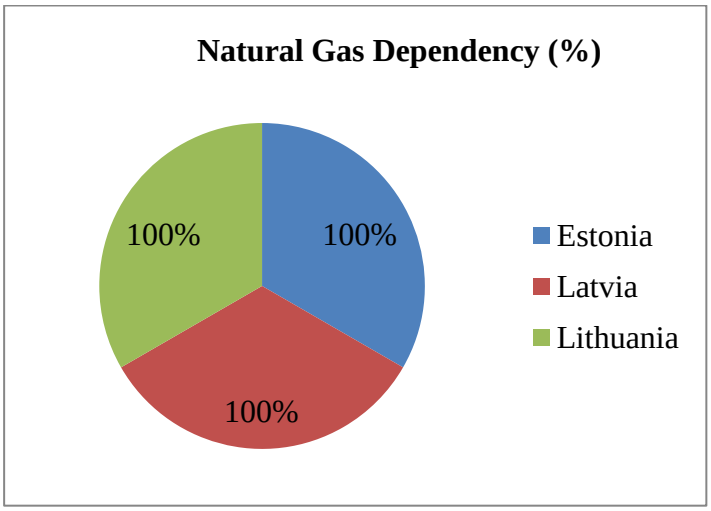
Currently, Baltic states are reliant on Russia for gas and oil supplies. Estonia, Latvia and Lithuania are in varying degrees especially tied to Russia by Soviet-era pipelines, rail lines, and refineries (Smith 2004: 5). All three states are approximately 90 percent dependent on Russian oil and nearly 100 percent dependent on Russian gas imports (Grigas 2013: 104).

The Baltic states are mostly depended on Russian energy imports. Since, WW II, every decision regarding the pattern of industrialization and intensity of energy usage in the Soviet republics was decided by Russia (Smith 2004: 5). Baltic-Russian energy relations reflect the dependency and vulnerability of the Baltic states (Grigas 2013: 39). Baltic energy dependency is thus a product of Soviet occupation and industrialization process.

Prior to invasion, Baltic states refrained from importing any energy from Soviet Union. Lithuania and Latvia were energy independent and sufficient countries. They depended on their own domestic energy resources. Lithuania imported energy from the UK and Germany. The Soviet infrastructure is the main reason for energy dependency of Baltic states (Grigas 2013: 40). However, in the current scenario, Russia emerged as one of the sole supplier of electricity, gas and oil in the European region including Baltic states.

Figure: 1

Energy (Natural Gas) Import Dependency of Baltic States- 2013



Source: Grigas (2013) and Energy Pocket Book (2015).

The above figure explains the natural gas imports of Estonia, Latvia and Lithuania in 2010 and 2013 respectively from the Russian Federation. Every year the percentage of energy imports is growing and Russia is the only source for these energy islands. Three Baltic states imports 100 percent of natural gas from the Russian state company Gazprom. Excess dependency on Russian Federation for energy resources has placed Baltic states in a vulnerable state. Lack of interconnections and energy diversity are the main reasons for energy dependency of Baltic states.

Energy reliance on Russia has been one of the most important factors and the greatest source of vulnerability for the Baltic and Central and Eastern European states in their relationship with Russia. For Russia, energy resources have been a source of strength, especially in its relations with energy dependent states. However, the US shale gas revolution has recently presented new avenues for energy deprived countries. If these opportunities are recognized, the energy vulnerability of the Baltic states could be significantly reduced. With new shale gas reserves, drilling technology and LNG delivery infrastructure, the US shale gas revolution will make the US an energy exporting state. It is expected that reduction in energy dependence on Russia

will improve Baltic-Russian relations on an overall basis, and formulate energy relations based on commercial considerations and reduce some of the political overtones (Karmazinaite 2014: 1-2). The import of energy resources from Russia shows the state of energy dependence of Baltic states on Russia.

Estonia

Since 1945 the Estonian industry was integrated with the USSR economy. In the middle of the 1980s the Soviet Union began to decline. In 1991 Estonia regained its independence through protests and the Singing Revolution (Bieliszczuk 2015: 3-5). After independence it joined the EU and NATO organizations for security reasons. A huge minority of Russians remained in Estonia and they played a significant role in Russia-Estonia relations (Bieliszczuk 2015: 5).

Estonia experienced and endorsed all forms of Russian foreign policy strategies and manipulation except open war over the years. The recent signing of the border treaty was an exception in the field of mutual relations. Subsequently Estonia's decisive pro-Western orientation remains unacceptable for Russia (Bieliszczuk 2015: 10).

Gazprom holds ownership shares in the Estonian energy company. In comparison to Lithuania and Latvia, Estonia consumes limited gas energy resources. Despite being relatively low in its energy mix, Estonia, as with the other Baltic countries, remained dependent on Russian gas supplies. Combustion of high-carbon oil shale is the source of electricity generation. Estonia restructured and modernised its infrastructure further investing in energy sources like wind power rather than gas technologies (Dudzinska 2015: 2).

Table: 1

Estonia's Natural Gas Imports from Russia (mcm/y)

	1990	2000	2005	2010	2011	2012

Demand	712	812	979	689	627	670
Production	0	0	0	0	0	0
Net Imports	712	812	979	689	627	670
Dependency (%)	100	100	100	100	100	100

Source: IEA (2014).

The Table illustrates the Estonia's gas dependency on Russian Federation from the period of 1990 to 2012. It is very clear that, since the regaining of independence Estonia is totally depending on Russia for gas imports. Demand for gas energy products is increasing every year, but Estonia is not able to produce the required valuable volumes of gas resources.

Even though it is not totally dependent on Russian energy imports compared with the other two Baltic states, Estonia has supported regional energy cooperation by extending its willingness to participate in the construction common of LNG terminal in Baltic region. It is also encouraging all the projects initiated and recommended by the EU in the Baltic states. To maintain distance from the Russian energy sector, Estonia signed an agreement with Finland energy company to import gas. It also finalised a deal with Lithuania to imports gas from LNG terminal in Klaipeda. The Baltic-connector is also one of the alternatives for Estonia to avoid the dependency on Russian energy market (Dudzinska 2015: 2).

Latvia

In 1991, Latvia regained its independence from Soviet Union. However it maintained uncertain relations with Russian Federation after collapse of communism. With is close trade relations along with 25 percent of its population belonging to Russian origin, in comparison to the other Baltic states, Latvia is compelled to follow the most pragmatic policy towards Moscow. Moscow remains one of Riga's most important trading partners;

thereby increasing its reliability on Russia for its energy supplies (Arighostiles 2015: 1). Most of its energy imports including oil, gas and coal come from the Russian energy sector.

Table: 2

Latvia's Gas Imports from Russia

Country	Natural gas dependency 2010 (%)	Natural Gas dependency 2013 (%)	Primary import source of Natural gas
Latvia	61.78	100	Russia

Source: Grigas (2013) and Energy Pocket Book (2015).

The table illustrates Latvia's gas imports from Russian Federation. In 2010 Latvia imported only 61.78 percent of gas due to local alternative energy resources, but in 2013 it imported 100 percent of gas due to increase in the consumption of gas. The EU environmental measures are also some of the reasons for Latvia to reduce usage of power plants and nuclear energy and this led to the over dependence on Russian gas. This has also led to the Gazprom's control over the Latvian energy sector. However, Latvia tried to control Russian involvement in domestic energy sector by adopting EU third energy package and liberal market principles. But Latvian government delayed the implementation process of market liberalization and underground gas storage construction also delayed which forces Latvia to depend on Russia for its gas needs (Dudzinska 2015: 3-4).

However, after experiencing energy disruptions and high energy prices, Latvia considered Russia as an external threat to its energy and national security and joined EU and NATO to protect its independence. In order to reduce the energy dependency on Russia, Latvia developed number of regional projects with the BSR countries. Latvia's energy cooperation and establishment of interconnections between Latvia and EU member states will strengthen Latvia's energy independence. It is very essential for Latvia to adopt

alternative energy projects with Baltic Sea countries for securing energy supplies. Excessive dependency on the Russian energy sector may bring political and economic tensions to Latvia.

Lithuania

Since it regained independence in 1990, Lithuania developed tense relationship with Russia. Immediately, after the declaration of independence, Lithuania experienced energy supply cuts from Russia. Russia used its energy to pressurize and destabilize former Soviet republics including Lithuania who declared independence. For instance, in 1990 and 2006 Russia closed the oil and gas pipelines to Lithuania. In 2011, Russia increased its gas prices by 15 per cent to Lithuania as a counter to Lithuania's initiation to de-link from the Russian energy pipeline networks and develop alternative energy supply sources. Its assertion for energy independence led to Russia's imposition of discriminatory strategies. As a result, Lithuania was charged highest price for Russian gas, in comparison to all EU member states (Czerwiec 2014: 1 and Balmaceda 2013: 211).

Table: 3

Lithuania's Gas Imports from Russia (%)

	1998	2010	2015	Supplier
Lithuania	100	100	100	Russia

Source: Ministry of Energy of the Republic of Lithuania (2015).

On the basis of the above Table we can conclude that Lithuania is totally dependent on Russia for its gas resources. Lithuania is importing 100 percent of its gas from the Russian Federation. Due to its geographical location and lack of energy interconnections, Russia emerged as the only gas supplier to the Lithuanian market.

Lithuania's constitutional system also affected the institutional setting for energy policy making. On the basis of 1995 Law on energy, the *Seimas* is responsible for setting the main outlines of energy policy towards Russia, energy ministry (Balmaceda 2013: 214). Based on this legal support Lithuania developed energy policies towards the Russian Federation. Since 2004, Lithuania's membership in NATO and EU gives it an element of power in the relationship. Membership in these organizations, especially the EU gives Lithuania the possibility to materialize its energy relationship with Russia. Lithuania brings both strengths and weaknesses to its energy relationship with Russia. With limited effectiveness Lithuania lacks of significant domestic energy resources that produce inadequate quantities of oil, which covered less than 2 percent of domestic consumption, and also virtually lacks gas and oil storage facilities to cushion demand fluctuations and guarantee supplies in case of a cut-off (Balmaceda 2013: 208-209).

Lithuania's independent energy and foreign policies towards Russia are reflected establishing close energy relations with BSR countries. It also developed energy ties with EU member states. The construction of LNG terminal is a mile stone project in the independent strategy of Lithuania. This terminal has the capacity of fulfilling the necessary energy needs of three Baltic states. It is able satisfy 80 per cent of Lithuania's gas demand. In addition, Lithuania is adopting several strategies and plans to diversify its energy resources. This LNG will not only satisfy Lithuania's gas needs, but also reduce its dependency on Russian Gazprom. It also planned to developed gas pipeline with Poland. This project is financed by Poland, Lithuania and EU; it will also supply gas to other countries of the region. It has been estimated that, this pipeline is planned satisfy 50 per cent of Baltic states gas needs. Recently, in 2015 Lithuania agreed to construct a LNG with the cooperation of Norway. All these projects will help Lithuania to achieve the targets of energy independence (Dudzinska 2015: 2).

Lithuania is also dependent on Russia for its electricity needs. The closing of Ignalina in 2009 made Lithuania depend more on Russian electricity sector. However, it started electricity links with Poland and Sweden to reduce its dependency. These grids will help Lithuania to develop electricity interconnections with EU member states (Czerwiec 2014: 2). According to Boguszewski, there are at least three possible solutions. Firstly, consolidation of energy security policies and complete the nuclear power plant project in Lithuania. Secondly, construction of a common international LNG terminal that connects to Finland and Sweden, instead of three local terminals. The third solution is to introduce at the earliest the third EU energy package that will enable the Baltic states to join the network and significantly block supplies from Russia (Boguszewski 2014: 4). However, most of the projects are delayed and under construction with lack of sufficient financial assistance and unwillingness of the partner countries.

Russia's Energy Policy and Energy Projects: Baltic Perspective

Since, Russia is one of the major oil and gas producing countries in the world, its energy security policies are very different and are based on the energy demand and supply perspectives. Gas has played a significant role in executing Russia's diplomacy in the world (Salah 2016: 1). The primary objective of the Russian energy policy is to maintain strong energy cooperation with Baltic states. Baltic states fear that Russia uses its energy resources to control and influence the Baltic energy sector. Owing to its large geographical space and Russia has played a decisive role in influencing the energy polices of it neighbouring states. It has use energy resources as a key factor to impose political and economic pressure on post-Soviet republics (Salah 2016: 1). Russia attempts to widen its influence by compelling its neighbours entirely dependent on its energy resources to the point, where it achieves its political goals. As it stands, several states in central and Eastern Europe (Ukraine, Georgia, Moldova, and the Baltic states are finding it hard not to rely on Russian oil and gas (Salah 2016: 2-3).

During the Soviet Union period, neighbouring Communist states imported Russian gas with affordable price while capitalist states in the west received Russian gas with much higher prices. The Soviet Union used gas as an ideological tool, and now Russia is using it as a political tool to lay pressure on neighbouring countries (Salah 2016: 2). The Baltic states were treated indifferently by Moscow due to their historical association with Russia. After the declaration of independence and NATO-EU integration Russia treated Baltic states as anti-Russian in their policies (Trenin 2016: 2). Russian projects are also designed to prevent the inclusion of the Baltic states into the EU electric grid of ENTSO-E (European Network of Transmission System Operators for Electricity) and to keep them controlled by the so-called Moscow BRELL circle (Belarus, Russia, Estonia, Latvia, and Lithuania) (Boguszewski 2014: 3).

Russia's Nord Stream and Baltic States

The Nord Stream pipeline project was launched by Russian energy company Gazprom, between Russia and Germany across the Baltic Sea for gas supply. It is a new route to export Russia's gas to fulfil the European energy market demands. This pipeline permits Russia to sidestep Poland, Ukraine, the Czech Republic and Slovakia to transport gas (EurActiv 2011: 6). The construction of this pipeline was initiated in 2010 by Russia under the Baltic Sea. It also initiated second pipeline in 2015. The length of the two projects is 1, 224 km with the capacity of 55 bcm gas per year. The construction and operation of the Nord Stream is a joint programme by Wintershall[3] (15.5 percent), Gasunie[4] (9 percent), ENGIE[5] (9 percent), E.ON[6] (15.5 percent) and the Gazprom (51 percent) (Gazprom 2016: 1-3).

Map: 1

[3] Wintershall is a German energy company which produces crude oil and natural gas.
[4] Gasunie is a Dutch natural gas producing company operating from Germany.
[5] ENGIE is an electricity and natural gas producing company located in France.
[6] E.ON is a German based energy company which generates electricity and natural gas. It exports energy to Europe and United States.

Route Map of Nord Stream

Source: Gazprom (2016).

According to Gazprom, the Nord Stream project was initiated to supply gas to Germany and EU member states. But, Baltic states are not considering this Nord Stream as just pipeline to transport gas. They viewed initiation of this project has a political motivations and interests. The Baltic states of Estonia, Latvia and Lithuania including Ukraine expressed their concerns over the construction of Nord Stream pipeline. The completion of this project will help Russia from paying energy transition charges to Ukraine, Poland and other Baltic countries.

Even though the construction of Nord Stream is very important for Germany, it is considered as a threat to Baltic countries national and energy security. According to Whist (2008), apart from bringing gas to Europe, Russia has its own strategic interest behind the construction of this pipeline. By developing close energy relations and planned to construct Nord Stream with Germany, Russia is following a "dividing Europe" policy. This construction of this pipeline contradicts the interests of the Baltic states and EU. Even though, Germany and Baltic states are members of EU and NATO, Russia ignored Baltic states and developed close energy relations with Germany. This project

also created political tensions the in the Baltic region. These instances explain Russia's intentions to stop Baltic states from further integration into NATO and EU (Whist 2008: 18).

The construction of Nord Stream also created military and strategic problems for Baltic countries. The expansion of NATO and EU integration to the borders of the Russian Federation also provoked Russia to launch this pipeline under Baltic Sea. Russia deployed armed and maritime forces across the borders of Baltic Sea countries. It is also a threat to the Baltic Sea environment. Baltic states viewed the construction of Nord Stream as a violation of EU environmental policy and UN Convention on the Law of the Seas (UNCLOS). They used EU membership to pressurise Russia, regarding the environmental concerns of constructing Nord Stream. The Baltic countries also expressed their concerns against the Construction of Russian-German pipeline in all international platforms (Whist 2008: 30).

Supply Interruptions

Russia is holding excessive energy resources such as: gas, oil, electricity and coal. After the fall of Soviet Union, Russia became energy super power by nationalizing major energy companies like Gazprom and Transnet. Russia is the main supplier of gas and natural gas to European region. Several post-Soviet states also heavily depended on Russian Federation for their energy needs.

Energy exports are one of the major sources of revenue for the Russian economy. More than 50 percent of its revenue comes from the energy exports. Russia is the only energy exporting source for few European countries and former Soviet states. Its location as a Eurasian country also helped Russia to dominate in the field of energy exports. In several instances Russia used energy as a political tool to divide and rule EU. Russia initiated various projects with individual EU member states to prevent them from coming

together on the energy issue. It also used energy as an instrument to influence the EU member states, especially Baltic states.

The Baltic states have strained relations with Russia. About 90 percent of their oil and 100 percent of their supplies of natural gas is from Russia (Bieliszczuk 2015: 6). In the early 1990s in the background of Baltics independence struggle, Soviet subjected them to energy supply cut-offs. In the past few years, the foremost concern of the Baltic states has been Russia's efforts to increase their regulation over the energy infrastructure in their countries. Gazprom has a large equity stake in domestic natural gas companies of each of the three Baltic countries (Woehrel 2009: 11).

In July 2006, the Russians owned oil Transport Company Transnet and announced that the part of the Druzhba oil pipeline that supplies Mazeikiai, was temporarily shutting down for maintenance following an oil leak. However Transnet later stated that it would not reopen the pipeline, due to its unprofitability. Transnet further blocked Lithuania's efforts to secure supplies from Kazakhstan through Transnet's pipelines. The Russian government-controlled Transnet oil pipeline company cut off all oil shipments to the Latvian oil terminal at the port of Ventspils, after having decreased shipments in late 2002. Similarly Estonia has experienced the effects of Russian pressure on its energy supply. In 2007, Russia's state railway monopoly halted delivery of oil products and coal to Estonia, amidst the political turmoil over the relocation of a Soviet war memorial statue from a square in central Tallinn, Estonia's capital (Woehrel 2009: 12-13).

Table: 4

Russian Energy Disruptions

Cases	Initiator	Oil (or) Gas
Belarus: September 2002	Gazprom	Gas
Belarus: January 2004- June 2004	Gazprom	Gas

Belarus: January 2006- January 2007	Transnet	Oil
Belarus: August 2007	Gazprom	Gas
Estonia: May 2007	Russian Railway	Oil
Latvia: 2002- 2003	Transnet	Oil
Lithuania: 1991- 2001	Lukoil	Oil
Lithuania: 2005- 2006	Transnet	Oil
Georgia: November 2006	Gazprom	Gas
Moldova: January 2006	Gazprom	Gas
Ukraine: January 2006	Gazprom	Gas
Ukraine: October 2007- March 2008	Gazprom	Gas

Source: Rivedal (2009).

The above Table illustrates how Russia has succeeded in using energy as a political tool for its own interests. The table also shows the major energy state owned companies such as Gazprom, Transnet and Lukoil disrupted energy supply to European countries especially the post-Soviet countries. All former Soviet states had experienced the Russian energy threats and disruptions.

Russia was highly successful in using energy blockade policy (Boguszewski 2014: 2). On January 1, 2006, over a payment dispute, Russia briefly interrupted its gas supplies to Ukraine. The move has been seen as a response to Ukrainian President Viktor Yushchenko's proposal to join NATO (EurActiv 2011: 4). Yet again In 2008, Russia blocked gas supply to Ukraine over a payment row. Russia accused Ukraine of pilfering natural gas destined for Europe for its own needs. However, Ukraine denied the charges levied against them. On 6 January 2008, supplies to Romania, Bulgaria, Greece, Macedonia, Serbia and Croatia were totally halted. Several countries lacked reserves to make up for a supply cut. On January 20th, supplies to Europe regained (EurActiv 2011: 2). Several EU member countries and post Soviet states

including Estonia, Latvia, Lithuania, Georgia, Ukraine, Moldova, and Belarus experienced energy cuts from Russian Gazprom and Transnet companies.

Gazprom in Baltic Energy Sector

Gazprom is a state controlled company which produces gas and oil (Salah 2016: 3). Ever since the collapse of the Soviet Union in 1991, it has emerged as a strong natural gas company. Russian energy company also focuses on production, transportation, storage, sales of gas, as well as generation of heat and electric power (Gazprom 2016: 2). It dominates Russia's gas sector by controlling producing more than 90 per cent gas and controlling major pipelines. It is a major supplier of gas to European countries (Woehrel 2009: 2-3).

Gazprom holds the largest natural gas reserves in the world. The company contributes 17 per cent of gas share in the global and 72 per cent in Russian gas reserves. It produces 11 and 66 per cent of the global and national gas output respectively. It is actively operating and implementing several projects in the Arctic shelf, Yamal Peninsula, Russian Far East and the Eastern Siberia, in addition Gazprom also implementing a number of gas production and hydrocarbon exploration plans in neighbouring countries.

Russia's Gasprom company owns and controls the world's biggest gas pipeline system with a total length of 171.2 thousand kilometres. Gazprom supply more than its 50 per cent gas to Russian consumers and export remaining gas to more than 30 states including former Soviet republics. The main objective of company is to establish Russia as a significant player in the international energy market and establishing Gazprom as a leader among global energy companies. The other primary objectives are: ensuring reliable supplies diversifying sales markets, fulfilling its scientific and technical potential and improving operating efficiency (Gazprom 2016: 2).

The main intentions of Russia's Gazprom are achieving its political interests, generating economic profits, and inviting foreign investments. Russia's Gazprom is selling its gas to the neighbours and European countries (Salah 2016: 1-3). In this background Gazprom plays a dominant role in post-Soviet state energy sectors. The Russian energy industry is able to control the Baltic states by acquiring ownership share in domestic energy companies. Gazprom holds ownership rights in pipelines, distribution companies, oil ports, refineries, retail gas stations and power stations. This has been in increase since the election of Vladimir Putin (Smith 2004: 7).

Table: 5

Gazprom Share Holdings in Baltic National Gas Companies

Country	Ownership of firm by Russian companies (rounded to nearest %)	Ownership of firm (rounded to nearest) %	Main objectivity
Estonia Eesti Gaas	47% (Gazprom + Itera)	37% Gazprom 34% E.ON Ruhrgas 18% Fortum oil& gas 10% Itera Latvija 2% Private investor	Import, transmission (including ownership of pipelines) and sales of natural gas
Latvia Latvijas Gaze	50% (Gazprom + Itera)	47% E.ON Ruhrgas 34% Gazprom 16% Intera Latvija 3% Private investor	Import, transmission, storage and sales of natural gas
Lithuania Lieturos Dujos	37% (Gazprom)	39% E.ON Ruhrgas 37% Gazprom 18% Lithuanian state 6% Private investors	Import, transmission, distribution and sales of natural gas

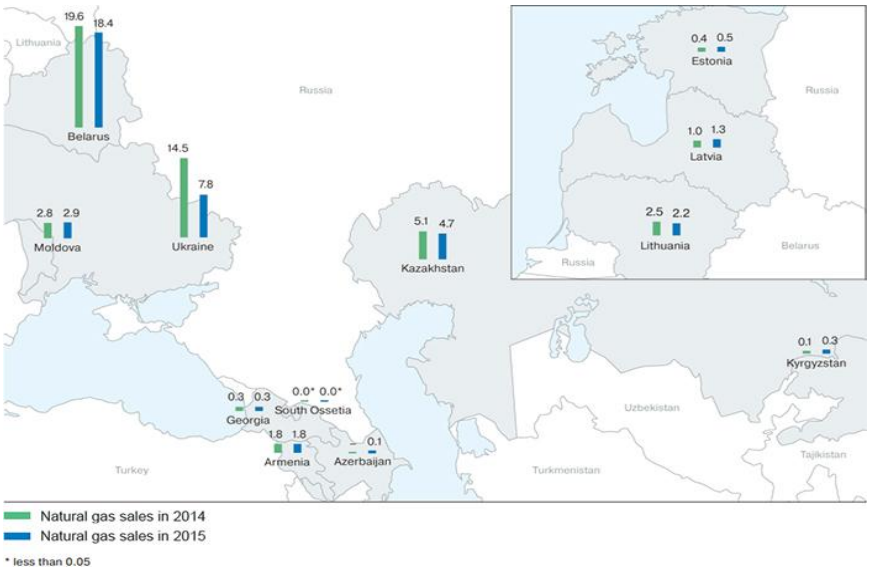
Source: Grigas (2012).

The above table shows the share holdings of the Russian Gazprom in the Baltic energy sector. Gazprom has a 34 percent stake in Latvijas Gaze national gas company. It also holds ownership share in Lithuania's energy company (Lieturos Dujos 37 percent) and Estonian Eesti Gaas (37 percent) (Keating 2015: 2). With this ownership rights Russia used Gazprom to dominate local energy policies of Baltic states.

Russia has maintained strong energy relations with its former Soviet republics. Majority of the post-Soviet countries import energy from the Russian Federation. In its cooperation with the countries of the former Soviet Union (FSU), Gazprom primarily seeks to secure natural gas supplies that could fulfil the requirements of their economies (Gazprom 2016: 1). Russia doesn't want to lose its dominance in the former soviet regions. It never allowed post- Soviet states easily to move closely with western countries. Even after post- Soviet states joined EU and NATO, Russia is maintaining healthy energy ties with these states. Energy dependency of post- Soviet states helps Russia both politically and as well as economically.

Map: 2

Gazprom Group's Gas Sales in FSU (billion cubic meters)



Source: Gazprom Exports (2016).

In the Map it is clear that Russia is a leading energy exporting country. Russia is able to maintain energy cooperation with the post-Soviet states in different regions. It has developed strong energy relations with the Central Asian countries: Kazakhstan, Kyrgyzstan and Uzbekistan. These countries also imports Russian gas from Gazprom. Russia is also able to maintain high-quality economic relations with European- post soviet states like Estonia, Latvia, Lithuania, Ukraine, Belarus, Georgia and Azerbaijan. All these countries are extensively dependent on the gas energy imports from the Russian Federation.

Table: 6

Gazprom Gas Sales in FSU: 2011-2015 (billion cubic meters)

Year	2011	2012	2013	2014	2015
Azerbaijan	-	-	-	-	0.1
Armenia	1.6	1.7	1.7	1.8	1.8
Belarus	23.3	19.7	19.8	19.6	18.4
Georgia	0.2	0.2	0.2	0.3	0.3
Kazakhstan	3.3	3.7	4.7	5.1	4.7
Kyrgyzstan	-	-	-	0.1	0.3
Latvia	1.2	1.1	1.1	1.0	1.3
Lithuania	3.2	3.1	2.7	2.5	2.2
Moldova	3.1	3.1	2.4	2.8	2.9
Ukraine	44.8	32.9	25.8	14.5	7.8
Uzbekistan	0.3	-	0.3	-	-
Estonia	0.7	06	0.7	0.4	0.5
Total	81.7	66.1	59.4	48.1	40.3

Source: Gazprom Exports (2016).

The Table explains the percentage of gas imports of the post-Soviet states from the Russian state owned energy company Gazprom. According to

statistics, in 2015, the Gazprom company sold 40.3 billion cubic meters of gas to the Former Soviet Union (FSU) countries. The net profit from those sales totalled RUB 429.7 billion (net of customs duties), adding 4.4 percent against 2014 (Gazprom 2016: 1-2).

Russia is able to supply its energy resources to western European countries as well. This facilitated Russian economy to survive in a very short span of time. Most of the western European countries are energy deprived countries, invariably increasing their dependent on Russian energy exports. Russia has maintained strongest energy ties with western European countries and it is able to initiate new projects and pipelines with these countries in order to supply its gas and oil products. The Nord Stream pipeline project is one the major initiatives of the Russian Federation in this region to exports its gas from Gazprom.

Table: 7

Gazprom Natural Gas Exports to Countries outside the Former Soviet Union (bcm)

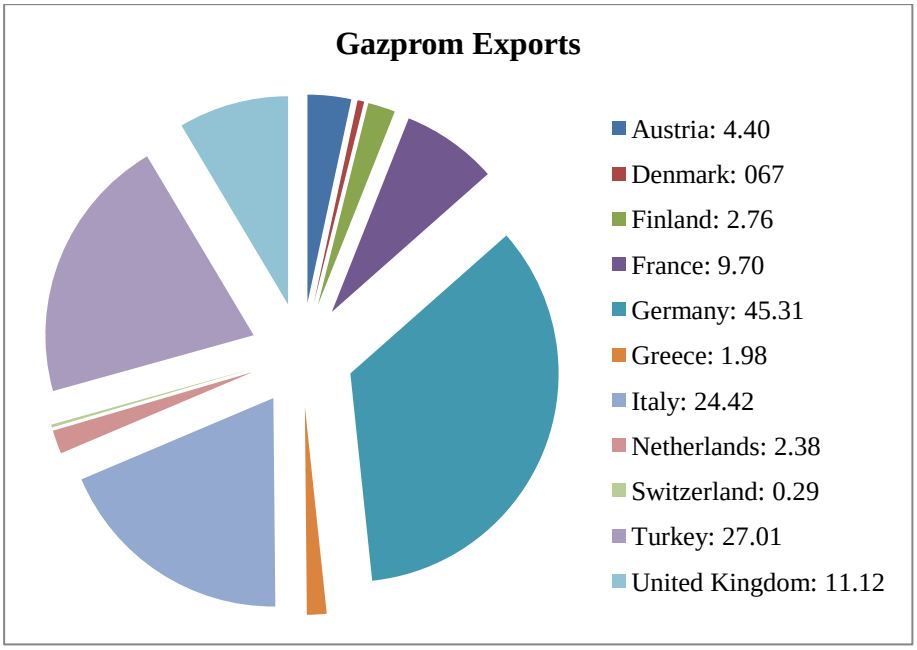
Year	1973	1980	1990	2000	2010	2014	2015
Total	6.8	54.8	110.0	130.3	138.6	146.6	158.6

Source: Gazprom Exports (2016).

The Table explains Russia's gas exports to non-Soviet countries. According to 2015 Gazprom statistics, approximately 158.56 bcm of gas exported to European region. The Western European states imported more than 82 per cent of gas while the Central European states accounted for 18 per cent. Energy markets from the Western Europe are entirely dependent on Gazprom. Turkey is totally dependent on Russia and consumes bulk of Gazprom Gas (Gazprom 2016: 2-3).

Figure: 2

Gazprom Gas Exports to Western European Market (bcm)



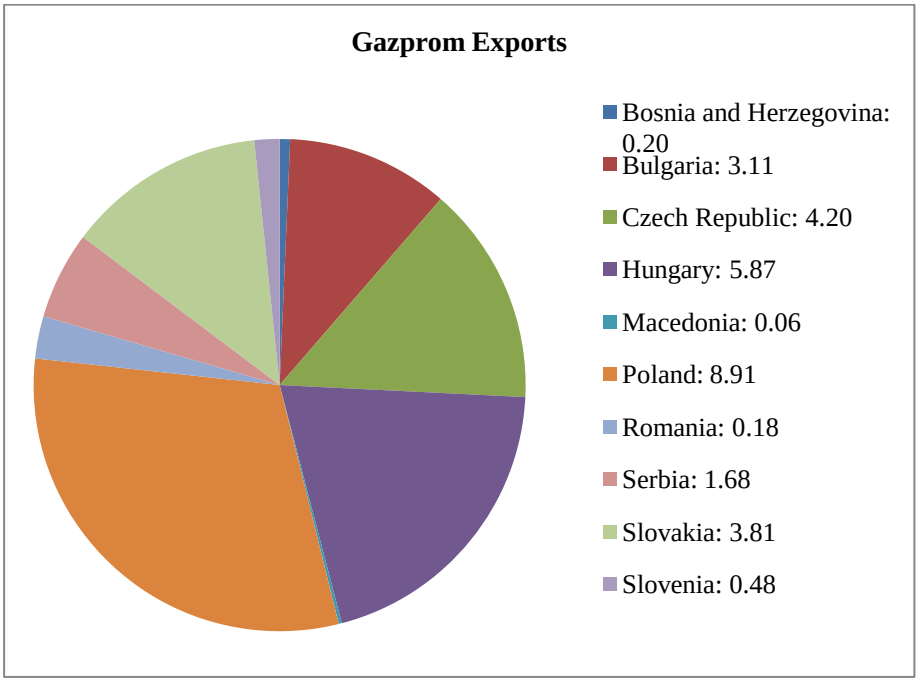
Source: Gazprom Exports (2016).

Russia initiated the Nord Stream, Blue Stream and South Stream pipeline projects with western European countries to export gas and oil to their markets. Russia has developed a new strategy towards Western Europe for energy supply. It has strong ties with Greece, Turkey and Germany. Germany is one of the major importers of Russian energy in this region; it also imports 45.31 bcm of gas from Russian Gazprom. Turkey (27.01), Italy (24.42) and UK (11.12) follow Germany in gas imports from Russia.

Russia is the main energy supplier for Eastern and Central European countries. Most of the countries in this region depend on Russia for primary energy imports. The Eastern and Central European natural gas market is particularly significant due to its geographical proximity with Russia. The Russian "blue fuel" accounts for more than a half of gas consumption in the region (Gazprom 2016: 3-4).

Figure: 3

Gazprom Gas Exports to Eastern and Central European Markets (bcm)



Source: Gazprom Exports (2016).

According to statistics, in 2015, Gazprom exports sold 28.508 bcm of gas in the Eastern and Central European markets (Gazprom 2016: 3-4). Poland imported 8.91 bcm of Russian gas for its energy consumption. Hungary (5.87), Czech Republic (4.20), Slovakia (3.81), Bulgaria (3.11) and Serbia (1.68) are among the major gas importing countries in ECE from Russian Gazprom.

Russia's Approach towards Energy Union

The EU face energy shortages during Russia-Ukraine conflict in 2009 and announced the formation of Energy Union as reaction to energy threats and disruptions from Russia. The Energy Union has left a strong imprint on the ongoing energy politics among Baltic state, Russia and European Union. The Union covers number of issues such as: energy security, supply and transport, cooperation with neighbouring countries and climate change. It will also encourage research and innovation in the energy field by providing financial

assistance. Developing interconnection between isolated countries and EU is the first priority of the Union. It also supports gas and electricity interconnection of EU member states to decrease their energy dependence on Russia (White 2015: 4-5).

Map: 3

Electrical Connections in the Baltic Region

Source: White (2015) and EurActiv (2015).

The European Commission (EC) formed an Energy Union to create single energy market for EU member states. This development largely helped Baltic states to extend their energy ties with neighbouring countries. The Union also facilitated Baltic states to import energy from other countries such as Norway. Lithuania purchased gas from Norway and exported to Estonia and Latvia.

The Union also supported internal energy links and projects in the BSR such as electricity connections of Lithuania with Sweden and Poland (Berzina 2015: 1-2). Russia opposed initiation of Energy Union to continue its energy exports to Europe. Providing energy security and establishing energy infrastructure for EU member states is the primary and important aim of the Energy Union. The effective implementation of the Energy Union strategy will reduce the Baltic states dependence on Russian Federation.

Chapter 3

Baltic States and Common EU Energy Policies: Issues of Integration, Cooperation and Common Market

After regaining independence the Baltic states joined EU and NATO in 2004. This process of integration strengthened energy security of Estonia, Latvia and Lithuania. Baltic states are called as "energy islands" due to lack of interconnections with neighbouring states. This made Baltic states to depended on Russian energy resources. Historically, Baltic states are linked to Soviet energy pipeline system. To strengthen energy security and supply of Baltic states, it is very important for EU to maintain strong relations with Russian Federation. Baltic energy markets are isolated and dominated by Russian energy company Gazprom. To overcome this challenge EU decided to create single energy market for its member states. The single energy market with one voice will represent the integration process of energy markets of all EU member states into single market with unified energy policy and regulations.

EU initiated and adopted several policies such as common energy policy, strategy for Baltic Sea states, third energy package and energy road map-2050 to integrate Baltic energy markets into EU market. EUs financial support and regional cooperation between Baltic states and Nordic states showed positive progress in the integration of Baltic energy markets into European Union. This chapter examines the challenges and achievements of regional cooperation and integration of Baltic states to European Union energy system. It also explains several strategies and projects adopted by EU for creating single energy market and the response of Baltic states.

Integration of Baltic States into EU Energy System

After the regaining of independence from the Soviet Union, Baltic states experienced sudden economic and political transitions which lead them towards western democracy and market economy (Tang: 2000: 1). This transformation and unexpected fall of Soviet Union provided a space for EU-Baltic cooperation. Simultaneously, in 2004 Estonia, Latvia and Lithuania were joined EU and NATO along with other states. Misik argues that energy policy and especially the question of energy security became one of the primary subjects in the European Union only after the ten post- communist new member states (NMS) from both the 2004 and 2007 enlargements joined the European Union. These new member states share the common feature that they are partly, or even fully dependent on imports of energy resources from third countries. Therefore they have introduced to the EU the question of energy security, an issue that was not on the table in the EU previously (Misik 2010: 102).

The integration of the Baltic states into European Union created new security conflicts with Russian Federation. Several former Soviet republics including Estonia, Latvia and Lithuania joined EU and developed strained relations with Russia. Many of these countries are depended on the Russian energy resources. So it is very important for EU to maintain strategic relations with Russian Federation (Vaicekauskaite 2011and Misik 2010: 102-103). Since the joining of NATO and EU Baltic states are trying to ensure their energy security. But still their situation is very vulnerable due to over dependence on Russian energy.

Since the formation, the EU has adopted and implemented several policies for energy security and integration of internal energy market (IEA 2014: 3). In the process of integration of Baltic energy market into EU, the European Union adopted different policies and strategies related to energy infrastructure development. Energy Strategy 2020, Energy Strategy 2030, Energy Strategy of 2050, and Energy Road Map are among the EU initiated programmes for the energy security of member states (Langsdorf 2011: 5). The main goals of

the above energy strategies include: reduction in greenhouse gas emission; increase in the usage of renewable resources; encouraging private investments to construct new pipelines and projects and providing sustainable, competitive and secure energy to the consumers, creating energy efficiency in EU, integration of internal energy market, safety and security in energy supply, finding new technology and innovation, and strengthening EU energy market (Langsdorf 2011: 7).

The European Union has also adopted several projects to integrate Baltic states' energy market into EU internal market. The main projects for integration of Baltic energy market are:

- Common Energy Policy
- Third Energy Package
- EU Strategy for the Baltic Sea Region (EUSBSR)
- Baltic Energy Market Interconnection Plan (BEMIP)
- Trans- European Networks for Energy (TEN-E)
- The European Neighbourhood Policy (ENP)
- Energy Strategy (2020, 2030, 2050)
- Energy Union

Common Energy Policy of EU

EU depends on Russia for its 50 percent of energy consumption mainly oil and gas. Together EU member states are importing 90 percent of oil and 60 percent of natural gas by paying 1 billion EUR cost per day. Some countries entirely dependent on Russia for their energy needs and faced disruptions due to commercial or political issues. The 2009 gas disruption issue between Ukraine and Russia is the one of the main instance (European Commission 2017: 1). To avoid this kind of situation EU adopted common energy strategy for member states.

European Union is facing several energy security threats including energy over dependency, lack of diversification, increasing energy prices, climate

change and global warming, growing energy demand and lack of energy efficiency. To counter these challenges EU adopted several measures including common energy policy. The main objectives of the European Union energy policy are: establishing energy market; security of energy supply, promoting renewable energy sources and developing interconnections between members states (Mellar 2016: 1).

The first significant initiative was taken by 2000 Green Paper entitled "towards a European strategy for the security of energy supply" (Henryk 2008: 9-10 and Thomas 2013: 2). The EU Green Paper (2006) played a significant role in forming and adopting common energy policy. It described three fundamental goals for the development of common energy policy. The three objectives are energy sustainability, competitiveness in energy sector and secured energy supplies. This also identified six other important areas of common energy policy development. These are sustainable development, new technology, diversification of energy resources, solidarity and competitive energy market (Green Paper 2006 and Thomas 2013).

The key objective of the European Union common energy policy is to create a single and united energy market in EU. It also aims to connect "energy islands" (Estonia, Latvia and Lithuania) to the main EU energy market (Thomas 2013). According to Mukhametshina (2015: 11-12), the energy policy of EU is prepared on the basis of few strategic interests like: reduction in energy use throughout Europe, building integrated EU energy market, and ensuring high energy security and safety to consumers.

The European Commission updated its energy strategy in 2014 with the objective of uninterrupted and stable energy supply to EU consumer markets. EU adopted short term and long- term measures under this updated energy policy to strengthen energy security of the region. Under the short term measures member states are advised to reduce the energy dependency on Russia and develop energy infrastructure with other EU members by

generating energy from renewable resources. Under the long- term measures EU decided to increase energy efficiency; protecting environment; reduction in primary energy consumption; diversifying energy generation and routes; creating common energy market; constructing necessary pipelines and energy infrastructure, building energy storage projects and strengthening energy cooperation with neighbouring states (European Commission 2014: 2).

The common energy policy of EU is showed positive response in achieving its targets and goals. It reduced energy emissions by increasing use of renewable energy instead of natural gas. The EU supported energy island countries such as Estonia, Latvia and Lithuania to develop inter- links with other member states. The energy policy supported Baltic states to develop electricity and gas corridors with Sweden and Poland in the region. This policy helped EU to ensure regional integration of energy market. It allowed EU member states to develop energy relations with non-EU member states to diversify energy supply. This measure allowed several member states to initiate number of energy pipeline projects with neighbouring states. It adopted number of instruments like energy storage facility to control the energy disruptions. This policy also encouraged energy generation from renewable energy resources like wind, water and bio-thermal with updated technology (Stoerring 2017: 3-5).

Common energy policy gave strength to newly joined EU member states to speak with one voice. The implementation of policy projects and interconnections improved energy security of member states (Misik 2010: 110). However, still Baltic states are totally depended on Russian Federation for their energy needs. According to Mcgowan (1996: 2), common energy policy is failed due to member states noncooperation behaviour. It also failed to provide alternative energy supplies to Baltic states (Grigas 2013: 36).

Third Energy Package

The third energy package is introduced in 2007 and adopted in 2009 by the European Commission and European Parliament. The primary and key objective of the third energy package is to establish a common EU energy market. This package is also related establishment of electricity and gas internal energy markets (European Commission 2011: 1). EU adopted three different energy packages to develop internal energy market. The first package was replaced by the second energy package in 2003 and the third energy package was adopted in 2009 to integrate EU electricity and gas markets. These are the main objectives of the third energy package:

1. Liberalising gas and energy markets in EU
2. Security of supply of gas and oil
3. Developing EU energy networks (Kerebel 2016: 2-4).

With the implementation of third energy package EU energy market in European region is progressive towards integration. Third energy package provided space for energy cooperation and trade between EU member states without any border barriers and rules. This helped EU and other member states to move towards internal market integration process (IEA 2014: 4). EUs third energy package covers five key issues:

1. Separation of energy supply from operational company
2. Cross border collaboration and investment
3. Right to choose and change suppliers
4. Competitive market (reduction of prices and security of supply)
5. Establishment of independent rules and regulations (European Commission 2016: 2-3).

Unbundling is one of the key initiatives taken under the third energy package legislation. Unbundling means division energy production and supply, according to the third energy package companies which operates as energy production and supply transmissions will prevent the competition in the energy market and ultimately it will lead higher energy prices. To create energy competition and control energy prices it is very important for EU

member states to consider the third energy package recommendations. Unbundling will prevent companies from owning large energy shares. This step helps small and isolate countries like Baltic states to develop their energy markets (European Commission 2017: 1).

Third energy package has modified national regulators for energy security of European Union. It is not possible to establish competitive energy market without existence of independent regulators. Governments should ensure the implementation of independent regulators in the interests of energy industry. According to this package, regulators have the authority to control energy companies and issue legal bindings. This allows regulators to monitor energy generation and supply by imposing penalties. It is mandatory for companies to provide electricity, gas and oil production and supply data to regulators. All regulators from EU member states should cooperate with each other to endorse energy competition and efficient energy supply. It will promote energy market integration of EU member countries (Ibid).

The EU established independent Agency for the Cooperation of Energy Regulators (ACER) to guarantee implementation of the integration of energy market. It is an independent body and not associated with companies, commission and governments. The main works of ACER are: providing strategy to construct cross-border pipelines and electricity grids; monitoring the functioning of EU projects and network plans; solving cross- border regulator issues; inspection of the EU energy market, energy prices, networks, renewable energy generation and right of the consumer. The third energy package also guaranteed special rights for consumers to prefer or change their energy suppliers without any additional charges. It will also allow consumers to get information about energy production, consumption and prices (European Commission 2017: 2).

EU Strategy for the Baltic Sea Region (EUSBSR)

In 2009 European Union (EU) adopted the Strategy for Baltic Sea Region (EUSBSR). The main objective of this strategy is to strengthen cooperation between EU- member states, Baltic regional organization and financial institutions of EU. This strategy is initiated to implement EU policies in Baltic Sea region including Baltic states. Baltic Sea region is very crucial for EU in terms of security concerns. Baltic Sea region countries of Estonia, Latvia, Lithuania, Sweden, Denmark, Finland, Germany and Poland are facing similar energy security challenges. European Union adopted this strategy to develop energy infrastructure in the region. According to EUSBSR three major and significant objectives are outlined;

1. Saving the Baltic Sea
2. Connecting the Baltic region
3. Increasing prosperity (EUSBSR 2015: 2-3).

Protecting the Baltic Sea is one of the primary concerns of the Baltic states from Russian Federation. Russia lunched the construction of Nord Stream pipeline to supply energy to Germany under the Black Sea. This project is not only a threat to Baltic Sea states but also affects the Sea environment. This strategy will support Baltic countries to raise their voice against the construction of such pipelines and projects. The second aim of this strategy is connecting Baltic countries to the EU energy infrastructure. Basically Baltic countries are known as energy islands with lack of necessary interconnection. EUSBSR will support Baltic countries to construct oil and gas pipelines, electricity grids and LNG terminals with EU financial support. These measures accomplish energy needs of Baltic states and reduce energy dependency. Apart from this, it will also encourage countries to cooperate with each other to develop their economies by participating in cross-border trade. It is the first step by EU which focused on Baltic regional cooperation. The main achievements of the strategy are:

1. Integration of the Baltic region
2. Developing energy transport infrastructure and interconnections

3. Supporting new projects
4. Environmental protection
5. Regional cooperation (including private sector) (EUSBSR 2015: 2).

Baltic states and Regional Energy Cooperation

The above mentioned strategy played a significant role in Baltic states energy cooperation. It's already showing positive growth in energy cooperation between Baltic states. This strategy helped Baltic sea states to develop their own energy projects and transport infrastructure. It also provided opportunity to EU neighbouring countries to strengthen their relations with Baltic states. Neighbouring countries like Russia, Ukraine and Belarus are also very keen to become a part of this strategy. Finally implementation of this strategy principle in the region showed high level energy security and Baltic energy market integration.

Baltic Energy Market Interconnection Plan (BEMIP)

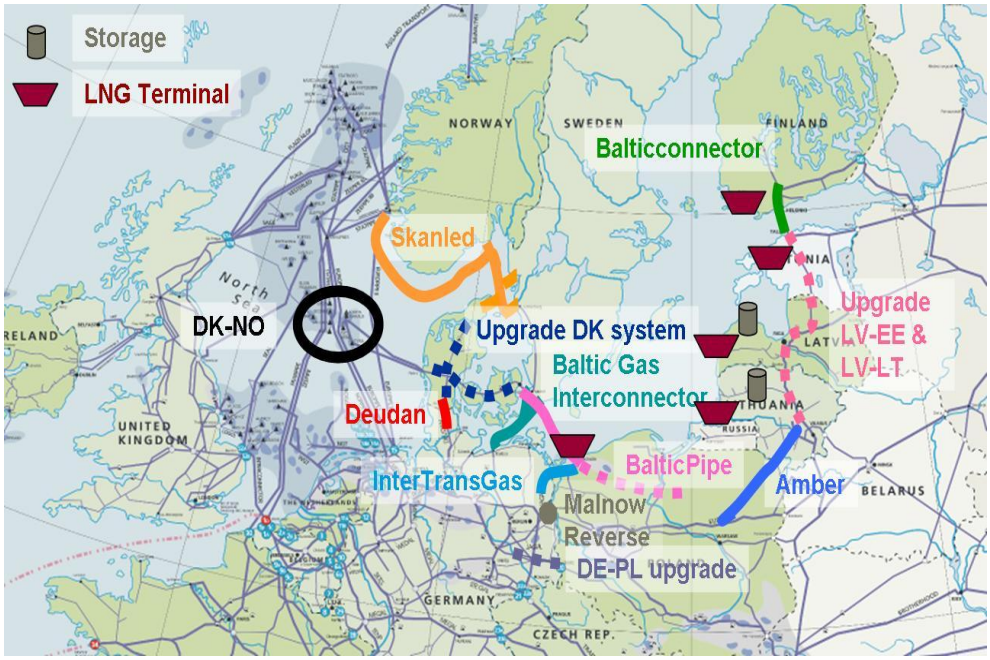
The European Commission launched Baltic Energy Market Interconnection Plan with eight participating countries. BEMIP is a strategy to develop and construct new energy projects and infrastructure in Baltic Sea Region. The key participating countries in the plan are: Estonia, Latvia, Lithuania, Poland, Sweden, Finland, Denmark and Germany. The energy market in the Baltic states of Estonia, Latvia and Lithuania is lack of energy interconnection with Baltic Sea states and other EU member states. After the initiation of projects like Estlink (Estonia and Finland), LitPol (Lithuania and Poland) and Nordbalt (Lithuania and Sweden) Baltic energy market is showing progress in integration. Further integration of Baltic energy market strengthens energy security in the Baltic Sea region. The main aims of the BEMIP are:

1. Removing cross border limits to the energy trade
2. Developing common energy supply
3. Opening energy markets for free competition in Baltic states
4. Removing energy tariffs
5. Baltic-connector between Estonia and Finland

6. Gas storage facility in Latvia and
7. Developing LNG in Estonia and Latvia.

Map: 4

BEMIP Interconnection Projects



Source: (European Commission 2009).

Integration of Baltic energy markets into the European Union (EU) is based on energy infrastructure plans between Baltic and EU members' states such as Fenno-Skan II project between Finland and Sweden (BEMIP 2016: 1-3). BEMIP initiated several electricity and gas storage facilities between Baltic Sea countries.

The electricity projects in the Baltic Sea region under the BEMIP strategy will strengthen market integration in the region. These projects will create free cross-border trade between Baltic countries. The development of the projects will also create competitive energy market which encourages single energy market. According to BEMIP strategy electricity projects should encourage the usage of renewable energy resources. Development of the new electricity

project will control the prices with the competitive electricity market and the sufficient electricity will be delivered to consumers. The electricity market information and data will be available to consumers (BEMIP Action Plan 2015: 6).

The BEMIP strategy also adopted action plan to develop gas interconnections between Baltic Sea states. It proposed a inter-link project between Baltic states and Estonia for gas supply. It brought all Baltic Sea states including Estonia, Latvia and Lithuania together to work for new pipelines in the region. BEMIP strategy will create efficient functioning of the regional gas market. It also adopted regulations of third energy package of the EU for developing gas infrastructure. This will force Baltic states to adopt the third energy package rules. It will encourage governments to increase investments in electricity, gas and oil projects in the region. Implementation of this plan will end isolation of Baltic states in the region and connects to the EU energy infrastructure. The BEMIP strategy is optimistic in constructing nuclear energy power plants in the Estonia, Latvia and Lithuania. The strategy supports electricity through renewable energy resources. These measures and targets will help integration of Baltic energy market into EU energy Market (Ibid: 9-10).

Trans- European Networks for Energy (TEN-E)

The Trans-European Networks for Energy is an EU initiated programme to aid the member states governments and energy production companies to develop infrastructure for the enhanced energy interconnections in the region. This programme encouraged several energy projects between EU member states with financial assistance to overcome energy barriers. TEN-E is very crucial for gas and electricity transport in the EU; it connects member states to develop integrated energy market. It will supply clean energy to consumers with affordable prices by establishing close inter-links between member states national markets (TEN-E 2017).

TEN-E also play very important role in developing energy diversification and security of supply. It will also help the isolated, landlocked and remote countries to overcome energy security supply challenges by integrating them in to EU energy infrastructure. In this sense, it is very crucial for Estonia, Latvia and Lithuania for integration of Baltic energy market in to EU market. The TEN-E interlink project also planned to encourage use of renewable resources by effective technologies with less environmental risks (TEN-E 2017: 1).

To connect EU member states TEN-E plan initiated several electricity, gas and oil corridors in the region. These projects are planned to strengthen the interconnections and cross border energy infrastructure between member states. The EU supports member countries to develop and implement these projects to integrate energy market. The major TEN-E electricity, gas and oil corridors in the EU are:

- North Sea Grid (NSOG) is an electricity corridor developed to interconnect North Sea, Baltic Sea and Irish Sea waters to produce and storage electricity by using renewable technologies. This will allow exchange of electricity resources between EU countries.
- North- South Electricity Interconnection (NSIWE) is also crucial for electricity market integration between Western European Union countries. This project is initiated to promote renewable energy resources in electricity generation and integration of EU energy market.
- BEMIP Electricity is an essential electricity interconnection in the Baltic region to develop and strengthen electricity infrastructure between EU member states under the Baltic Energy Market Interconnection Plan. This will help Baltic states to integrate and generate electricity by renewable resources and reduce electricity dependency.

- North- South Gas Interconnection (NSIG) is a gas corridor to supply gas to Western European member states. It will also supply gas to Eastern Europe through the Baltic Sea region, Mediterranean and Black Sea.
- South Gas Corridor (SGC) is also key project to transport gas from the Central Asia, Caspian Basin, and Middle East to the European Union. It is very important in the sense that it will diversify EU gas imports.
- BEMIP Gas is another gas corridor in the Baltic region. It is not only planned to integrate the Baltic energy market into EU but also to reduce the dependency of Estonia, Latvia, Lithuania and Finland gas dependency on Russia. It plays a crucial role in integrating Baltic states energy market integration into EU.
- Oil Supply Connections (OSC) in Central and Eastern Europe are crucial for oil market integration. EU has initiated number of pipeline projects between member states to exchange oil resources with less environmental risks and high security of oil supply (TEN-E 2017: 1-2).

The successful implementation of the above gas, oil and electricity corridors will strengthen Baltic energy market integration into European Union energy market with sustainable energy security.

The European Neighbourhood Policy (ENP)

European Neighbourhood Policy is also contributed to the energy integration of Baltic states. This policy was adopted in 2004 and strengthened EU relations with neighbouring countries. It allowed EU member states to developed relations with Azerbaijan, Belarus, Ukraine and Georgia. It brought sixteen countries together and helped many states to expand their energy relations (Micco and Rey 2016: 2).

The European Union updated ENP in 2015 and the cooperation has been extended to several other sectors. This development provided space for EU members to develop close relations with their neighbouring countries.

Establishing political, social, economic, security stability in the European region is the primary goal of the policy. The European Union has allotted the budget of 15.4 billion Euros to achieve the goals of the policy (ENP 2017: 2).

This policy focused mainly on four grounds of cooperation; climate change and energy efficiency, growth in social and economic sectors, immigration and collaboration in security sector (Ibid). Cooperation in the energy sector will help isolated countries like Baltic states to develop their energy relations with neighbourhood and integrate their energy market with the support of EU neighbourhood policy.

EU Energy Strategy (2020, 2030 and 2050)

In 2010 European Union proposed an Energy Strategy 2020 to increase the use of renewable energy resources by 20 percent in total consumption. It also aims to diminish the greenhouse gas emissions and achieving energy efficiency by at least 20 percent. According to this strategy, all EU member states must use 10 percent of renewable energy resources in their total energy share in transporting sector. With the implementation of this goals of the 2020 energy strategy European Union can protect environment, reduce energy dependency and provide energy to consumers with reasonable prices. To achieve the targets set by the 2020 energy strategy EU member states should adopt the following recommendations:

- To make EU more efficient in energy security, member states should invest in the areas of efficient products, buildings and transport sectors.
- Developing a unified EU energy market by building and constructing new pipelines, corridors, and liquefied natural gas terminals by 2015 with the financial support of European Union.
- Providing uninterrupted energy supply to customers.
- Protecting environment by using renewable energy like solar power.
- Maintaining healthy relations with countries which exports energy to European Union (Energy Strategy (2020) 2017: 1-2).

Energy strategy 2020 targets push member countries to cooperate with each other in the energy cooperation to construct single energy market in the region. The successful implementation of the above recommendations result in bringing all countries together and no member state should be isolated from the EU energy interconnections.

The EU has adopted 2030 Energy Strategy related to climate protection and energy efficiency of member states. The targets of this strategy will help EU members to access more secured, sustainable and competitive energy. It also supports investment and construction of new electricity generating corridors and gas pipelines with new technologies. The main targets of the energy strategy 2030 are: reducing greenhouse gas emission to 40 percent, increase in the usage of renewable to 27 percent and increase in the energy saving to 27 percent by 2030. To achieve the above targets, member states should establish single energy market with one voice to avoid energy price differences between member states. All member countries should cooperate with each other and construct pipelines and develop energy infrastructure (Energy Strategy (2030) 2017: 1).

The EU 2050 energy strategy or energy roadmap is also one of the policies which strengthen the Baltic energy market integration into EU energy market. It is aim to achieve EU's long term goals in energy security. Creating competitive energy market and reducing greenhouse gas emission are the primary objectives of the Energy Roadmap 2050. To achieve the roadmap targets, every member state should invest in encouraging use of renewable energy, construction of grids with new technology. This policy is adopted for long-term to provide sustainable and competitive energy to European Union consumers. It also adopted four ways to implement the roadmap, there are: ensuring energy efficiency, secured and competitive energy supply, energy storage and use of renewable energy (Energy Roadmap (2050) 2017: 1). The Energy Roadmap is very important for Baltic states to achieve unified EU energy market.

The EU initiated Energy Union in 2015 with one of the objective of Baltic energy market integration into European Union's energy market. EU launched this project to provide sustainable and secured supply of energy with reasonable price to the citizens of European Union. It will also aim to supply energy to member states without any border issues by using modern energy technologies and infrastructure. It will increase use of renewable energy resources with more protected environment (European Commission 2017: 1).

The Energy Union developed its dimensions on the basis of energy strategy of the EU. It will create conditions for energy cooperation between member states to guarantee energy security. It allows EU to search alternative energy sources by initiating new projects and pipelines. With its financial support to member states to implement various projects Energy Union created trust, solidarity and security among the member states. The construction of EU initiated programmes through the Energy Union will help Baltic states to cooperate and construct new gas, oil and electricity grids between member states and fully integrate their energy market without any difficulties (Ibid).

The Energy Union will play very important role in developing energy efficiency of Baltic states by reducing their over dependency on energy imports. It will also help Baltic states to reduce their energy emissions and develop sustainable environmental economy. These measures will allow Baltic states to supply more clean energy with market competition. Energy Union also created space for research and innovation in Baltic states for secured and competitive energy supply. Since the formation of Energy Union; the European Union has adopted several energy packages to integrate and develop a unified regional energy market (European Commission 2017: 2).

Baltic Cooperation and Integration of Energy Market

Regional cooperation among the Baltic states also strengthens the integration of Baltic energy market. Since several former soviet states are members in EU and NATO, which pulls all these states for regional cooperation and Baltic

states are not exceptional. Baltic Assembly (BA) and Baltic Council of Ministers (BCM) played a crucial role in developing defence, economic, environment and energy cooperation among Baltic countries (The Republic of Latvia 2015: 4-5).

Baltic states share similar history, cultural and political experiences with Nordic countries. This common feature provides space for regional energy cooperation between Baltic states and Nordic countries. It is very important for Latvia, Estonia and Lithuania to develop energy infrastructure facilities with Nordic states. Currently NB- 8[7] and NB- 6[8] are the main flat forms for regional cooperation between Baltic states and Nordic states (The Republic of Latvia 2016: 5). Three Baltic states are developing electricity and energy infrastructures with Sweden, Poland and Finland. This will boost the Baltic energy market integration into EU energy market.

Baltic states adopted third energy package and initiated several projects according to the regulations of the package. Lithuania launched LNG terminal in Klaipeda to reduce its energy dependency and it will supply gas to neighbouring Baltic countries. Lithuania also initiated Gas Interconnection between Poland and Lithuania (GIPL). This project can satisfy gas customers of Baltic region including Baltic states. Lithuania is trying to expand GIPL links to Estonia and Latvia with financial support from EU. Independent gas storage facility in Latvia is also one of the achievements of Baltic countries to expand Baltic states energy market. This underground storage system can supply energy to other Baltic countries during energy interruptions. Estonia and Latvia expressed their willingness to construct their own LNG terminals with EU support. This development will convert the whole region into energy independent and strengthens energy market integration (Bryza and Tuohy 2014: 8-10).

[7] NB-8 (Nordic- Baltic 8) consists with Denmark, Norway, Iceland, Finland, Sweden, Estonia, Latvia and Lithuania.

[8] NB-6 (Nordic- Baltic 6) comprises Denmark, Sweden, Finland, Estonia, Latvia and Lithuania.

Baltic connector is a gas pipeline project between Finland and Estonia. It is initiated in 2015 and planned to complete the project by 2019. The initiation and construction of this pipeline is the result of regional cooperation among Baltic countries. This project was supported by all Baltic Sea states. This will reduce the energy dependence ration of Baltic states (Baltic Connector 2016: 1-3). It is not only related Finland and Estonia; it also supplies gas to other Baltic states. This pipeline contributed to the Baltic energy market integration into European Union. This also helped Baltic states to develop energy independent policy. Baltic connector reduced the over energy dependency of Baltic states on Russian Federation.

However, Baltic states yet to create fully integrated internal energy market. Gas and electricity connection is the primary challenge for Baltic energy market. Cooperation and new energy projects between EU member states will strengthen the market integration and reduce Baltic dependency on Russian Federation. EUs financial and political support is necessary for Baltic states to integrate their energy markets into EU. In this concern Baltic states must and should develop and strengthen energy ties with the Nordic and other EU member states. Along with this, Baltic states of Estonia, Latvia and Lithuania have to adopt and ratify EUs main strategic policies related to energy market integration such as third energy package and energy roadmap.

EU Financial Assistance to Baltic Energy Market

Since Baltic states are developing their economy from Soviet misuse all the energy projects and pipelines are primarily funded by the European Union (EU) and partially by the member countries. The construction of pipelines needs huge financial support which is very difficult to the smaller state states. These projects are planned on the basis of EU funding or private company investments. The European Investment Bank funded several projects in the Baltic region. Several projects are initiated jointly by the EU with member states. The main aim of the funding is to link energy islands to the EU energy market (Ratcliff 2015: 2-5).

Table: 8

Electricity Projects for EU Energy Market Integration

Project	Countries
E1	France- Belgium- Netherlands and Germany
E2	Italy- France- Austria- Slovenia and Switzerland
E3	France- Spain and Portugal
E4	Greece- Balkan States
E5	UK- Northern Europe
E6	UK- Ireland
E7	Denmark- Germany and Baltic Ring
E8	Germany- Poland- Czech Republic- Slovakia- Austria- Hungary- Slovenia

Source: European Commission (2004).

The European Union launched number of electricity projects between member states to integrate energy market. All the above mentioned projects are fully or partially financed by the EU. Electricity grid to link France, Belgium, Netherland and Germany is very important to EU energy market integration. This project was partially funded by EU. The electric corridor between Denmark- Germany and Baltic ring is also one of the important projects in terms of Baltic Sea energy security. Germany to Slovenia electricity corridor through Poland is also crucial for Baltic region. These projects will connect Baltic Sea states with the other EU member states electricity grids.

Table: 9

Natural Gas Projects for EU Energy Market Integration

Project	Countries
NG1	UK- Northern Europe- Netherlands- Denmark- Germany- Baltic Sea Region and Russia
NG2	Algeria- Spain- Italy- France and Northern Europe

NG3	Caspian Sea Nations- Middle East and EU
NG4	LNG terminals in Belgium, France, Spain, Portugal and Italy
NG5	Underground gas storage in Spain, Portugal, Italy, Greece and the Baltic Sea Region

Source: European Commission (2004).

To evade the gas dependency and to integrate single EU energy market several projects were signed between members states. These projects are planned to connect Baltic Sea states with Germany, France, UK and other member states. It allowed EU member states to develop energy relations with the countries outside EU. The Baltic states launched Liquefied Natural gas terminals with the EU financial support. The construction of underground gas storage facility is also supported by the EU in the region. These projects are expected to connect Baltic energy markets into EU. The EU has granted 4.51 billion EUR to Latvia, 6.82 billion EUR to Lithuania and 3.59 billion EUR to Estonia for the development of different energy projects (European Commission 2014: 1). Without EU financial support it is very difficult for Baltic Sea states to construct energy terminals and projects. EU financial contribution is very important to Estonia, Latvia and Lithuania to connect their energy sector into EU energy market.

The Russian Reaction to EU-Baltic Energy Market Integration

After the collapse of the Soviet Union in 1991, Baltic countries became transit states for Russian energy exports to EU. The Soviet energy infrastructure remained in Baltic sea region after the disintegration. So it is very important for Russia to maintain good relations with Baltic states to supply its oil to Europe through pipelines such as Druzbha. Unfortunately, due to historical experiences Baltic states developed strained relationship with Russian Federation and they identified themselves as European countries. In 2004 Estonia, Latvia and Lithuania joined EU and NATO to protect their economic and political independence. This integration process made Russia to developed strained relations with EU as well as with Baltic states. It witnessed

several times by Russia's energy cuts to Baltic states. This adversely relationship can affect the Baltic market integration into EU single energy market.

Russia is the main supplier of gas, oil and electricity to the European Union and Baltic states. Estonia, Latvia and Lithuania are more dependent on Russian energy imports than other EU member states. Almost 100 percent of their natural gas comes from the Russian energy sector. Russian energy company Gazprom also one of the major threat to Baltic- EU energy market integration. It plays very important role by sharing more than 30 percent ownership rights of the Baltic states energy companies. All the major pipelines which supplies gas to EU member states are controlled by Gazprom. The direct presence of Russian Gazprom in Baltic energy sector is shows Russia's disinterest towards Baltic energy markets integration into EU (Korovina 2013: 52-53).

To counter Baltic states regional projects and pipelines with neighbouring countries, Russia initiated new projects like South Stream, Nord Stream and Turkish Stream. It developed deep energy relations with few EU member states by constructing new projects through the Black Sea to counter the Baltic states integration into EU. It launched a Nord Stream project with Germany which violates environmental regulations of the European Union climate policy. The Nord Stream pipeline contradicts interests of the Baltic states and EU (Ibid).

The EU had launched a third energy package for member states with the primary objective of creating single energy market. The rules and regulations of the energy package are against the interests of the Russian Gazprom. According to this package companies are not allowed to increase the energy prices and it also supports open competition in the market. These measures are against the dominance of Gazprom in Baltic Sea region (Korovina 2013: 54). However, EU member states including Estonia, Latvia and Lithuania are

importing energy resources from Gazprom. The integration of Baltic energy market with EU will undoubtedly reduce the energy dependency of Baltic states.

According to European Commission (EU) packages and strategies the construction of single energy market should finish and start operating by 2014. But the EU integration of the Baltic energy market is not showing any progress due to several internal and external challenges. The first and important barrier for regional market integration is lack of acceptance and implementation of third energy package by all EU members. The third energy package and other important strategies for creating single energy market are not equally adopted and implemented by member states. Only small states like Baltic states are considered these packages are crucial for market integration. It is very difficult to achieve unified and single energy market without intervention of each and every member state of the EU (Korovina 2013: 29-30).

Energy isolate regions and countries within the EU are also one of the regions for delay in constructing regional energy market. Countries like Estonia, Latvia, Lithuania and Finland are isolated from the mainland of EU due to geographical and political reasons. EU should support these countries to overcome the political challenges from Russian federation and develop interconnections with EU neighbouring states (Ibid).

Over energy dependency of EU and Baltic states on Russian Federation is one of the major challenges for Baltic energy market integration. Estonia, Latvia and Lithuania are totally depended on Russia for gas and oil imports. Many EU member states imports 100 percent natural gas and oil from Russian energy companies. EU is not trying for alternative energy suppliers for the region. It lead to increase in the energy prices, uncertainty in energy supply and it generated environmental problems. To end this dependency, EU member states must diversify their energy resources and search for other

alternative supplier by constructing and developing new projects with neighbouring countries (Mellar 2016: 1 and Korovina 2013: 31).

The absence of essential energy infrastructure is also cause for the interruption in market integration. The third energy package focused and highlighted the construction of pipelines and new energy supply projects in the region. Due to lack of willingness between the countries several projects are not implemented. Many EU member states don't have proper infrastructure facilities to supply and import energy. EU should adopt separate action plan to implement recommended gas pipelines and electricity grids in the region. It should also support construction of LNG terminals in Estonia, Latvia and Lithuania. Lack of interconnections between EU members states lead to energy dependency.

Lack of investment and financial support is also major concern for small and isolated countries to develop infrastructure. To construct gas pipelines and electricity grids needs lot of finance, unfortunately countries like Baltic states are not able to finance the their own projects. EU should share the cost of the project and help member states to develop interconnections in the region. To restrict Russian intervention in the Baltic energy sector EU should finance them to create independent energy infrastructure.

Lack of energy cooperation between Baltic Sea region countries is also one of the obstacles for market integration. Even though they share many similarities Baltic countries are not able to come together to solve their issues with mutual cooperation. Several projects were announced between Baltic countries but only few were able to complete. Lack of strong willingness is the major issue in the region (Korovina 2013: 32).

According to Mellar, environmental degradation and global warming, growing demand for energy, absence of renewable energy, differences in energy prices, lack of competition and low energy efficiency are the other major problems of EU- Baltic energy market integration. EU and Baltic states together adopt new

projects and strategies to counter these challenges to achieve EU integration of Baltic Energy Market (Mellar 2016: 1).

The EU official report of 2014 on integration of energy market for gas, oil and electricity stated that, the process for creating single energy market has delivered several optimistic results. The major positive development is stability in the energy prices during 2008 and 2012. It gave more options and alternative energy supplier to EU member states. According to report, several projects and pipelines are under construction to link energy islands with EU energy market. Energy infrastructure and pipelines installed with new technology and energy efficiency. Increasing energy trade is also one of the positive indicators for energy market integration in the region. EU regulations forced energy companies to create competition in the energy market to strengthen energy efficiency and supply energy with affordable prices (European Commission 2014: 2).

The 2014 EU report on energy market integration recommended important steps to achieve unified energy market:

1. EU member states should increase their investments in gas and electricity sectors; the construction of new electricity grids and gas pipeline to link Baltic states with other member countries. This step will help Estonia, Latvia and Lithuania to end energy isolation and join EU market.
2. Introducing harmonised energy market rules and regulation throughout the European Union.
3. Limited government intervention in the energy market, only during energy interruptions governments should intervene to solve the energy issues.
4. Developing strong regional collaboration to address the energy needs and challenges.
5. Providing energy choices for consumers will create competitiveness in the market.

6. Supporting wholesale and retail energy markets. It will permit competition and allows consumers to access energy resources with low prices (European Commission 2014: 2).

The implementation of the above recommendations by the 2014 EU official report will lead to positive results in the process of Baltic energy market integration into EU energy market. This also helps EU member countries to diversify its energy resources and search for alternative energy suppliers.

Chapter 4

Russia-EU Energy Relations, Pipeline and Nuclear Projects: Security Concerns of Baltic States

Russia is a key supplier of gas, oil and electricity to the European Union (EU) and EU is the leading consumer of Russian energy, thus both are interdependent one as an energy supplier and the other as its consumer. The EU and Russia are strongly linked through energy pipelines and interconnections. The EU also adopted "Energy Roadmap" to strengthen deep energy cooperation with Russian Federation. This chapter focuses on the energy cooperation between European Union and Russia. It also discusses Russia's dual energy policy towards EU and Baltic states. It analyses the energy projects and agreements between EU and Russia and its impact on Baltic states. It also explore the differences between Russia and EU in the area of energy security concerns towards Baltic States. This chapter also examines how far three Baltic states of Estonia, Latvia and Lithuania have succeeded in utilizing their EU membership to coerce Russia for their own political and economic interests.

The EU was created from the European Coal and Steel Community (ECSC) that was set up in 1951 and the European Economic Community (EEC) created in 1958 through the association of six countries i.e., Belgium, France, West Germany, Italy, Luxembourg and the Netherlands (Wilkinson 2016: 1). The EU was established under its present name in 1993 following the Maastricht Treaty (Wilkinson 2016: 1). It emerged as a political and economic union among the European countries formulating its own policies regarding the members' economies, societies, laws and security (Wild 2016: 1). To strengthen unity in the organization, EU initiated common energy policy, common foreign and security policy (EU 2016: 1-2). The EU in 1980s established single market (common market) policy, allowing free flow of trade across EU borders. The single market policy provided four types of

freedoms namely: movement of goods, services, people and money. After the collapse of the communism post- Soviet countries started associating with the EU. In 2004, ten new countries including the Baltic states joined EU (Ibid: 4). The integration of Baltic states into EU and NATO affected the relations between Russia and European Union. However, Russia is one of the major trade partners of the European Union.

Russia is a very important country in terms of energy production and supply to European countries. Internal policies of Russia also play a significant role in the near abroad (Muller 2008: 35). Soviet-Russia was keen to generate extra energy resources compared to the new-Russia. The disintegration of the Soviet Union witnessed Russia's down-fall in energy production, however, after few years of independence Russia regained the status and became an energy super power (Mahalingam 2004: 256). Almost all post soviet states and EU continue to depend on the Russian energy sector. Energy resources are one of the key elements in Russian foreign policy strategy to influence the world politics. Russian energy cooperation with EU helped Baltic States to develop their energy security. Russia is consistent in maintaining strong energy ties with EU as a union and as well as with member states. Energy exports to EU states enhanced Russian economy. Russia emerged as a primary energy supporter of gas and oil to EU. However, lack of suitable infrastructure, fluctuations in the prices and interruptions in energy supply are the main impediments for energy cooperation between Russia and EU.

Energy Profile of Russia

Russian Federation is one of the leading producers and exporters of oil and gas in the world (EU External Action 2015: 2 and EurActiv 2011: 3). Energy exports are the primary income source for Russia. Increase in the energy prices boosted its economic growth. Most of its energy resources are exported to European countries. EU countries including Netherlands, Germany, Poland, and Baltic states import more than 70 percent energy produced by Russia. It also exports energy resources to Asia and other parts of the world (EIA 2012:

5-7). Russia has 40 oil refineries and Rosneft is the largest refinery operator. It controls the whole oil pipeline interconnections of Russia. Druzhba, North-Western Pipeline System, Tengiz- Novorossiysk, and Baku- Novorossiysk are the major Russian pipelines. All these pipelines are controlled by Transnet except Tengiz- Novorossiysk (Ibid). Russia is equipped with ports and rail system to supply gas and oil. It has more than eighteen ports to supply oil to the European energy markets (EIA 2012: 7). It also uses Rail transportation to supply oil products to Europe Rail exports comprise roughly 5 percent of Russian oil exports. Rail is generally used as an alternative to Transnet's pipeline network, although rail shipments generally are costlier than pipeline exports. Russia exports crude oil and petroleum products by surpassing Latvia and Estonia (Ibid).

Table: 10

Russian Energy Production in 2014

Energy Source	Production
Oil including NGL	525.7 tonnes
Gas	640.3 bcm
Coal	358.2 bmt
Electricity	1046.4 bln kwh

Source: Ministry of Energy of the Russian Federation (2016).

The above table illustrates the Russian energy production from primary energy resources. It shows Russia's coal, gas, oil, and electricity production in the year 2014. It is clearly indicates Russia's position in the world energy market in terms of energy production. The existence of largest primary energy resources made Russia one of the largest energy producers.

The Russian state owned Energy Company Gazprom is the largest prouder and exporter of gas in the world. It generates more than 80 per cent of country's total gas production by controlling major Russian gas pipeline

networks (EIA 2012: 8). It operates through nine most important pipelines including Northern Lights, Soyuz, Bratrstvo and Yamal-Europe I. These pipelines are used to supply gas to European markets by crossing Belarus and Ukraine. Russian supplies gas to former Soviet countries through Mozdok-Gazi-Magomed and Blue Stream pipelines (EIA 2012: 9-10). Russia also generates 220 mkw electricity and supplies to neighbourhood countries. In addition Russia also has sizeable reserves of coal (Ibid).

Energy Profile of EU

The EU produces very limited energy resources and it is dependent on many countries for its energy needs. Russia is one of the leading exporters of energy to EU market. It also imports energy resources from number of countries such as: Algeria, Central Asia, Libya and Nigeria. Most of the EU member states including Baltic states heavily dependent on Russian for gas (EurActiv 2011: 3). Germany, France and UK are among the most energy producing countries in EU. With the adoption of climate and environment protect policies EU is able to generate 24 per cent of its energy output from renewable resources. Production of natural gas, oil and solid fuels is very low in EU. But it also produces considerable amount of nuclear energy (Euro Stats 2016: 1-2).

Table: 11

EU- 28 Energy Import Dependency (By fuel %)

Year	1995	2000	2005	2010	2012	2013
Solid fuels	21.5	30.6	39.4	39.5	42.2	44.4
Coal	29.7	42.6	55.7	57.9	62.6	64.6
Petroleum products	74.0	75.8	87.2	84.4	86.4	87.4
Crude and NGL	73.0	74.5	81.3	84.7	87.9	88.1
Gas	43.4	48.9	57.1	62.2	65.8	65.3

Source: Energy Pocket Book (2015), European Commission.

The table evidently shows the energy dependency of EU member states. Almost all countries of the European Union are importing energy from different countries in the world. Natural gas, crude oil, petroleum and coal products are imported by many European Union countries. Russia is one of the primary exporters of energy to European Union.

Most of the EU member states lack primary energy resources. Several countries imports hydrocarbons from the Russian Federation. Russia exports more than 50 percent of its energy production to Europe. More than 60 per cent of Russia's trade profits come from energy exports to EU (South Front 2015: 1).

Russia's Priorities in EU

Russia- EU cooperation is developed on the basis of mutual interests. After the EU integration of post-Soviet states, Russia became a neighbour of the European Union. Both are concentrated on developing trade partnership to strengthen their economies. Russia is a key energy supplier to the EU thereby making it one of the decisive players in the field of energy politics. It is satisfying EU member states needs gas, coal and oil (Russian Mission 2016: 1). EU is the largest trade partner of Russia and it exports transport machinery, agricultural goods and medical equipments to Russian federation (EU 2016: 3). Since 1997, the Partnership and Cooperation Agreement has been the framework of the EU-Russia relations, regulating the political and economic relations between the EU and Russia. One of the main objectives of this agreement is the promotion of trade and investment as well as the progress of harmonious economic relations between the EU and Russia. Since the initial process the EU has played a significant role in Russia's WTO membership. In 2014, Russia became a member of WTO and it facilitated both Russia and EU thereby to strengthen their relations under the rules and regulations of WTO (Ibid: 4).

Russia and EU share strong political relationship. Both also share memberships in several regional and international organizations include: UN, Council of Europe (CE) and the Organization for Security and Cooperation (OSC). The main aim of the Russia-EU cooperation is to eradicate terrorism; controlling illegal migration; and protecting environment. Solving regional issues and security problems is also one of the key factors in Russia-EU mutual cooperation. Since, many former Soviet states joined EU; Russia is very enthusiastic to develop political relations with EU (Russian Mission 2016: 2).

The Partnership and Cooperation Agreement (PCA) was signed between Russia and EU to strengthen economic and political relations. It assisted both parties to build close economic ties in the field of energy sector. EU and Russia agreed to replace the existing PCA with the New Basic Agreement (NBA) that would cover new areas like: environment, free trade, energy security and world political issues (Russian Mission 2016: 2 and EU 2016: 3). EU- Russia cooperation is very crucial for Baltic Sea Region for countering challenges like poor interconnections and environment problems. The Baltic Sea is covered by eight EU Member States along with Russia. The Russia- EU cooperation in energy sector strengthens energy security of all Baltic countries (EU 2011: 3).

EU-Russia Energy Cooperation

Energy cooperation is a key priority among EU- Russia relations. Since, Russia holds largest oil, gas and coal reserves, the EU is very important to export its energy resources. Thus, Russia is very keen to strengthen energy cooperation with EU. By importing energy needs EU became one of the largest consumer of Russian energy (EU- Russia Energy Dialogue 2000: 1). Both are dependent on each other in terms of energy supply and demand. Energy cooperation between Russia and EU is based on mutual benefit and energy security. The main objective of the cooperation in this area is

uninterrupted supply of energy resources to EU member states (Russian Mission 2016: 2-3).

Energy played a crucial role in strengthening cooperation between EU and Russia. Both are succeeded and benefitted from energy relations (South Front 2015: 1). This cooperation is based on the mutual interests and both are interdependence. EU became a largest energy market for Russia to sell its energy resources and Russia is fulfilling EU energy needs (EU External Action 2015: 1). This relationship is helping Russia by generating revenue from energy exports and EU also importing energy with affordable price. This mutual understanding and collaboration strengthened their economies (EU External Action 2015: 3).

EU adopted several policies to strengthen energy cooperation between EU and Russia. In 2000, the EU-Russian Energy Dialogue was adopted for future course of action. It played a major role in bringing EU and Russia together to cooperate and solve the energy issues. The key aims of the Dialogue are increasing the investments in the energy sector, developing mutual projects, deepening energy trade, and developing energy infrastructure (EU- Russia Energy Dialogue 2000: 1).

EU and Russia approved a memorandum in 2009 to solve the energy security risks and challenges between them. Under this programme both are agreed to built and construct several gas pipelines and necessary infrastructure to fulfil the energy needs. It will guarantee uninterrupted energy supply to Europe. Russia initiated the construction of pipelines with EU member states. The major pipelines planned between EU and Russia is: Turkish Stream, Nord Stream, TAP and TANAP pipeline (Russian Mission 2016: 3). Always, energy security is major problem between EU and Russia (Lukas 2012: 188). With its large energy resources, Russia is intervening in the internal matters of EU by using energy as a political tool. It also used energy to influence the EU

member states. the construction of South Stream and Nord Stream through Baltic Sea is a threat to EU member states security (EurActiv 2011: 1-2).

Russian Energy Policy towards EU

Energy policy of Russia has its historical roots from the period of Russian empire. However after the end of Second World War, Russia adopted modern energy strategy. Russian energy sector under the Soviet Union emerged as one of the largest producers of oil in the world. During Cold War period, energy was the primary reason for economic growth in the Soviet Union. After the disintegration of the Soviet Union, the Russian energy industry was in turmoil. From 2000 onwards under the leadership of Putin, the Russian energy industry gained prominence. Under Putin, the aspect of energy sector prioritised stabilizing the country's economic and political conditions. During his term, energy sector was placed under state control. Major Russian energy companies like Gazprom, Rosneft and Transnet were nationalized (Geopolitical Weekly 2013: 1-2).

Energy policy was considered a key element to achieve its economic and political goals. The major aim of the policy is to control energy market of EU. Energy is main contributor of Russian economy and GDP. Gazprom played a crucial role in influencing Russia's political interests in the region. EU energy market is the main destination for Russian exports. Russia maintained its energy super power status by constructing new pipeline and energy infrastructure in the European region. Russia used energy supply and infrastructure for its economic, political interests. Russia emerged as major supplier of oil, gas and electricity to the EU (Geopolitical Weekly 2013: 2-3). Gazprom played very vital role in achieving economic and political control by initiating projects like South Stream and Nord Stream (Lukas 2012: 189).

On the basis of energy policy, Russia initiated construction of new pipelines and projects for supplying its energy resources. Druzba is the key pipeline to transport oil to European energy markets. It transports oil in two directions.

One is to North by crossing Belarus-Poland and Germany. The second one is to South through Belarus-Ukraine-Slovakia and Hungary. It is one of the longest route which covers 2,300 miles distance with the capacity of 2.0 million bbl oil (EIA 2012: 5-7). In 2001, Russia launched Baltic Pipeline System (BPS) to supply oil through Baltic Sea. Russia also announced the construction of BPS-2 on the Baltic Sea (Ibid).

Russia also transports oil to Baltic states through Belarus by using the Druzba pipeline branches. In 2001, Russia launched Caspian Pipeline Consortium (CPC) to transport oil within the country. Russia has approved the extension of CPC for future developments (EIA 2012: 6). Transnet is also one of the major companies in Russia. It exports oil to the neighbouring countries. It is also building new pipelines and projects. Eastern Siberia-pacific Ocean Pipeline (ESPO) Transnet is building the Eastern Siberia-Pacific Ocean pipeline (ESPO) in two stages (Ibid).

Transnet initiated the construction of Kharyaga-Indiga pipeline project to supply oil within Russian region. It also initiated Purpe-Samoltor pipeline project in 2011. Transnet used this pipeline for exporting oil to China's energy market (EIA 2012: 6-7). Gazprom is playing a crucial role in European energy market. Most of the Russian gas pipelines and projects are controlled by it. It dominates the European region by producing and supplying gas. Russia used it to influence the inter policies of EU. Several countries of the EU are heavily dependent on Gazprom energy. It operates with nine major gas pipelines including South Stream, Yamal-Europe and Northern Lights which transport gas to European continent (EIA 2012: 9).

Russia initiated construction of Blue Stream pipeline to supply its gas to EU countries. It is considered as one of the significant project for Russian energy sector. Russia launched this pipeline to counter the Nabucco pipeline of the European Union. Since, most of the EU members are dependent on Russian gas reserves, development of this pipeline is crucial for Russia.

Map: 5

Blue Stream Gas Pipeline

Source: Gazprom (2016).

The main aim of Blue Stream is to supply Russian gas to Turkey by surpassing the Black Sea through Ukraine, Moldova, Romania and Bulgaria. It has strengthened the security supply of gas to turkey and it also contributed to the development of energy infrastructure and energy market of the country (Gazprom 2016: 1). The "Minsk- Vilnius- Kaunas- Kaliningrad Pipeline" is also one of the major pipelines controlled by the Russian Gazprom. The major aim of this project is to serve the gas needs of the Kaliningrad region of Russian Federation.

Map: 6

Minsk- Vilnius- Kaunas- Kaliningrad Gas Pipeline

Source: Gazprom (2016).

The Kaliningrad region is strategically very crucial for Russia. It is a unique territory and isolated from the mainland of Russia. It is located in the western part of the country. The Kaliningrad gas pipeline project constructed during the Soviet period. Since 1985, this pipeline is in operation to supply gas to Kaliningrad region. This pipeline is constructed to cover 18 km through Lithuania to the Russian border (Gazprom: 2016: 1-2).

EU Energy Policy towards Russia

Energy security policy is very important for European Union, since most of its member states are energy importing countries. Competitiveness, secured energy supply and energy sustainability are the three main characteristics of the EU energy policy (Mukhametshina 2015: 10). Energy security and energy self reliability are the main principles of energy strategy of EU. The EU adopted several strategies to minimize energy dependency and vulnerabilities. Energy diversification and implementation of new pipelines and projects is the primary goal of these policies (Lukas 2012: 190).

Southern Energy Corridor is a successful initiative for energy security of the EU member states. The Turkey-Greece and Italy Pipeline (ITGI); Azerbaijan, Georgia and Romania Pipeline (AGRI); Trans-Adriatic gas pipeline (TAP); the Trans- Caspian gas pipeline; TANAP pipeline; Nabucco pipeline and South-Eastern European Pipeline (SEEP) are major EU energy projects in the region (Lussac 2010 and Sierra 2010 in Lukas 2012: 191-192). The Nabucco pipeline is a joint programme of both EU and Russia. The primary objective of this pipeline is to bring gas to Austria from Iranian-Turkish border. This pipeline supply gas through Turkey, Bulgaria, Romania and Hungary.

Map: 7

Nabucco Gas Pipeline

Source: EurActiv (2011).

Initially, the Nabucco pipeline was planned by the US management and adopted by the European Union to decrease its energy dependence on Russian gas sector. It is initiated to bring gas to Bulgaria from Azerbaijan via Georgia and Turkey. Its annual transport of gas is 32 bcm (EurActiv 2011: 10). It is also considered as one of the best option for EU member states to diversify their energy supplies.

In 2008, to counter the Russia's Nord Stream, EU and Ukraine initiated a White Stream project. It is planned to transport gas to Ukraine and some parts of EU territory. It supply gas via Black Sea, South Caucasus and Caspian Sea (EurActiv 2011: 6). These pipelines are emerged as alternative for Russia's pipelines and facilitated EU to import gas from the Central Asia and Middle East regions (Lussac 2010 and Sierra 2010 in Lukas 2012: 191-192).

The European Union adopted EU-Russian Energy Dialogue to deepen the energy cooperation with Russian Federation. The main intention of this dialogue is to focus on long-standing energy relations between EU and Russia. This initiation has impacted on energy policies of both EU and Russia and it also transformed the energy strategy of EU member states. It is focused on developing trade relations related to gas, oil and coal. This dialogue is also focused on initiating electricity grids and construction of new pipelines to supply Russian energy resources to European market. This dialogue also allows both Russia and EU to work together and launch interconnected projects with EU member states (EU- Russia Energy Dialogue 2000: 2).

Ultimately, this will serve the purpose of integrated energy market of EU. It facilitates both to secure energy imports and exports based on mutual benefit and interest. This dialogue is not limited to energy cooperation, but it also decided to protect the environment by reducing greenhouse gas emissions from producing energy. The ultimate aim of this dialogue is to bring EU and Russia very close to improve the energy security conditions of the EU member states by proving uninterrupted energy supply (EU- Russia Energy Dialogue 2000: 2). This dialogue has started a new episode in EU-Russia energy relations. After initiation of this programme, several positive steps have been implemented to support EU-Russia energy cooperation. It has identified few necessary actions for short term cooperation in energy sector.

These include:

1. Providing constant energy supply in the future;

2. Rising energy efficiency;
3. Long-term investments in energy sector;
4. Competitive energy markets;
5. Diversification of energy export and import options;
6. Introducing new technology in the energy sector;
7. Framing rules and regulations for energy generation and transportation;
8. Protecting and securing energy transportation networks; and
9. Reducing the financial and economic disaster impacts on energy sector (EU-Russian Energy Dialogue 2000: 3).

Environmental concern occupied significant space in the dialogue. It aims to construct the energy infrastructure and interconnections without affecting the environment. It also supports energy savings by using environmental friendly technology (EU- Russia Energy Dialogue 2000: 4). The environment friendly aspect within the energy policy displays a broader outlook. This dialogue has identified four functioning groups in the different areas with mutual interests of EU and Russia:

1. The Energy Markets and Strategies Group;
2. The Group on Electricity;
3. The Energy Efficiency and Innovations Group; and
4. The Group on Nuclear Energy (EU- Russia Energy Dialogue 2000: 4).

Russia's Energy Relations with EU Member States

Russia has maintained strong energy relations with the EU member states. Energy politics has been a political tool for Russia to divide and rule in the EU. A study by Stefano Braghiroli and Caterina Carta has revealed Russia's approach towards EU member states particularly in the background of energy politics. The study finds out four different approaches of the Russian Federation in maintaining relations with EU member states. Russia maintained very hostile relations with former Soviet states of Estonia, Lithuania, Poland, Latvia, the Czech Republic and Slovakia. It has maintained affirmative relations with Italy, Austria and Greece. Russia maintained critical as well as

normal relations with Romania, Slovenia, Sweden, Bulgaria, Hungary and the United Kingdom. Lastly, Russia has preserved successful economic and political relations with the Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, the Netherlands, Portugal and Spain (EurActiv 2011: 2-3).

The energy cooperation between Russia and EU became very complicated due to Russia's imbalanced approach towards individual member states of the European Union. It is very clear that Russia is not showing same interest with all countries in terms of energy supply. Its policy of discriminated relationship with EU member states for its own interests has strained the relationship with Baltic states (Mukhametshina 2015: 19).

Table: 12

EU Member States Gas Imports from Russia

EU 27 Countries	% Gas Imports from Russia
Austria	58
Belgium	0
Bulgaria	100
Cyprus	0
Czech Republic	78
Denmark	0
Estonia	100
Finland	100
France	19
Germany	40
Greece	60
Hungary	71
Ireland	0
Italy	29
Latvia	100
Lithuania	100
Luxembourg	0
Malta	0
Netherlands	11
Poland	52
Portugal	0
Romania	15

Slovakia	96
Slovenia	49
Spain	0
Sweden	0
United Kingdom	0

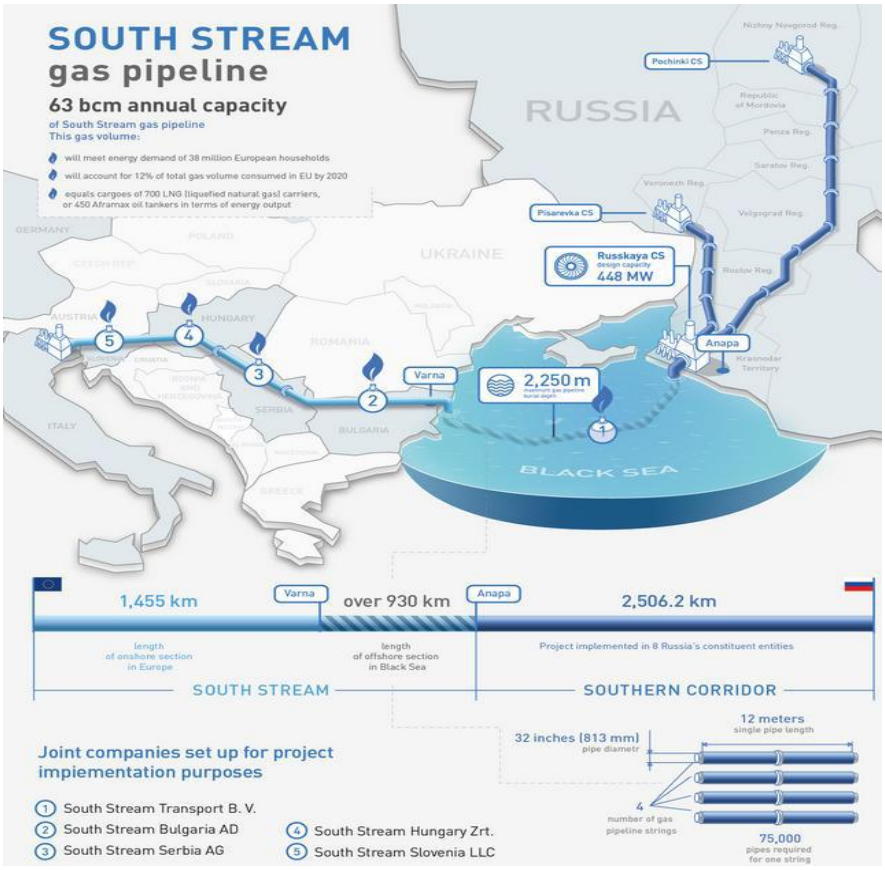
Source: Energy Pocket Book (2015) and Mukhametshina (2015).

This Table will help us to understand Russia's policy towards each EU member states and it also shows the energy dependency of EU on Russia. Baltic states including Bulgaria, Czech Republic, Finland, Hungary, and Slovakia are highly dependent on Russia and almost 100 percent of gas comes from Russia. Belgium, Denmark, Spain, Sweden and United Kingdom are least energy dependent countries in the European Union. Russia had succeeded in maintaining healthy relations with the countries like Germany, France and Greece. The main priority of Russia is to promote constructing energy pipelines and projects with the EU member states to strengthen its economy by exporting energy throughout Europe.

Russia initiated some significant energy projects with individual EU member states as part of its energy strategy. Russia also launched the South Stream gas project with Greece in 2008. It is considered as one of the rival project to EU Nabucco project. The construction of South Stream pipeline is a joint programme by Italy's ENI and Russia's Gazprom with mutual interests. Annually, it is planned to transport and supply 30 bcm of Russian gas to Europe. This pipeline goes under the Black Sea through Bulgaria, Greece, Serbia and Croatia to Italy (EurActiv 2011: 8). Russia also maintained strong relations with Bulgaria. The Burgas-Alexandroupolis oil pipeline agreement was launched by Russia. In 2008, agreement was signed between Russian president Putin and Bulgarian and Greek prime ministers to complete the project. It is planned to supply the Russian oil to Greece via Bulgaria (EurActiv 2011: 10).

Map: 8

South Stream Gas Pipeline



Source: Gazprom (2015).

This pipeline project was started in 2012 and was halted in 2014 due to violation of EU environmental norms and third energy package regulations. Bulgaria and European Union explicitly conveyed their disinterest in constructing South Stream pipeline. South Stream gas pipeline was abandoned and replaced by the Turkish Stream. European Union viewed South Stream as a countering project to EUs Nabucco pipeline and pressurised Bulgaria to cancel the South Stream project with Russia. However, after being re-elected to the President's office, Putin is trying to revive the project with a new route.

The Yamal-Europe gas pipeline is one of the millstone projects in E-Russia energy cooperation. It transports Russian gas to most of the EU member states. It is the largest pipeline for Russia to export its energy resources and it

also satisfy the gas consumers in EU. This pipeline passes through three important countries of i.e. Belarus, Poland and Germany. Construction of this pipeline initiated in 1994 and by 2006 its capacity to transport gas reached to 32.9 bcm. The overall length of this pipeline is estimated as 2000 km with 14 stations.

Map: 9

Yamal-Europe Gas Pipeline

Source: Gazprom (2016).

The EU also considered Yamal-Europe pipeline as very crucial investment and implemented the project under the Trans-European Network (TEN). Russia's Gazprom decided to launch Yamal-Europe 2 gas project from Belarus to Slovakia through Poland. It will facilitate Russia to increase its energy exports to Hungary, Slovakia and Poland. Russia is planning to extend this pipeline to supply gas for Central European countries in the future. This will allow EU countries to satisfy their energy needs and get transit funds from Russia for using energy routes. This pipeline played very crucial role in

maintaining strong energy relations between Russia and EU member states (Gazprom 2016: 1-2).

EU- Russia Energy Cooperation and Concerns of Baltic States

Energy is a subject of high priority for the EU, since it is the largest oil and gas importers in the world and is one of the major players in energy field (Thomas 2013: 1 and Rosner 2009: 161). The European Commission (EC) and some member states have recently started to advance the need for a more coherent energy policy in EU. The first significant initiative was taken by 2000 Green Paper entitled "towards a European strategy for the security of energy supply" (Henryk 2008: 9 and Thomas 2013: 1). There were no significant changes in the energy sector from this effort. In 2006 EU adopted second Green Paper to shape the EU common energy policy. The core objectives of this paper are: reduction in energy use, competitive energy markets, energy diversification, developing modern technologies and use of renewable energy resources. It played a important role in framing and directing external energy policy of EU (Green Paper 2006 and Thomas 2013: 2).

Estonia, Latvia and Lithuania joined European Union (EU) and NATO in 2004 along with other states. Misik (2010) argues that energy policy and particularly the question of energy security developed into one of the primary subjects in the European Union, only after the ten post- Communist new member states (NMS) (from both the 2004 and 2007 enlargements) joined the European Union. These new member states share the common feature that they are partly, or even fully dependent on imports of energy resources from other countries. Therefore they have introduced to the EU the question of energy security, an issue that was not on the table in the EU previously (Misik 2010: 101-102). In 2004, the accession of new EU members brought out new possible conflicts in the area of energy security. Many of the newly accepted countries, including Estonia, Latvia and Lithuania have a historic background of repression by Russia. Nevertheless, these states are dependent on the

Russian energy sector, and hence it is important for EU to maintain good relations with Russia (Vaicekauskaite 2011: 1 and Misik 2010: 103).

The major aim of EU's energy policy is to develop a single energy market in the community and common energy policy in EU. There are still "energy islands" in the community such as the Baltic States, Ireland and Malta that are linked only to energy sources outside of community borders (Thomas 2013: 2). New member states believe that a common energy policy for the EU will improve their energy security (Misik 2010: 104). EU's energy policy is based on creating an internal market through energy sector liberalization and integration of European energy networks. In order to liberalize the energy market, three legislative packages were adopted from 1996 to 2009.

Since 2011, the third Energy Package effectively seeks to prevent energy monopolies by separating energy production from transmission activities (ownership unbundling) for electricity and gas companies (Misik 2010: 115). There are two strategic Baltic gas interconnection projects: GIPL (a gas pipeline connecting Poland and Lithuania) and Baltic-connector (pipeline between Finland and Estonia). BEMIP supported electricity links include: Nordbalt (Sweden-Lithuania-Latvia); EstLink2 (Estonia-Finland); LitPol Link (Lithuania Poland); and an Estonian- Latvian 3rd interconnection. Implementation of these projects has gained new momentum with the promise of EU funds (Grigas 2013: 120).

Over the period with the development of European Union, there have been numerous attempts to formulate a common energy policy with only limited success. The main reason for its failure has been the reluctance of member states to pool sovereignty in this highly sensitive area (McGowan 1996: 2). Although the European Union refrains from speaking with one voice, it has a common corpus of legislation for energy efficiency, renewable energy, competition and liberalization (Misik 2010: 115-116).

The EU- Russia energy cooperation is very crucial from the Baltic States point of view. The NATO and EU membership of the Baltic countries does not indicate the end of history in Russia-Baltic relations. The Baltic states are predominantly tied to Russia's energy system by the Soviet- era pipelines, rail lines and refineries, and Russia enjoys a near monopoly of energy supplies to these countries (Sleivyte 2009: 117-118). The Baltic States are more vulnerable in terms of gas than many other EU states not because of their energy dependence on a single source, but due to their gas transport and delivery infrastructure.

Baltic gas infrastructure was built in the Soviet era and is dependent on Gazprom-owned pipelines that deliver Russian gas (Grigas 2013: 105-106). Gas pipelines supplying Estonia from northern Russian territory first pass through Latvia before they arrive in Tallinn. Latvia is fed through two primary pipelines. One comes directly from Russian territory and connects Estonia; while the other passes through Belarus and Lithuania. Lithuania is supplied by a pipeline that arrives from Belarus and continues on ward to the Russian territory of Kaliningrad. Gas imports from Russia to the Baltic states amount to 100 percent, whereas oil imports used to stand at nearly 90 percent. A major reason for Russia being successful in playing its energy card in Baltic states is due to Europe's insufficient focus on this issue and the absence of a common strategy on its relations with Russia (Sleivyte 2009: 119).

The foremost goal of Russia's energy politics in the Baltic States is the integration of their energy sectors into the Russian energy system. Russia sought to make Baltic States as a bridgehead of its energy politics. By taking over the energy sectors of the Baltic states Russia may: negotiate directly with the zones of realization of production; make Western Europe more dependent on the supply of Russian energy resources; and reduce the economic and political independence of these countries, thereby increasing their economic vulnerability (Ibid).

Ever since the collapse of the USSR, the Soviet Russia has used its energy control to influence policies in the Baltic States. In the early 1990s the Soviet Union exploited the energy dependence and vulnerability of Baltic States, and placed pressure on them through threats and cut- offs of supplies. Such a projection of economic power demonstrates the neo- colonial characteristics of Russian energy policy in the Baltic States (Maigre 2010: 14 and Sleivyte 2009: 120). All the three countries pursue their own distinctive relationship with Russia. Estonia, the smallest of the three, has been the most aggressive in indicating Russia to stay away of its affairs. Latvia, experiencing continued Russian hostility over its illegal poor handling of its large ethnic Russian population, has suffered a unique set of problems at Russian hands. Lithuania, with its relatively small ethnic Russian population has dealt with Russia most confidently of the three Baltic States (Smith 2004: 2-3).

The immense power of the Russian energy industry is evident by its capacity to acquire ownership or control of pipelines, refineries, oil ports, distribution companies, retail gas stations and power stations in the majority of the countries of ECE; this has increased significantly since the election of Vladimir Putin to the presidency (Maigre 2010: 16).

Since, the Baltic States accession in to the EU and NATO, the security of Baltic States is arguably the best ever achieved in their history (Sleivyte 2009: 120). However, in Grigas opinion, nearly a decade following EU accession, the energy sector remains the most vulnerable national arena for Estonia, Latvia and Lithuania. The vulnerability stems from the fact that the energy sectors of the three Baltic States remain inextricably linked to and completely dependent on Russia while they are virtually isolated from the rest of the EU, making them energy islands (Grigas 2013: 49).

EU Energy Dependency and Vulnerability

The European Union imports large portion of uranium, coal, oil and gas from the Russian Federation (EurActiv 2012: 2). Over dependency of EU on

Russian energy is a threat to the future energy security (Euro Stats 2016: 1). Both are interdependent on each other in terms of energy demand and supply (EIA 2015: 2 and South Front 2015: 2). Russia emerged as an EU's largest energy supplier. The EU imported 909 million tonnes of energy. It is estimated at more than 39 per cent of its gas imports. Most of the EU member states are highly dependent on Russian energy sector for oil and gas resources (EC 2015: 2). The Baltic states and Malta, Luxemburg and Cyprus are totally dependent on Russian energy imports. Countries such as Denmark, Romania, Poland and Netherlands are among the least dependent countries in Europe (Euro Stats 2016: 3-4).

Table: 13

EU- 28 Energy Imports by Country of Origin in 2013

Country	Natural Gas %	Crude Oil %	Solid Fuels %
Russia	39.0	33.5	28.2
Colombia			22.4
Norway	29.5	11.7	
Saudi Arabia		8.6	
United States			21.8
Algeria	12.8	3.9	
Not specified	6.7		4.7
Qatar	6.7		
Australia			7.3
Nigeria	1.8	8.1	
Kazakhstan		5.8	
Libya	1.8	5.6	
Azerbaijan		4.8	
Trinidad& Tobago	0.8		
South Africa			6.8
Indonesia			3
Canada			1.7
Others	0.9	18.1	32
Total	12408433 TJ-GCV	498838 K-ton	236977 Kton

Source: European Commission, Energy Pocket Book (2015).

The Table shows the EU energy imports from different countries in the world. It also shows Russia as a leading supplier of oil, gas, and solid fuels. EU member states are importing more than 70 percent of their energy consumption from the Russian Federation. Norway, Columbia, US, Saudi Arabia and Central Asian countries are suitable energy alternatives for EU.

However, the European Union is importing energy from number of countries from different regions in the world; Russia emerged as one of the significant energy exporter for EU. Several European countries are entirely dependent on Russian energy market for their domestic energy consumption. In order to continue uninterrupted energy supply, Russia also maintained strong energy relations with EU member states. The EU also imports significant amount of gas and oil from Saudi Arabia. It also developed good relations with Norway by importing oil and gas to EU market. Norway is also a member country of the European Economic Area (EEA) which encouraged close relations with EU member states. According to 2012 energy statistics Norway exported almost 31 per cent of the EU's gas and 10 per cent of its oil (EC 2015: 1). The EU also signed several energy deals with Central Asian countries. The EU member states imported oil and gas from Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan (Idid: 3). The EU maintained good energy relations with OPEC countries. It imports more than 40 per cent of oil from 12 member states of OPEC (Ibid). The European Union diversified its energy import option by developing close relations with Central Asian and OPEC countries. It resulted in the decrease of energy dependence on Russian energy market.

Ukraine Factor in EU- Russia Relations

Ukraine is geographically, politically and economically extremely important for both Russia and EU. Historically Ukraine has been the central element for EU-Russia cooperation. Ukraine declared its independence in 1917, immediately after the end of Russian empire. This independent status was not experience for long-period and it was incorporated into Soviet Union in 1922.

In 1941, the Nazis invaded Ukraine and turned them into slaves and used them as labour in the Second World War. After the war Ukraine was incorporated into the Soviet Union. Ukraine developed into a crucial border point for the Soviet Union's trade with other European countries (Bates 2016: 1).

In 1991, the Soviet Union collapsed and Ukraine regained its independence from the Union. Nevertheless Russia emerged as a successor state of the Soviet Union and it continued the SU legacy in domineering Ukraine. It became one of the leading routes of Russian oil and gas exports to Europe. In this context, Ukraine is a strategic point for both EU and Russia to maintain bilateral relations. Russia used energy as a political weapon to control Ukraine and Europe. Russia blocked gas deliveries to Ukraine several times including other EU members, which experienced the largest interruption in energy supplies and a major challenge to their energy security (Strachota 2009: 2). Lacks of interconnections with other members, over-dependency on Russian energy are the primary reasons for Russian hegemony in Ukraine.

The European Union has shared strong energy cooperation with Ukraine. It also signed the EU-Ukraine Association Agreement to provide legal basis for strengthening energy relations. As a part of this strategy, EU has been supporting economic and political reforms in Ukraine. It provided the ground to maintain close relations particularly in endorsing democratic values, rule of law, human rights, governance and fundamental freedoms. It allowed both sides to ratify free trade agreements (EU External Action 2016: 1-2). Russia illegally occupied Crimea and deliberately attempted to destabilise the neighbouring sovereign country.

The EU has imposed restrictive measures against Russia's activities in Ukraine. In 2014, the European Council agreed to the first diplomatic measures in response to Russian actions in Ukraine. The EU also strongly objected forceful and illegal invasion of Crimea by Russia. The EU extended its solidarity and supported Ukraine by imposing economic and political

sanctions on Russia. It also kept Russia away from the G8 summit held in 2004 at Brussels and it is decided in the summit that EU member states should not hold any bilateral meetings with Russia (EU News Room 2016: 2-4).

The EU- Russia energy cooperation is very significant for the energy security of the EU member states. Energy relations between EU and Russia strongly influence the energy policy of the Baltic States. Russia and EU are interdependent on each other as energy supplier and consumer. There are several obstacles in energy cooperation between EU and Russian Federation. Energy poverty and excess dependence on Russia are some of the primary disadvantages faced by the European Union. It has limited amount of primary energy and most of the member states wholly depend on Russia for natural gas. Lack of common energy policy is also one of the complexities in the path of energy cooperation with Russia. The EU was not able to conduct a precise dialogue with a single voice on energy security issues. Supply interruptions and price volatility are additional setbacks for EU- Russia energy cooperation. For its personal political and economical interests Russia blocked and delayed energy supply to EU member states. Russian energy politics have limited the stable energy cooperation with EU. Eventually Russia was extremely successful in dividing the European Union through energy politics.

Chapter 5

Baltic States' Energy Policies and Quest for Energy Independence: Impact on Regional Cooperation

Energy security is one of the prominent issues of strategies in the Baltic states. Estonia, Latvia and Lithuania are undergoing numerous complications with regard to energy security. Since the regaining of independence in 1991, energy security has been the foremost priority for the Baltic states' governments. The three Baltic states are besieged with the similar kind of geopolitical and energy security challenges. This chapter discusses the factors that shape energy policies of Baltic states, energy capabilities, available energy resources and challenges. It briefly examines the major energy projects in Estonia, Latvia and Lithuania and will also analyses the energy policies of three Baltic states. This chapter also describes the impact policies on regional cooperation and cooperation among Baltic states themselves.

Energy Resources in the Baltic States

The energy resources in the Baltic states vary from each other. In Estonia oil shale is the main energy resource for electricity production. More than 94 per cent of power was generated by burning oil shale resources. Alternative projects would be employed for the diversification of Estonia's electricity production. This includes construction of more co-generation plants with diverse usage of fuels, wind power farms and balancing stations. Nevertheless, mining and burning oil shale encompasses numerous environmental hazards (Maigre 2010: 2-3). Latvia produces approximately 30 per cent of gas in its total energy production. It has developed the largest gas storage system in Europe and it is planning to increase in the future. It has the capacity to fulfil the energy needs of the Baltic states (Maigre 2010: 4). The Ignalina NPP is the core supplier of electricity in Lithuania. It was able to generate more than 75 per cent power to the Baltic countries. In 2009, Ignalina was closed and Lithuania was left with limited choice of sources for

the production of electricity (Katinas and Markevicius 2006: 772; Maigre 2010: 5). Climatic condition in Lithuania has invariably affected the energy generation. Solar and geothermal energy generation is not possible in this region; therefore wind energy development and installation of new biomass power plants are prioritized (Katinas et al. 2008: 3687). Lithuania started new projects by using renewable energy resources (Katinas and Markevicius 2006: 773).

Estonia produces 80 percent of its electricity from oil shale burning. According to US department of energy, Estonia has the largest oil shale reserves in the world (US Department of Energy 2016: 1). Compared to the other two Baltic states Estonia is maintaining autonomous status in producing electricity due to it's of oil shale reserves (Maigre 2010: 2). According to 2009 energy statistics, more than 77 per cent of electricity was produced by Estonia. It made Estonia to emerge as self sufficient energy sector and also allowed to supply electricity to the neighbouring countries (Natural Gas Europe 2012: 1).

However, it doesn't produce coal, oil and gas. It is totally dependent on Russia for its primary energy needs (Valma 1999: 534). But it witnessed increase in the renewable energy from wood waste, peat and agricultural waste. The rural communities in Estonia are facilitated by small hydroelectric power plants (U.S Department of Energy 2016: 2).

Table: 14

Energy Production in Estonia

Year	1995	2000	2005	2010	2012	2013
Solid fuels	3.1	2.7	3.2	3.9	4.0	4.4
Coal						
Petroleum products	0.5	0.4	0.5	0.7	0.7	0.7
Gases&						

crude						
Nuclear						
Renewable	0.4	0.5	0.7	1.0	1.1	1.1
Waste, Non-RE						0.1
Production	3.9	2.7	4.4	5.6	5.8	6.4

Source: Energy Pocket Book-European Commission (2015).

The above table indicates the energy production of Estonia; it illustrates the total energy production from solid fuels, petroleum products and renewable resources. It is very clear from the table that Estonia is unable to produce natural gas and nuclear energy. Almost 100 per cent of gas and oil is imported from other countries. Estonia is able to increase its energy share from renewable energy sources such as wind, solar and geo-thermal plants.

Estonian state owned company (Eesti Energia) produces the bulk of electricity to satisfy its consumer needs (US Department of Energy 2016: 1-2). Energy relations between Estonia and Finland, Estlink I and Estlink II, have been concluded; Estonia currently is working on an additional electricity connection between Estonia and Latvia. In the gas market, the priority is to entirely develop the regional gas market and to enable the participants of the local market to access the regional gas infrastructure on equal conditions. It is also important to expand Baltic gas market to the north (Baltic-connector) as well as to the south (Lithuanian-Polish gas pipeline) (Estonian Ministry of Economic Affairs and Communications 2016: 2).

Estonia is inter-linked with three Russian electricity grids and also connected two Latvian power links. Recently, it developed interconnections with the Est-Link I and Est-Link II with the capacity of 350 megawatts. These interconnections will ensure uninterrupted electricity supply to Estonia and Baltic countries. It will also connect Estonian energy market with unified

energy market of EU (Estonian Ministry of Economic Affairs and Communications 2016: 3).

In total there are 27 electricity network operators in Estonia. The total annual heat consumption of Estonia is less than 6,600 GWh; in 2013, 70 per cent of this amount (4600 GWh) was taken up by district heating (Estonian Ministry of Economic Affairs and Communications 2016: 3). Approximately 30 per cent of the population uses individual heating solutions, generating thermal energy mostly from wood and natural gas. District heating sector plays an important role in the achievement of Estonia's renewable energy objectives. Estonia promotes the co-generation of thermal energy and electricity, and if this is economically and technically feasible, then this can contribute to diminishing environmental impacts caused by the heating supply and facilitate the conservation of additional energy than would be possible in the case of the separate generation of electricity and thermal energy. Since the beginning of 2013, The Estonian electricity market has been completely open and consumers are free to choose a service provider and tariff package from among a number of sellers of electrical energy (Estonian Ministry of Economic Affairs and Communications 2016: 5).

The natural gas used in Estonia is imported from Russia and Lithuania, where in 2014 a liquefied natural gas terminal was opened. The Incukalns natural gas storage facility in Latvia, which is used to supply Estonia, is filled with Russian gas. Minimum quantities of gas were imported from Russia during this period. The shale gas revolution in North America provided interesting opportunities for developing the Estonian gas market and the development of technologies for the liquefaction of natural gas have materially changed the pricing models that were based on natural gas oil prices (Brown 2002: 515). District heating is the main area of application for natural gas in Estonia (39 per cent of the volume of gas consumed). An increase of natural gas prices, resulting from limited competition, have forced producers using natural gas for production to consider the use of local renewable fuels over the last couple

of years (Estonian Ministry of Economic Affairs and Communications 2016: 5-6).

Estonian "National Development Plan of the Energy Sector Until for 2020" adopted a policy of "Renewable Energy Action Plan Until 2020" that will increase the proportion of energy from renewable sources in final energy consumption. Estonia's objective in the field of energy from renewable sources is producing a 25 per cent proportion in the final consumption (IBP USA 2013: 122; Estonian Ministry of Economic Affairs and Communications 2016: 7). The wind-power is viewed as the most interesting and promising energy for Estonia (Valma 1999: 534). The 2009 renewable energy directive of EU adopted a target to achieve 10 percent of renewable energy in the transport sector by 2020. Therefore, the Ministry of Economic Affairs and Communications promotes the consumption of alternative fuels, such as electricity, natural gas and bio methane in the transport sector. A decrease in the import of liquid fuels and more extensive use of domestic resources will serve to improve Estonia's foreign trade balance and decrease the pollution introduced to the natural environment, further laying positive impact on the economy in general. Since 2011, Estonia has been a member of the International Renewable Energy Agency (IRENA). IRENA runs a common database consisting of information about various renewable energy policies. IRENA, being a new organisation, is developing methods for the collection of statistical information on renewable energy; this will invariably contribute to the establishment of one of the most efficient databases in the world (Estonian Ministry of Economic Affairs and Communications 2016: 8; US Department of Energy 2016: 3).

Approximately 25 per cent of the energy consumed in Estonia is used up by the transport sector. Liquid fuels are imported from abroad in order to fill the gap. Almost 94 per cent of the transport sector energy consumption is attributable to transport by road and vehicles. As Estonia has no oil resources, Estonia does not produce or process oil, hence liquid fuels are mostly

imported from works at Porvoo, Finland, and Lithuania; smaller quantities also come from Belarus and Sweden. Over the last 10-15 years, the volume of energy and fuels consumed by the transport sector have increased by more than 33 per cent; the increase in fuel consumption has been rapid, mainly due to the increasing popularity of passenger cars, vans and trucks that use diesel fuel (Estonian Ministry of Economic Affairs and Communications 2016: 7-8). However, Estonia is among the European Union countries that are the least dependent on energy imports. Estonia's use of oil shale and increasingly also renewable fuels has facilitated the meeting of the energy requirements of the country. The Estonians are relentlessly working to maintain and even enhance their country's energy independence in the conditions of stricter energy and climatic policies (Valma 1999: 534). The goal of Estonia's market-based energy policy is to secure energy independence, secure supply and competitive energy prices, which are all among the main prerequisites for economic development. To achieve the EU climate and environment policy targets, Estonia must minimise its energy dependence in the future. To fulfil the EU targets government also initiating number projects and programmes such as diversification of energy resources in Estonia (Natural Gas Europe 2012: 4).

Latvia has limited natural energy resources. Hence, it is highly dependent on energy imports due to lack indigenous sources of energy. It imports more than 80 per cent energy from Russia that includes coal, gas and oil products. Latvia uses gas and oil for generating heat. This is the major reason for its energy dependency. To reduce its imports, Latvia started using peat and wood to generate electricity and heat, besides this wind energy and energy from waste are also considerably harnessed (Maigre 2010: 5).

Latvia increased its renewable energy usage to 34 per cent of the total energy consumption of the country. It used solar, wind and peat resources to replace fuel energy. Latvia has the favourable conditions to generate wind energy. The total wind energy capacity is 27 MW in 2007. Latvia is developing wind

energy generating methods by using new technologies without upsetting the environment. The table-4 also illustrates the growth in renewable energy resources. Currently Latvia is focusing to invest more on the wind energy projects. It already identified several strategic regions to develop wind energy plants (Energy Profile of Latvia 2016: 3).

Biomass is also one of the available alternatives for heat generation in Latvia, mostly in the outskirts of large towns. According to the governments' statistics, 0.22 per cent bio-fuels have been used in the transport sector of the country. It also generated bio-ethanol (93 per cent) and bio-diesel (71 per cent) and supplied to the neighbouring EU member states. The households are started using energy from wood and wood waste. Latvia is also generating electricity from agriculture waste, municipal waste and wood resources. It is also exported electricity to the European countries (Ibid).

Latvia also used hydropower to generate electricity. It generated 88 per cent of electricity of the total consumption in 2008. It initiated three larger hydropower plans with 150 small and local facilities. The geothermal energy is also one of the options for Latvia to generate electricity. The demand for geothermal power plants is increasing in the region due to high tariffs on electricity. Owing to its geographic location and to the climatic conditions the solar energy resource potential in Latvia is diminutive in comparison to other European countries (Energy Profile of Latvia 2016: 3-4 and Maigre 2010: 6).

Table: 15

Energy Production in Latvia

Year	1995	2000	2005	2010	2012	2013
Solid fuels	0.1	0.0	0.0	0.0	0.0	0.0
Coal						
Petroleum products	0.0	0.1	0.0	0.0	0.0	0.0
Gases						
Nuclear						
Renewable	1.4	1.4	1.9	2.0	2.3	2.1
Waste, Non-RE						

Production	1.4	1.5	1.9	2.0	2.3	2.1

Source: Energy Pocket Book (2015), European Commission.

The above table illustrates the total energy production in Latvia and it explains the status of Latvia in the primary energy sector. Latvia is entirely dependent for oil and gas resources. Almost 100 per cent of primary energy resources are imported. However, Latvia's integration into EU has led to the increase in the renewable energy resources. The above table indicates the increase in the renewable energy production.

Latvia is one of the largest energy importing country among EU member states. It imports oil, gas and coal from external countries. It is not connected to the EU gas market system. Latvia imports most of its gas needs from Russian Gazprom and Itera Latvija. Interestingly Itera Latvija is also under the controlled of Gazprom. Latvia is not able to diversify its energy imports due to lack of energy interconnections. Ultimately, it has to depend on Russian energy sector for gas and oil. It imports electricity from Estonia, Lithuania and Russia. Before 2009, Lithuanian Ignalina NPP was able to export 30 per cent of its electricity to Latvia. But, after closing of Ignalina project Latvian dependency on Russia is increased (Energy Profile of Latvia 2016: 5).

Lithuania is a largest country among the three Baltic states and it borders with Latvia, Belarus, Poland and Kaliningrad of Russia. The total population of Lithuania is 3.5 million with the area of 65,300 skm. The geo-political location of Lithuania has been one of the determining factors influencing the energy politics of the state. It lacks primary energy resources. Lithuania imports its primary energy resources from the Russian Federation. It imports almost 100 per cent of gas and 90 per cent of oil resources (European Commission 2012 and IAEA 2004: 26).

It increased usage of renewable energy resources to avoid the energy dependency vulnerabilities. Over the past several years there has been a slight increase in energy production from wood, peat and hydro; the decrease in the

oil and gas consumption resulted in these energy sources making a greater contribution to Lithuanian energy security. Energy is generated by using municipal and agricultural waste. The local geographic situation of Lithuania is not in favour of developing hydro power projects (IAEA 2004: 26-27).

The Lithuanian energy policy is also encouraged the use of renewable energy resources in the final consumption (Energy Strategy 2012). Since the beginning, renewable energy share is increasing in Lithuanian energy sector. At the same time Lithuania is increasing its dependence on Russian energy sector (Miskinis 2010: 92). Bio-fuel is emerged as the largest renewable energy source. Lithuania is producing significant share of energy from biogas, wind power, agricultural waste, geothermal and solar energy (Miskinis 2010: 93).

Table: 16

Energy Production in Lithuania

Year	1995	2000	2005	2010	2012	2013
Solid fuels	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum productions	0.2	0.4	0.3	0.1	0.1	0.1
Crude & NGL	0.1	0.3	0.2	0.1	0.1	0.1
Gases						
Nuclear	3.1	2.2	2.7			
Renewable	0.5	0.7	0.9	1.2	1.2	1.3
Non-RE						0.0
Production	3.8	3.3	4.0	1.3	1.3	1.4

Source: Energy Pocket Book (2015), European Commission.

The above table illustrates the Lithuanian energy production from petroleum, nuclear and renewable resources. In comparison to Estonia and Latvia, Lithuania is successful in producing energy from nuclear and renewable resources. The table clearly explains the growth in the usage of renewable energy resources every year.

Lithuania became more energy dependent country after the closing of Ignalina NPP in 2009. It was able to satisfy the electricity needs of the Baltic states. In the process of EU integration, Lithuania was forced close the power plant. The climate conditions limit the solar and geothermal energy to generate electricity. The EU environment and climate policies restricted Lithuania from constructing new power plants. Therefore, wind energy development and installation of new biomass power plants have gained prominence (Katinas et al. 2008: 3689). The main aim of Lithuania is to reduce the use of primary energy and achieve EU renewable and environment targets. Lithuania launched several projects to produce energy from solar, biogas, bio-fuels and geothermal resources. Lithuania already increased renewable energy in its transport sector (Katinas and Markevicius 2006: 774).

All the three Baltic states are lack of primary energy resources and depends on neighbouring countries. Miskinis, outlined the significant features of the Baltic states energy sector. over energy dependency, single energy supplier, lack of inter connections, isolated from EU, increase in the use of renewable energy and lack of energy market integration and cooperation in BSR are the salient features of the Baltic energy sector (Miskinis 2010: 98-99; IAEA 2004: 28).

Energy Policy of the Baltic States

Energy policy is one of the most significant and emerging political issue in world politics. Energy policymaking is associated with foreign and security concerns of the particular state (Langsdorf 2011: 2). Since 1990, the Baltic states developed and modified the energy strategies several times, and have initiated few effective projects. Estonia adopted the National Energy Development Plan until 2020, in 2009. On the basis of this strategy Estonia's electricity production is diversified by using renewable energy resources. It used wind and solar power to produce heat. Latvia also approved the Sustainable Development Strategy of Latvia until 2030. The main aim of this strategy is to create interconnections between the EU member states.

Lithuania adopted the National Independence Energy Strategy for the construction of crucial gas pipelines and electricity grids. It initiated number of electricity links with Poland and Sweden. The main aim of this strategy is developing Lithuania as energy independent state by 2020 (Energy Strategy 2012; Latvian Energy Strategy 2007; and Estonian Energy Strategy 2009).

In terms of energy resources, Estonia is different in comparison to other states in Europe. It lacks an extensive range of energy resources like oil, coal and gas. However, it holds a large amount oil shale. These circumstances have compelled Estonia to formulate energy policies explicitly focused on the development of the shale energy. Estonia became one of the states with the highest emission of carbon dioxide in the world. The integration of Estonia in to the EU and NATO forced Estonia to reduce the levels of oil shale use in energy sector (Baltic21.org 2016: 1-2).

The Estonian energy policy is developed on the basis several EU strategic programmes and papers such as: "National Development Plan of the Energy Sector, Development Plan of the Estonian Electricity Sector (DPE) until 2018, the National Development Plan of the Energy Sector (NDP) until 2020 and Estonian Renewable Energy Action Plan for 2020" (Schneider 2013: 1; Ministry of Estonia 2016). The Estonian government also adopted National Development Plan to strengthen energy security of the country. Reducing gas emissions by using renewable energy resources is one of the primary goals of the strategy. Lithuania is planning to extend the same strategy until 2050 (IEA 2013: 3). Estonia also adopted number of programmes to increase renewable energy , such as: "National Renewable Energy Action Plan (2020), Estonian Rural Development Plan 2007-13, Estonian Development Strategies of Energy Related Technologies, National Energy Efficiency Programme 2007-13 and Estonian Biotechnology Programme 2010-13" (OECD 2013: 94).

The Estonia's Ministry of Economic Affairs delivered the aims of the energy strategy until 2030. The major objectives of the ministry are: securing energy

supply, providing energy with affordable prices, protecting environment by minimising energy emissions, achieving the EU climate policy targets, increase in the renewable energy, developing necessary interconnections with BSR countries, energy efficiency, and searching for alternative energy supplier (Ministry of Estonia 2016).

Estonia and the other European Union member states have set the goal of achieving environmentally sound energy production and a diversified energy portfolio. Maintaining greenhouse gas emission into the atmosphere at around 11 per cent in comparison to the level of 2005 (Ministry of Estonia 2016).

According to the "National Development Plan of the Energy Sector Until for 2020", the Government will be required to introduce activities that will enhance the share of renewable energy in the total energy consumption. The Renewable Energy Action Plan for 2020 and its operational programme are supposed to provide the roadmap for achieving 25 per cent renewable energy shares in country's total consumption (Ministry of Estonia 2016). This energy policy also encourages using renewable energy in transportation and power generation (Baltic21.org 2016: 2). Estonia has a 2020 RES target of 25 per cent. The national strategy indicates that in the electricity sector renewable resources must reach 17.6 per cent. Onshore and offshore winds are the most important renewable energy technologies that will contribute in reaching the target (European Wind Energy Association 2011: 55). The main objectives of the policy are the following.

- Providing energy supply without any disruptions to the Estonian consumers;
- Diversifying Estonian energy sector;
- Energy efficiency;
- Providing energy with affordable prices;
- Increasing the use of renewable energy resources up to 25 per cent in Estonia's total energy consumption by reducing burning of oil shale to generate energy by 2020;

- Achieving the targets of EU climate policy by reducing the primary energy supply;
- Developing internal energy market by initiating interconnections in the Baltic Sea Region (CODE 2014: 7);
- Replacing oil shale with alternative energy sources to generate electricity (Schneider 2013: 2);
- Estonia has established the goal of improving the environmental soundness of energy production and of diversifying the energy portfolio;
- Increasing the use of renewable energy in transport sector;
- Reducing the greenhouse gas emission to less than 11 per cent;
- Developing Estonia as an energy export country (CODE 2014: 7 and Ministry of Estonia 2016).

The attainment of above objectives is very crucial for Estonia to meet the EU climate policy targets. Estonia is already increased its renewable energy usage in transport and electricity sector. It also reduced the burning of oil shale to generate electricity as a pre-condition to join EU and witnessed increase in electricity generation by using wind and solar energy resources (Baltic21.org 2016: 3).

Latvia is regularly modifying its energy strategy on the basis of EU energy plans and climate policy (Baltic 21.org 2016: 1). Similarly, a variety of events in the Baltic region, EU and global energy markets has significantly influenced the Latvian energy strategy objectives (Energy Strategy of Latvia 2016: 2). Until 2030, the Latvian Sustainable Development Strategy sets the ensuring an energy independence of Latvia as the primary objective in the energy sector through increasing the self-procurement of energy resources and integrating into the EU energy networks (Actina 2015: 364; Ministry of Economics of Latvia 2016: 1). To ensure the ability of Latvia's energy supply system to flexibly and effectively integrate into the regional and EU energy markets, Latvia requires a future based energy planning. As a result, the

Ministry of Economics has developed an informative report on energy policy planning guidelines for the period up to 2030. The key objective of the strategy 2030 will be achieved if the energy sector has an overall favourable impact on the economy of Latvia (Ministry of Economics of Latvia 2016: 2).

The Strategy 2030 was developed with a view to offer a new energy policy scenario that focuses not only at the development of the energy sector, but also views it in the context of the climate policy of the EU for cutting greenhouse gas (GHG) emissions. Latvia aims to limit the total national GHG emissions in order for it not to exceed the equivalent of 12.19 Mt CO2 in 2020, that will ensure the fulfilment of Latvia's international commitments to cut GHG emissions (Energy Strategy of Latvia 2016: 2). Regional cooperation among the Baltic States currently plays an important role not only in terms of the development of the energy policies and energy markets of the three states, but in broader terms as well, that comprise Finland, Sweden, Poland, Denmark and Germany. On the EU level, the Baltic Energy Market Interconnection Plan (BEMIP) has been established; it covers the planning of infrastructure, fostering the attraction and efficient use of financial resources. Therefore regional cooperation is very important for the implementation of this strategy (Energy Strategy of Latvia 2016; Ministry of Economics of Latvia 2016: 3- 4).

In order to ensure a balanced energy policy that is consistent with economic and social interests, Strategy 2030 has put forward the following objectives:

- To establish a competitive economy, by developing a well-balanced, effective, market-principle based energy policy, thereby ensuring the further development of the Latvian economy, its competitiveness in the region and worldwide, and the welfare of the society (Energy Strategy of Latvia 2016: 4);
- To increase the share of manufacturing industry to 20 per cent of the total economy;

- Sustainable energy is also one of the main objectives of Strategy 2030, which provides for the sustainability of energy in terms of economic, social and environmental aspects. This will be achieved by improving the energy efficiency measures and promoting the use of RES technologies (Actina 2015: 364);
- To provide the security of energy supply at affordable and stable energy supplies to energy consumers, through reducing geopolitical risks, diversifying supply routes, developing energy infrastructure, setting aside reserves, and engaging in the improvement of the international regulatory framework;
- Improving the regional cooperation for long-term energy supply, project planning and funding;
- Ensuring a 50 per cent proportion of RES energy in gross final energy consumption by 2030. This will be achieved by increasing the proportion of RES in heating, electricity and transport sectors (Actina 2015: 364; Energy Strategy of Latvia 2016; Ministry of Economics of Latvia 2016: 5);
- To reduce energy and energy resource import from current third country suppliers;
- To continue close cooperation with regional partners within the framework of the Baltic Energy Market Interconnection Plan (BEMIP) and Connecting Europe Facility (CEF), based on solidarity and mutual financial support principles, and balancing national and regional interests for mutually beneficial solutions;
- To create competent and open regional gas market (Energy Strategy of Latvia 2016 and Ministry of Economics of Latvia 2016: 10).

Latvia has developed and implemented several projects on the basis of its energy strategy by focusing on renewable energy. It also able to maintain good energy relations with BSR countries by initiating electricity and gas

links. Even though, it is highly dependent on Russia for its gas and oil resources (Baltic 21.org 2016: 1-2).

Since the regaining of independence in 1991, Lithuania has adopted and implemented several energy security policies and launched number projects to strengthen energy security of the country. Adopting a strong energy strategy is a main objective of the energy ministry of Lithuania. Lithuania replaced its previous energy strategies by adopting National Energy Strategy for 2020. Achieving energy independent status is the primary objective of this energy policy. This policy allowed Lithuania government to decide the appropriate energy resources for the consumers of Lithuania with affordable prices. It also aims to fulfil the needs and interests of the local energy consumers. The strategy also encourages Lithuania's integration into EU. it also supports the construction of energy projects to interconnect Lithuania with EU energy market. It also advocates the competition in energy sectors in order to control the prices. Lithuania has implemented strategy and developed strong energy relations with neighbouring countries (Energy Strategy 2020).

In 2009, under the process of accession to the European Union treaty commitments, the Ignalina nuclear power plant (NPP) completely suspended the production of electricity. After this incident, Lithuania became highly dependent on the Russian energy sector (Cesnakas 2013). After closing the Ignalina NPP, Lithuania started constructing new projects to reduce the dependency on Russia. The main pre-condition for the successful implementation of the New NPP project is the development of energy infrastructure and electricity interconnections. Lithuania is focusing on these projects:

- Lit-Pol 1 electricity link with Poland;
- Lit-Pol 2 electricity interconnection with Poland;
- Nord-Balt electricity link with Sweden;
- Gas interconnection with Poland;
- Construction of LNG terminal with the support of Estonia and Latvia;

- Building Visaginas NPP;
- Underground gas storage project; and
- Construction of a gas transmission pipeline from the town of Jurbarkas to the city of Klaipeda (Energy Strategy 2012; Janeliunas 2011: 192 and Simanaityte 2013: 1).

Nord-Balt (Lithuania-Sweden electricity link) is a prerequisite for the common Baltic- Nordic electricity market. Nord Balt will be an alternative channel for electricity import and export that will facilitate Lithuania to avoid its dependence on the sole supplier. The purpose of the Nord Balt project is to construct an intersystem power link connecting Lithuania with the Swedish power transmission system (Ministry of Energy 2014; Simanaityte 2013: 2). Lithuania launched an electricity connection with Poland. It will also aim to supply power to remaining Baltic states. It will contribute to the development of a common European energy market and increase the reliability of the energy supply (Janeliunas 2011: 193; Ministry of Energy 2014). The Visaginas nuclear power plant (VNPP) project, underground gas storage facility and LNG project are significant outcomes of the Lithuanian energy security policy (Simanaityte 2013: 2; Janeliunas 2011: 193; Lithuania Tribune 2013: 1) .

The completion of the above energy links and pipelines strengthens energy security of Lithuania and it will help Lithuania to overcome the energy island problem. These projects links Lithuania with the single energy market of the EU and develop Lithuania's relations with EU member states by signing new electricity grids and gas pipelines (Ayigmantas 2013: 1 and Vaicekauskaite 2011: 1). According to the energy independence strategy, non-implementation of the above projects will lead to the following negative effects:

- High dependence on single energy supplier which ultimately leads to high energy prices against the market values;

- Energy can be used as political weapon for political and economic interests;
- Lack of market competition and energy disruptions;
- Importing electricity from outside EU is unsafe and affect the environment;
- Baltic countries remain under the influence of energy exporting state;
- Less use of renewable energy usage in the final consumption (Energy Strategy 2012; 2013: 130).

State of Regional Cooperation and Energy Security Challenges

In 1940, the Baltic states were forcefully occupied by the Soviet Union. However, in 1989 under the Gorbachev leadership Baltic states regained their independence (Elletson 2006: 3). Since beginning of independence, energy is one of the most significant issues of Estonia, Latvia and Lithuania. The Baltic states are very small countries with very low energy production. However, three states are dependent on Russia for their gas and oil needs. The over dependency on Russia lead to the energy security vulnerabilities of Baltic states and Russia used energy as a political weapon to control the post-Soviet states.

During 1990s, Russia stopped energy supplies to Lithuania and other newly independent states. Several post-Soviet states are faced energy blockade from Russia and it has affected the economy of the Baltic states. Russia decisively uses energy supply as an instrument for controlling its authority over neighbouring states. However, even after two decades of independence, the Baltic states continue to be vulnerable due to their dependence on Russia for energy resources. Russia is not hesitant to use energy supply as an instrument for exercising their authority on other states (Janeliunas 2011: 220).

The Baltic states are facing number of energy security challenges. These are divided into national and domestic energy security challenges. The main national energy security problems are explained in the energy strategy of

Estonia, Latvia and Lithuania. According to these strategies, national level energy security challenges are: control of energy resources by undemocratic countries; strained energy relations with energy rich countries; government intervention in energy sector; using energy as a political tool; and limitations on the energy market (Energy Strategy 2012 and Cesnakas 2013: 131).

The 2006 EU Green Paper also outlined the energy security risks for the Baltic states such as: lack of strong common energy policy in BSR; absence of interconnections, over dependence on Russia; and building the Nord Stream under the Baltic Sea (Green Paper 2006). According to Janeliunas, lack of competitive energy markets, supply disruptions, and greenhouse gas emissions (CO2) are the primary challenges of Baltic states (Janeliunas 2011: 220). Piebalgs also pointed out lack of energy infrastructure, isolation of Baltic countries, lack of energy diversification and lack of Baltic energy market integration (Piebalgs 2007: 9).

Challenges at the regional or domestic level are: lack of regional cooperation, lack of supply alternatives and interlinks, lack of primary energy resources, closing of Ignalina NPP, lack of energy competence in BSR, isolation of BSR from EU and lack of energy renewable energy (Janeliunas 2011: 220). According to Janeliunas, the following are the main problems of the Lithuanian energy sector:

- Lithuania interconnected only with Poland;
- Increasing the dependency on natural gas; and
- Slow growth in adopting modern energy technological developments (Janeliunas 2011).

In addition, Simanaityte also stated Lithuania's main strengths in the energy sector. These are including: initiation of new NPP to replace Ignalina plant, underground gas storage facility, availability of renewable energy resources and new interconnections with Baltic Sea countries. In addition EU membership also strengthens energy security of Lithuania (Simanaityte 2013:

4). However, several challenges exists for strengthening regional cooperation in the energy sector and ensuring energy security.

Energy diversification is the biggest challenge for the Baltic states energy sector. The Baltic states don't have similar energy resources and adopted different energy strategies based on the availability of energy resources (Dudzinska 2012: 1). We have already discussed oil shale is Estonia's primary energy source. Most of the Estonia's energy is generated from oil shale. In Latvia, the energy focus is primarily on gas. Natural gas accounts for approximately 30 per cent of Latvia's energy resources and this share is expected to increase. Latvia has the third largest natural gas storage facility in Europe (Maigre Merle 2010: 3). Lithuania is entirely depended on Ignalina NPP and it use to produce 80 per cent of total electricity consumption of the country (Maigre 2010:3).

All the three Baltic States lack energy diversity; mostly, they depend on the Russian Federation for their primary energy. This dependency has turned into a threat to energy security for the Baltic States. After integration into the EU and NATO institutions, Baltic States were forced to develop policies and technologies for energy diversity. Using renewable resources like agricultural waste, winds, solar power, etc. will increase the energy security of the Baltic States.

Over-dependency on the Russian Energy sector is the biggest challenge that influences the regional cooperation. After independence, Russia has emerged as a dominant economic power due to its affluence of energy resources. Russia's role in the internal matters of the Baltic states is gradually increasing. It has become a larger security concern for Baltic states. The excess dependency on the Russian energy supplies has adverse political and economic implications on the Baltic States. Even though that Russia is not able to control directly, it uses different tools to destabilise the Baltic states. It

used energy exports, local political elite and minority and lobby groups to create uncertainty in local politics of the Baltic states (Maigre 2010: 13).

During the Soviet-period the Baltic states energy pipelines and infrastructure is tied to Russian energy sector. These pipelines are under the control of Russian energy system. Geography alone dictates that Russia has the nearest proximity and is the cheapest supplier of oil and gas (Sleivyte 2010: 144). Despite the three Baltic States' excess dependency on the Russian primary energy sector, Russia's influence has largely benefited Latvia due to the presence of Russian speaking minority. Russian minority is estimated at 29.2 per cent in total population of the country. It facilitates Russia to influence Latvia through its foreign policy tool. After privatizing energy sector, Latvia also highly dependent on Russia's oil and gas (Maigre 2010: 8).

The Baltic States can avoid dependency on Russian energy by increasing their renewable energy sources, new innovative projects and policy implementation and energy cooperation in the Baltic region. New electricity projects, EU energy assistance and gas storage facilities will enhance the energy security of the Baltic States.

Gazpromisation of Baltic Energy sector is another security challenge. Gazprom is a Russian state owned energy company and a main player in the Russian gas politics in BSR. It generates major share of gas in the world. Gazprom holds a dominant position as a supplier of natural gas in the Baltics. It plays vital role in natural gas supply, ownership of the transmission system operators, and in the distribution sector of the Baltic States. Gazprom enjoy a dominant position in Baltic gas market and it is the main external supplier to the Baltic States. It is using its energy for commercial and political gains in Baltic States (Grigas 2013: 35).

In order to gain an independent status from Gazprom, the integration into the European energy network is being considered. Lithuania launched NPP along with the support of Estonia and Latvia and it also started energy connections

with Sweden and Poland. The construction of the LNG terminal in Klaipeda, increasing the efficiency of energy and use of renewable energy resources are the main programmes initiated by Lithuania to minimize Gazprom role in Baltic region. The decrease in the usage of oil and natural gas will strengthen the energy security of the Baltic States. The development of energy diversity in the Baltic States limits the Gazpromization of Baltic energy sector.

Lack of Interconnection between the EU and Baltic states is barrier for enhancing regional cooperation among member states. Due to Soviet history and geographical situation, the Baltic states are disconnected from the other EU member states. All the pipelines and energy transport infrastructure is under the control of Russia. These states are called as "Energy Islands". Lack of energy interconnections is the primary concern regarding the energy security of Baltic states. Estonia, Latvia and Lithuania are not integrated into EU energy market. In order to accomplish the single energy market, Baltic states should focus on the implementation of Baltic Energy Market Interconnection Plan (BEMIP) and EU Strategy for Baltic Sea Region (EUBSR) programmes. It is very important for Baltic states to complete electricity and gas interconnections with neighbouring countries in BSR.

Baltic states must complete the electricity interconnections such as Est-Link II between Finland and Estonia and Lit-Pol link between Lithuania and Poland. The Baltic states also need to focus on constructing a joint LNG terminal and new NPP in the Baltic region. The EU also agreed to provide financial support to Baltic states for completing the BEMIP and EUBSR projects. It is necessary to Baltic states to develop and construct all the above mentioned projects to connect the BSR region with the EU energy market (Dudzinska 2012: 4).

Baltic Energy Market Interconnection Plan (BEMIP) is the EU's most significant achievement to be generally recognised by all the Baltic energy policy stakeholders. BEMIP is one of six EU priority infrastructure projects

under the EU Energy Security and Solidarity Action Plan. The logic driving this plan is that an interconnected internal EU energy market and an effective working system of energy solidarity framework would increase the energy supply security of all Member States. The goal of BEMIP is to connect the Baltic energy islands with the EU internal market, and to provide the necessary financial assistance framework. In terms of priorities, BEMIP focuses on the electricity sector first, and then on gas (Maigre 2010: 7).

Lack of strong common energy policy also creates many challenges for integration. The integration of Baltic States into the EU and NATO has brought about new energy security challenges. Due to the EU's climate and environmental principles, the Baltic States were compelled to change their energy priorities. The common energy policy of the European Union is supporting all the three Baltic States to achieve their energy security and sovereignty. The EU has a significant role to play in the Baltic regional energy cooperation. In addition, it has financial motivators to facilitate agreements and energy projects between the Baltic States. So far, the Baltic Energy Market Interconnection Plan (BEMIP) has been the EUs most significant achievement for Baltic energy cooperation. BEMIP is one of the six EU priority infrastructure projects under the EU energy Security and Solidarity Action Plan. In order to achieve a sufficient level of energy security a number of complementary projects within the BEMIP, such as connections with neighbouring countries other than Russia, must be completed (electricity interconnection between Estonia and Finland (EstLink II), Lithuania and Sweden (NordBalt) and Lithuania and Poland (LitPol Link) (Dudzinska 2012: 3). The goal of BEMIP is to connect the Baltic energy islands with the EU internal market (Maigre 2010: 8). Implementation of common energy policy projects in the Baltic States will strengthen their energy security thereby providing them a sovereign status in articulating their energy security policies.

Nord Stream projects bypassing Baltic states and not considering their priorities and concerns disturbs integration. Nord Stream, a gas pipeline

planned between Russia and Germany on the bottom of the Baltic Sea with a total capacity of 55 billion cubic metres, satisfying at once one-tenth of the gas needs of EU. Nord Stream is considered as counter to Nabucco pipeline. It is twice bigger than the Nabucco project. Nord Stream played a crucial in the energy politics of Baltic Sea region. The major concerns for Baltic states are environment and loss of energy transit benefits. Most of the Russian gas and oil products transported through Baltic states, this facilitated Baltic states to protect their energy security through interdependence approach with Russia. The construction of Nord Stream will not only affect the Baltic Sea environment but also allows Russia to supply energy resources to Western Europe directly through Baltic sea by surpassing Baltic energy transport routes. This development may lead to the energy disruptions of Baltic states (Maigre 2010: 7-8).

Recently, nine EU member states (mostly Nordic and Baltic states)' Prime Ministers drafted a letter to the Commission's President regarding the Nord Stream project's legal, geopolitical and economic issues; they voiced a great concern with regard to the gas companies' plans in constructing Nord Stream 2. The Commission and some member states' are of the opinion that, if built, the Nord Stream 2 would have to entirely comply, as any other infrastructure project, with the existing EU legislation, including that on energy and environment (Eteris 2016: 1).

The use of renewable energy resources is very low in the Baltic states. The lack of modern technology is one of the major reasons for the slow growth of renewable energy. It leads the Baltic States to be more energy-dependent on Russia. According to EU targets, the member states should increase renewable resources in their energy consumption by 2020, by 20 per cent. Even though they are able to produce renewable energy from sunlight, wind, bio-thermal, and agricultural waste, the growth rate of renewable energy is very less in the Baltic States (EU 2011: 2).

The Russian-speaking ethnic minority is also one the instrumental challenges for the Baltic States, and plays a very key role in framing the security and foreign policies. All three Baltic States have a significant Russian population. Compared to Estonia (24 per cent) and Latvia (27 per cent), Lithuania (6 per cent) has very less Russian minority. More than 30 percent of the people speak the Russian language in the Baltic States and it has been considered as the second official language. The Russian minority is also represented in local politics as it has formed political organizations and is participating in the election process. The Russian Federation influences energy security policies by using its Diaspora and it can create political instability in the Baltic States (Borojan and Gabriel 2016: 1).

Lack of Cooperation between Baltic states an issue for the Baltic energy security. All the countries have at least one common aim i.e. greater energy independence through the diversification of energy supplies. Taking this into account and due to their limited ability to act on their own, especially on large, costly projects, teamwork would be expected and could be very useful (Dudzinska 2012: 4). Maigre (2010) says that the creation of a single EU energy market and integration of the Baltic energy sector naturally depends on regional cooperation. First of all, the Baltic states, with the help of the EU, must work together to implement policies of diversification of supplies that would guarantee energy security to them and other European countries which are excessively dependent on Russian energy (Maigre 2010: 9). There are a number of existing frameworks for energy cooperation like: the Council for Baltic Sea States (CBSS), and the Permanent Partnership Council (PCP) (Grigas 2013: 13).

Lack of government and institutional support is also one of the problems faced by the energy sector of BSR. Unwillingness of the Baltic states governments limited the cooperation among BSR countries. The Baltic governments failed to address the energy security issues as national security challenges. Baltic states energy policy lack technical and strategic goals. Energy research

institutes and professionals are not effectively focusing on domestic energy security risks. Even though they face similar energy security challenges, Estonia, Latvia and Lithuania failed to form a common energy policy to strengthen energy security of the region (Maigre 2010: 9-12).

Energy security is the primary concern for three Baltic states. However, only Lithuania has developed special ministry for dealing energy security related issues. Estonia and Latvia are not focusing much on the energy security and their energy sector is controlled by the Ministry of Economics of both countries. Lack of competence is also one of the major challenges of energy security of the Baltic states. It leads to the increase in the energy prices and disruptions. Baltic states are not focusing on research, education and development of energy programmes and strategies.

According to Maigre, Baltic states face similar energy security challenges and they need special attention. Estonia, Latvia and Lithuania should develop regional energy market with competition. They should also provide funds to the energy research and education to develop energy policies. Latvia, Estonia and Lithuania should address energy security problems in their national and foreign policies (Ibid: 13). Their energy strategies should be broadened with a progressive outlook taking in multifarious aspects like the use of renewable resources, environment-friendly policies, reasonable mode of energy, etc. that will establish the Baltic States having independent energy entities.

Chapter 6

Energy Politics and Security in the Baltic Sea Region: Baltic States, Russia and European Union

When Baltic states were reborn as new independent countries in the Baltic Sea Region (BSR), where Russia and European Union are important actors, BSR became an important strategic and geopolitical hotspot. The region became a zone of confrontation especially after the EU and NATO enlargement towards Russia's borders and Ukraine crisis of 2014. Baltic Sea related to energy security Energy resources and the politics centred on it play an important role in shaping the economic, security and strategic perspectives, policies and interactions among the countries in the region - Baltic states, Russia and EU.

The Baltic states efforts to resolve their energy security problems and challenges despite they share common history and culture as a strong base for regional cooperation is a challenging task. The lack of political determination and financial support is one of the major hurdles for Baltic energy cooperation. However, the integration process of the Baltic States into the EU and NATO has strengthened regional cooperation in the Baltic Sea region and Estonia, Latvia and Lithuania started constructing electricity and gas projects with mutual cooperation in the region. This chapter analyses the energy politics between Baltic states, Russia and EU centred on NATO expansion, EU enlargement, energy independence, pipeline and nuclear projects, regional cooperation and energy security.

Importance of Energy in the 21st Century.

In the present situation energy is one of the determining aspects in the global politics, as energy is an important factor for the economy and consequently plays a significant role in the development of a state (Thomas 2013: 3). Efficient functioning of energy sector is very essential for modern economy. Majorly, all economy sectors are directly or indirectly connected with the production, export, import or transportation of energy resources. Efficient

function of industry, transport and agriculture sectors largely dependent on access to energy supply. Energy sector influence on economic and technical sphere in modern state economy is incredible. Energy security also influences social process, communication, ecology and politics thereby making it necessary part of states economic security (Augustine J 2008: 8).

Table: 17

World Energy Production by the Region (Mtoe)

Year	1995	2000	2005	2010	2013	(%)
EU	965	949	905	836	793	58
China	1065	1129	1701	2204	2614	19.2
U.S	1659	1667	1631	1723	1881	13.8
Middle East	1138	1327	1516	1629	1791	13.1
Asia	816	924	1107	1343	1473	10.8
Russia	968	978	1203	1279	1340	9.8
Africa	772	884	1083	1171	1129	8.3
Rest of the world	1875	2170	2422	2566	2620	19.2
World	9256	10027	11570	12752	13642	100.0

Source: European Commission, *Energy Pocket Book*, (2015).

The above table clearly illustrates the increase in the energy production, it is also showing all countries and the regions throughout the world are increasing their energy production to match their energy demand. Increase in energy production will become threat to environment. In this context it is very important to search for energy diversification. According to Ducaru, energy is one of the most significant and key factor of modern era of development. There are several political and economic factors in the increasing energy production across the globe. European states growing energy (oil and gas) dependency on Russia and other countries; the increasing energy needs of emerging super power states such as India and China; growing political instability in energy rich (produce) countries; territorial conflicts for energy resources; energy geo- political disputes; terror attacks on energy pipelines,

nuclear power plants and oil refineries; and use of energy in military operations are the primary factors for increase in energy production (Ducaru 2014: 3).

Fanchi argues that, energy is one of the most important aspects which will transform the nature of the society in the twenty first century. Almost all economies in the international market require energy resources for its overall growth and development. Energy plays a crucial role in developing economic prosperity of any state. Access to reliable, renewable and economical energy supply and resources play vital role in diminishing poverty rate, enhance health conditions, creating competitive markets, increase in production, and promoting overall economic growth in the emerging or developing states. Current energy sources strengthens the life of the poor and marginalised communities in multiple ways by providing clean drinking water, hygiene and healthcare, and contributes to the development of the different sectors such as heating, lighting, cooking, transport and telecommunication (Fanchi 2005: 2-3). Energy resources has facilitated in strengthening the foundation of developed as well as developing states.

Table: 18

World Gross Energy Consumption by Region (Mtoe)

Year	1995	2000	2005	2010	2013
EU-28	1645	1692	1787	1721	1626
China	1055	1174	1178	2483	3036
U.S	2067	2273	2319	2215	2188
Asia	868	1039	1239	1523	1655
Russia	634	619	652	690	731
Africa	442	494	596	691	747
Middle East	307	356	471	628	689
Rest of the World	2199	2408	2629	2838	2883
World	9219	10057	11481	12789	13555

Source: European Commission, Energy Pocket Book (2015).

The above table explains the huge increase in the energy consumption. Especially, Asia, Africa and china witnessed high consumption of energy year by year. Each state and institution in the world should adopt new technologies with renewable energy sources such as solar, wind and bio-thermal power to control high consumption of energy in households and industries. It is impractical to achieve the UN Millennium Development Goals, the eight point global programme such as decreasing poverty, strengthening women's and children's health facilities in the absence of effective programmes at international as well as domestic level. This programme was initiated by the United Nations (UN) in 2000 (UN General Assembly 2012: 1-2). Since decades energy security has consistently contributed in the economic progress of states as well as overall human development. Fossil fuels like oil, gas and coal played a pivotal role in the growth and development of industrial sector and economic progress (Bahgat 2011: 2). According to IEA, world demand for energy is to increase by around 40 percent between 2009- 2030 (Henryk 2008: 9-10). Currently there has been a serious shift in the manner in which the energy policies are formulated. Almost all countries especially EU member countries shifted their policies towards renewable energy development.

Energy and Global Pipeline Politics

Energy politics between Baltic states, Russia and European Union is influenced by global factors. The politics of energy is related to the different factors such as: economic growth, transport, governance, renewable resources, energy threats, environment, fissile fuels and pipelines. Politics of energy is also related to security, risks and policies of the specific countries. In the 21st century Energy security will play a vital role in defining the framework of global security. “The UN General Assembly also announced 2014-2024 as a decade of sustainable energy for all” (UN General Assembly 2012).

Pipelines are as an important mode of transportation oil and gas. Pipelines are the most preferred way of oil and gas transportation across the world in comparison to transportation via containers. As there are limitations in other modes of transportation pipelines are the efficient mode of gas transportation (EurActiv 2011: 1-2). Gas can be transported effectively if infused into pipes, rather than converted into other forms, especially over land (Proedrou 2016: 1-2). Pipeline infrastructure is an accessible way to connect neighbouring countries with complementary economic interests, such as producer and consumer. Pipeline trade creates ground for cooperation and alliances, and interdependence, if asymmetric it works as a power and bargaining tool or a means to establish one's supremacy over another (Proedrou 2016: 3). Oil and gas pipelines are not just simple steel tubes to transport energy from place to place. They are exposed to numerous impediments that disrupt the free flow of transportation. They are surrounded by political disputes, geo-politics and disputes over price and efficiency (Pfeifer 2013).

Russia, Iran, Algeria, Qatar, United States and Canada are among the major natural gas producing countries in the world. Export and import of gas via pipelines remained the most affordable option for these countries (Proedrou 2016: 3). Pipelines played a key role in energy sectors of world's major powers like Russia, US, China, Germany and EU (Rousseau 2011: 2). The construction of pipelines immensely benefited these countries both economically and geopolitically (EurActiv 2011: 5). After the Second World War pipelines played a significant role in the global politics. During the cold war period pipeline politics was at its peak. Both soviet camp and western camps established pipeline agreements with their allies against each other. Both groups used pipeline for their own economical and geo-political interests. At the moment the pipeline politics is evident in international energy sector. EU- Russia, Russia- Ukraine and Russia- Turkey gas pipelines are best examples for this hostile situation (Proedrou 2016: 4).

Russian Federation is one of the leading producers and exporters of oil, natural gas, electricity and coal in the world. Russia exports its energy resources to almost all the European Union member states including post Soviet states. Several times Russia used its energy exports as a political weapon for its own strategic interests. Russia's monopoly over energy resources manipulates and controls European Union (EU) energy and security policies. The Nord Stream project, South Stream and the Burgas-Alexandroupolis oil pipeline project are the basic examples of Russian energy strategy towards EU member states (EurActiv 2011: 6).

The Nord Stream pipeline project was initiated between Russian energy company Gazprom and German energy company BASF. The project primarily aims to supply energy from Russia to Germany. To supply energy to Germany Nord Stream has to pass through European countries mainly Ukraine, Poland, Slovakia and the Czech Republic. The commencement of this pipeline contributed to develop strained relations between Russian Federation and European countries. In 2009, Russia launched a South Stream gas pipeline project with Italy. This pipeline is considered as a counter to the EU Nabucco project. This pipeline aims to supply 30 bcm gases to Europe from Russia. It passes the Black Sea through Bulgaria, Greece, Serbia and Croatia to Italy. It has a sub-pipeline project that supply gas from Serbia and Hungary to Austria. Russia, Bulgaria, and Greece officially agreed to construct Burgas-Alexandroupolis oil pipeline project. This pipeline was initiated with the aim of exporting Russian gas and oil to the Greek Aegean port of Alexandroupolis from the Bulgarian Black Sea port of Burgas (EurActiv 2011: 8). Through these pipelines and projects Russia dominated EU with the strategy of divide and rule policy.

A latest study has shown Russia's approach towards EU member countries. This study reveals Russia's policy towards EU member states in the background of energy politics. Russia is maintaining hostile relations with the former Soviet states including Estonia, Latvia, Lithuania, Poland, the Czech

Republic and Slovakia. On the other hand Russia developed and maintained cordial relation with trustworthy countries like Austria, Greece and Italy. Russia has developed mixed relations with Sweden, Romania, Bulgaria, Slovenia, Hungary and the United Kingdom. Russia maintained cordial energy and foreign relations with the larger group of EU countries including Germany, Belgium, Finland, Denmark, Ireland, France, Luxembourg, Portugal, the Netherlands, and Spain. This displays the Russian energy politics as a political tool to dominate in the world of energy sector (Stefano Braghiroli and Caterina Carta in EurActiv 2011: 5-6).

The European Union (EU) is not a self-sufficient energy producer; it produces limited energy compared to its consumption. It imports energy from Russia, Norway, Algeria, Libya, Nigeria and Central Asia. The dependence of EU over Russian energy sector is evident. Individually some of the EU member countries including three Baltic states imports almost 100 percent of their gas supplies from Russia. EU as an entire community experienced energy interruptions and energy security threats from Russia. In 2008, Russia blocked the supply of gas to Ukraine, Romania, Bulgaria, Greece, Macedonia, Serbia and Croatia. A number of countries suffered severely due to the absence of energy storage facility during energy disruptions. To overcome EU dependency on Russian energy, European Union launched a Nabucco pipeline project that aimed to supply gas to Vienna in Austria through the Georgia, Iran and Turkey. Joint EU- Ukraine White Stream project is another alternative for EU energy dependency. Ukraine is geographically very crucial for Russian gas exports to other countries. This has resulted in complexities in geo-political strategies in Russian foreign policy.

Nevertheless, the Nord Stream pipeline can play a decisive role in altering the energy politics. Subsequently it can segregate Ukraine by disconnecting its ties with the western nation that relies on gas passing through its area. With an intention to counter Nord Stream and to bring large scale of Caspian gas to Europe, Ukraine announced a joint EU- Ukraine project called as White

Stream. The main aim of this white stream project is to supply gas to Ukraine and other EU countries through Turkmenistan via the Caspian Sea, South Caucasus and the Black Sea to Ukraine and EU territory (EurActiv 2011: 5-8).

In this background US occupies a significant space in the world energy politics. U.S is one of the largest producer and consumers of energy in the world. The collapse of the Soviet Union created a ground for U.S to achieve their goal of diversifying gas and oil transport means to Europe. It helped west and U.S to join and develop a friendly distribution networks with the Caucasus, Central and Eastern Europe. The US also extended its support to Baku- Tbilisi- Erzurum (BTE) gas and Baku- Tbilisi- Ceyhan (BTC) oil pipelines to condense the Russian control on its former member states in Central and Eastern Europe (EurActiv 2011). U.S also supported AMBO (Albania, Macedonia and Bulgaria) oil pipeline as an alternative to Russian initiative Burgas-Alexandroupolis. AMBO oil pipeline was planned from the Bulgarian Black Sea port of Burgas to the Albanian Adriatic port of Vlore. This pipeline estimated length is 894- kilometre and the main aim of this pipeline is to bypass the Turkish Straits in transporting Russian and Caspian oil. The pipeline was to be financed and built by a US company (EurActiv 2011: 9-11).

The five Central Asian Republics (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) gained their independence after the disintegration of the Soviet Union. The Central Asian region is a heart of the Asian continent for energy production and transference of the same. Despite the fall of the Soviet Union, Russia continued its dominance in the regions pipeline policies and energy market. In recent years China's growing energy needs loosened Russia's firm grip in Central Asia. At present gas and oil pipelines interlink the Central Asian region between Russia and China. However, both Russia and China are attempted to gain geopolitical control in Central Asian region (Maza 2015: 1). The EU is initiating efforts to persuade Turkmenistan, Kazakhstan and Uzbekistan to diversify their supply routes

which are considered as very crucial for world's largest gas and oil producing countries (EurActiv 2011: 10). Trans Anatolian Natural Gas Pipeline (TANAP) is another potential route that began construction in Turkey. TANAP project is to be considered as an alternative for Europe's energy dependence on Russian federation (Maza 2015: 2).

India is also striving to develop its relations with Central Asian states to fulfil its energy needs. Turkmenistan is the sixth largest country in the world in terms of holding natural gas reserves. It announced the construction of a pipeline project to link with India and Pakistan. The main aim of this project would be transporting gas to the emerging economies of both India and Pakistan. The pipeline between Turkmenistan- Afghanistan- Pakistan and India (TAPI) has been considered as an opportunity to diversify its energy supplies. The historical experiences with Russia influenced Central Asian states to develop energy links with alternative states. The primary concern for Turkmenistan and Uzbekistan is China's monopoly in terms of dictating the prices subsequently diminishing export earnings. Turkmenistan and Uzbekistan governments aim to reduce their dependency on a single consumer market. In this background India is viewed as a possible counterpart to China in the Asian region. In this concern for the first time Indian Prime Minister Narendra Modi paid a visit to Russia and Central Asia with the agenda of Indian energy security and politics (Maza 2015: 4-5). Narendra Modi's visit to Central Asia and Russia has been crucial in strategizing energy policies. With the implementation of TAPI project, India is also very interested to develop interlinks with the energy markets in the Central Asian region.

The Iran-Pakistan-India pipeline project (IPI) is also one of the best examples for the energy pipeline politics in the world. The project initiated in 1989 aimed to transport extracted gas to India from the South Pars deposit in Iran through Pakistan (Rousseau 2011: 4). The project has been delayed due to several reasons. However, hidden political agendas are the actual cause of procrastination of the projects. Several external interests played crucial role in

delay of the IPI pipeline project. United States, China, and Russia were apprehensive about their geo-political supremacy. U.S started pressurising India to withdraw from the project and join other pipeline projects (Sanati 2016: 8). The United States is firmly opposed to any sort of energy project that associated with Iran, as it is not disinterested in IPI. In order to counter the IPI project U.S is promoting the TAPI (Turkmenistan, Afghanistan, Pakistan and India) pipeline project, The TAPI project will facilitate direct transportation of natural gas from the former Soviet republic of Turkmenistan to India via Afghanistan and Pakistan (Rousseau 2011: 4-5). In 2008, The Heritage Foundation declared Iran-Pakistan-India Gas Pipeline as threat to regional security. This report came up with few recommendations against the IPI project. The following are the recommendations proposed by the report:

- Forming a U.S energy diplomacy committee against the construction of pipeline and also against the India- Pakistan bilateral dialogue.
- Promoting LNG capacity in both India and Pakistan.
- Promoting the Turkmenistan- Afghanistan- Pakistan- India (TAPI) pipeline as an alternative to the IPI pipeline.
- Encouraging energy cooperation with India.
- Promoting India- US civil nuclear cooperation.
- Supporting Pakistan in building LNG terminals, hydroelectric projects to meet its energy and electricity demand (Sanati 2016: 9).

Compared to the large pipelines (international) in terms of length and capacity, small pipelines such as the Greece-Bulgaria Interconnector are playing very crucial role in supplying energy to the consumers thereby exposing them to political coercion (Proedrou 2016: 2).

Energy and Pipeline Politics in the Baltic Sea Region

Since the beginning of the independence, Baltic states considered energy security as their primary concern. Energy security issues became most popular and sensitive in political and economic sectors. Since 1990, the economy of

the Baltic States also constructed as energy intensive (Miskinis 2003). As Shaffer (2009) said, energy and politics are inseparable, political and public discourse of Baltic states also dominated by energy security aspects along with discussions on projects related to the increase of energy security (Cesnakas 2013).

The Baltic states governments are planning to implement number of projects like; electricity interconnection between Estonia and Finland (EstLink II), building of Visaginas Nuclear Power Plant, building Liquefied Natural Gas (LNG) terminal in Klaipeda, and electricity network projects with Poland and Sweden (Welfens. et al 2001 and Cesnakas 2013). These projects are outcome of energy security policies of the Baltic States. According to the Lithuanian energy independence strategy, non- implementation of the above projects will create negative consequences such as: over dependence on the single supplier, low competitiveness, disruptions of supply, energy can be used as a political tool, energy producing countries control energy importing countries, price volatility, low energy efficiency and low use of renewable resources (CesnakasAfter the restoration of independence, the Baltic states of Estonia, Latvia and Lithuania had to overcome many political, economic and cultural challenges imposed by the former Soviet Union. For several years they underwent a situation of economic crisis which was the inevitable outcome of the transition from a command economy to a market economy. They also confronted the difficult tasks of state-building (Kasekamp 2010: 172).

In the initial period of independence of the Baltic States, energy security had been one of the most sensitive and concerned issues regarding the economic and political survival of these states. In 2004, the Baltic States' accession to NATO and European Union (EU) membership opened up new avenues in the field of energy security. These states have very limited primary energy resources. Hence, primary energy is dominated by imports from the Russian Federation.

Given their geographic location and their history of them being subject territories of the Russian Empire and later the former Soviet Union, it is inevitable that the three Baltic States are still closely bound up with Russian energy in energy supply. All the three states continue to largely depend on Russia for the imports of oil, natural gas and coal (Heenan and Lamontagne 2013: 131). Russia is using its energy exports in two ways in the Baltic States: firstly, energy policies are used as a foreign policy tool and secondly, as a revenue generator. Russia has succeeded in exploiting energy as a weapon in global politics to accomplish its own interests. Several EU states (including Baltic States) have experienced energy supply interruptions and gas blockades by Russia. The common and main energy security challenge for the Baltic States is that these are "energy islands" with the absence of necessary energy interconnections with other EU member states.

Energy plays a vital role in the countries' development and is therefore, strongly linked to foreign and security and economic policies (Anatoly and Liuhto 2014: 185). In these circumstances all three states continue to provide high precedence to energy cooperation, not only among themselves, but also with other states like Russia, Baltic Sea states and EU (Heenan and Lamontagne 2013: 131). While any act of coordinating states can have many contingent reasons, a long-term cooperation usually involves deeper conducive conditions. In the case of the Baltic States, we argue that there are structural and historical and socio-economic factors that bring these three republics together. The Baltic States share similar topographic features. Their landmass is of comparable size. Sharing a common border with each other, the Baltic States also share over 2,000 kilometres of uninterrupted Baltic Sea coastline. The geopolitics of the region also provides compelling reasons for Baltic cooperation. In addition, all three republics share a border with Russia (Galbreath et al. 2008: 102).

The first attempt to deepen political and military cooperation among the Baltic states dates back to the initial years of the interwar period when all the three

Baltic nations were establishing their states and fighting common enemies (Lane and Pabriks 2003: 126). Interstate collaboration between Estonia, Latvia, and Lithuania is derived from the treaty on understanding and cooperation that was signed in 1934 in Geneva. With The establishment of the Baltic Council in 1990, the treaty's principles of cooperation in foreign affairs were reaffirmed by the leaders of the Estonian, Latvian and Lithuanian socialist republics. Subsequently post-independence, the Baltic Assembly (BA) was found in 1991 to facilitate inter-parliamentary cooperation (Holtom 2006: 45).

In August of 1989, the people of Soviet Estonia, Latvia and Lithuania came together to commemorate the 50 anniversary of the Molotov-Ribbentrop pact. A human chain of two million people demonstrated its common resolve to lift the yoke of occupation and rejoin Europe as independent states. This symbolic rally was one of the first instances of effective Baltic cooperation at the time. It laid the path for other coordinated actions that contributed to the collapse of the Soviet Union, the reestablishment of independence and the withdrawal of ex-Soviet troops (Galbreath et al. 2008: 101).

During the Baltic struggle for independence 1989-1991, a personal acquaintance developed between the (at that time unrecognized) Baltic ministers of foreign affairs and the Nordic ministers of foreign affairs. The outcome of this alliance was the creation of the Baltic Sea States in 1992, and the Euro Faculty in 1993 (IBP 2015: 9). Likewise, between 1994 - 2004 BAFTA free trade agreement was established to facilitate the countries for their accession to the EU. It was created more as an initiative to pursue their interests towards EU than out of a desire of the Baltic States to trade between themselves: the primary objective was to gain access to the rest of the European markets. (IBP 2015: 9). Accession to EU would invariably provide the Baltic States with a stable political-economic status quo.

In October 1999, the inter-governmental Baltic Sea Region Energy Co-operation (BASREC) was set up by the energy ministers from the countries in the Baltic Sea region and the European Commission. The countries part of BASREC are Denmark, Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland, Russia and Sweden. BASREC has a steering group of senior officials comprising members from all 11 countries as well as members from the European commission (Tema Nord 2008: 14).

The post-Soviet period has witnessed considerable changes in the interaction between the Baltic States. In comparison to the soviet period the Interstate cooperation between Estonia, Latvia and Lithuania in the post-Soviet era is profound and highly institutionalized. Efforts in terms of regional co-operation are underway to coordinate aspects related to border crossing, business, defence, energy and transport (Holtom 2006: 45). Flexibility in the above aspects will enhance the status quo of the Baltic States in the international political framework.

Currently, the alliance between the Baltic States emphasises on multiple aspects. The most frequently cited cases of enhanced cooperation are in the defence domain. For example, in 1995, a joint peacekeeping battalion, the Baltic Battalion (BALTBAT), was established as part of the partnership for peace programme and since then has participated in several international peacekeeping operations. The following year the Baltic Naval Squadron (BALTRON) was created. Later, in 1998, the countries combined efforts to create a Baltic Defence College (BALTDEF COL), a joint military educational institution for training senior officers. The same year the Baltic States created BALTNET, an air surveillance network that uses brand-new USA-supplied equipment to monitor planes over the Baltic Sea. The above developments are considered as positive indications of cooperation between of Baltic Sea states (Holtom 2006: 46 and O'Connor 2003: 194-195).

Political co-existence was the primary requirement for the Baltic States to align mutually. Hence in November 1991, they formed a Baltic assembly, composed of 20 representatives from each of the Baltic parliaments. Initially the assembly was created to discuss security concerns and foreign affairs, buts it scope gradually widened to incorporate issues related to energy, finance, economic development, education and culture. The assembly also actively pushed for EU membership while working to harmonize the legislation of Estonia, Latvia and Lithuania with the goal of meeting EU requirements. Another coordinating body is the Baltic Council of Ministers, based on the 1934 treaty of good understanding and cooperation that was set up in June 1994 for the purpose of coordinating trilateral political, economic and cultural concerns. Its highest body consists of the three Baltic heads of states, who meet every six months to discuss the core foreign policy issues of common interests (O'Connor 2003: 194). Today, the Council of the Baltic Sea states consists of Denmark, Sweden, Iceland, Norway, Finland, Latvia, Lithuania, Estonia, Poland, Germany and Russia (Lane and Pabriks 2003: 130).

International energy research institutions and organizations also contributed to the regional cooperation in BSR. International Renewable Energy Agency (IREA) and International Atomic Energy Agency (IAEA) have played a very important role by proving accurate data and information regarding energy development in the Baltic region. These organizations also give training and conduct workshops to develop research on energy projects. These two organizations support use of renewable energy resources such as wind and thermal power. The Baltic states also ratified the Energy Charter Treaty (ECT) it allows cross-border energy cooperation. It promotes investment in energy sector, trade and energy efficiency (Energy Ministry of Lithuania 2015).

Baltic Energy Forum (BEF), Baltic Energy Alliance (BEA) and Latvian Energy Efficiency Association (LATEA) are also key players in Baltic Sea energy sector. These organizations study the developments of the Baltic energy sector and provide accurate data to the government institutions. It will

help national governments to form a energy security strategy. These organizations are very important for regional integration among the Baltic Sea states.

Geopolitics of Energy Cooperation in Baltic Sea Region

The Baltic Sea Region is equipped with significant potential for developing regional projects to benefit the region as a platform for sustainable energy development and thereby transforming into frontrunners in innovative solutions through regional cooperation (Baltic Development Forum 2009: 2). During the 1990s, Baltic states initiated regional cooperation by forming several organizations such as: Basrec, Baltrel, Baltic Gas and the Union of the Baltic Cities (Baltic Development Forum 2009: 2).

Since the early 1990s the Baltic Assembly (BA) and the Baltic Council of Ministers (BCM) have been the most visible and the most important regional cooperation institutions (Galbreath et al. 2008: 103). The indication to this is the active cooperation among presidents, parliament speakers, heads of government and foreign ministers. In order to maintain an unwavering cooperation among governments, the BA and BCM are coordinating together for promoting regional cooperation in the region (IBP 2015: 9).

Lately the European Union has reintroduced its focus on the Baltic Sea region. The European Council (EC) insisted commission to prepare a special policy for BSR in 2007. In 2009 EU announced European Union Strategy for Baltic Sea Region (EUSBSR). In the second half of 2009 the above strategy was one of the key objectives for the Swedish EU presidency. The Swedish prime minister expected the strategy to be a concrete, action-oriented instrument that facilitates EU member states from BSR to develop energy infrastructure and create single energy market. The main goal of this strategy is to connect BSR to EU energy market by initiating new projects and pipelines (Baltic Development Forum 2009: 2).

As underlined in the European Union Strategy for the Baltic Sea Region, the 8 European Union countries within the Baltic Sea region, i.e. Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden, face several common challenges. One of them is energy, which with insufficient energy transmission and not adequately connected supply networks, can be identified. This means that the cooperation in the field of the energy market is one of the most important priorities for the European Union and its energy sectors (Sokolowski 2013: 5). The BSR countries are very different from each other and they have different historical experiences. Their economic and cultural aspects are also varying from each other. Even though, they share several common resources, environmental problems and energy security risks. Since they are in the isolated region, they considered as interdependent countries. All these conditions indicate positive developments in the regional cooperation (Sokolowski 2013: 8).

Energy supply and security is one of the core strategies indicated in the European Union Strategy for the Baltic Sea Region. The emphasis in this Strategy was that some states in the region encompassing substantial indigenous sources of energy and must rely on imports. To overcome this problem states should develop interconnections between each other. The development of proper energy infrastructure and pipelines will reduce the energy disruptions. The existing interconnections are highly nationalized instead of being linked across the region. It will create energy security risks and lead to high energy prices. Therefore, it is very important to initiate interconnections and new pipeline projects between Baltic Sea countries to increase energy security and efficiency. However, Baltic states are still considered as energy islands without any solid energy inter-connection with EU (Ibid).

Table: 19

BSR Countries share in Energy Production and Total Primary Energy Supply (TPES) in 2012

Country	Share in BSR Production %	Share in BSR TPES in %	BSR Production/ TPES Gap
Denmark	1.05	1.32	-0.27
Estonia	0.28	0.42	-0.14
Finland	0.95	2.53	-1.58
Germany	6.83	23.78	-16.95
Latvia	0.13	0.34	-0.21
Lithuania	0.09	0.56	-0.48
Norway	11.01	2.22	8.79
Poland	3.95	7.45	-3.49
Russia	73.70	57.57	16.14
Sweden	2.00	3.82	-1.81
Total (mtoe)	1806.68	1314.28	492.4

Source: Godzimirski M. Jakub (2015).

The Table illustrates the energy production in the BSR and total primary energy supply. Only Russia and Norway are energy rich countries in the region. The remaining are energy dependent states. The constant dependency of Baltic States on EU has affected their energy strategies in multiple ways. The Baltic states compete with each other for EU financial support and assistance. This will affect the regional integration process. Due to their small economy, Baltic states totally rely on EU for funds to implement energy projects in the region. The limited budget economy is also one of the problems for Baltic states. This resulted in very slow progress in developing or constructing regional projects initiated by EU in BSR. No country among three Baltic states is capable of completing large energy projects. It is only possible with the cooperation among Baltic states **(Griga 2013: 83).**

Energy is an issue of significant importance for the Baltic Sea area. Since the formal beginning of the Nord Stream project in 2005, energy issue is at the

heart of EU-Russia relations and has become a central element of Russia's engagement in the Baltic Sea region. The 2006 and 2009 Russian-Ukrainian gas crises reinforced the political dimension of energy security for the EU and individual Member States. It is in this context that the Baltic States face the complex challenge of balancing national, regional and European interests in their energy policy choices, while exploring alternatives against dependence on Russia (Maigre 2010: 2). The NB8 is formed in 1992 with 8 member states from BSR including: Estonia, Latvia, Lithuania, Denmark, Iceland, Norway, Finland and Sweden. It encourages cooperation in various sectors among BSR countries. This organization cooperates on the following fields:

- Foreign political cooperation
- Cooperation on diplomatic representation
- Security
- Energy
- Defence
- Transport
- Agriculture (Energy Ministry of Lithuania 2015).

So far the Baltic Energy Market Interconnection Plan (BEMIP) is the EU's most significant achievement to be generally recognised by all Baltic energy policy stakeholders. BEMIP is one of six EU priority projects under the EU Energy Security and Solidarity Action plan. The logic driving this plan is that an interconnected internal EU energy market and a proper working system of energy solidarity would increase the energy supply security of all member states. The goal of the BEMIP is to connect the Baltic energy islands with the EU internal market, and to provide the necessary financial assistance framework. In terms of priorities, BEMIP focuses on the electricity sector first, and then on gas. The EU has a significant role to play in the Baltic regional energy cooperation. The EU encompasses financial motivators to facilitate agreements and energy projects between the Baltic States. Also the EU provides a multilateral forum for the neutral discussions of various energy

issues. This way, the EU can be effective in preventing energy unilateralism (Maigre 2010: 3).

Politics of Energy Independence and Cooperation among Baltic States

The Baltic States of Latvia, Estonia and Lithuania have recognised the significance of regional cooperation in order to end the isolation and inaccessibility of the Baltic energy market and further accelerate their integration into the internal European energy market. In this background all the three Baltic States signed the declaration on energy security of supply to facilitate their energy concerns. To ensure a timely completion of the key supply infrastructure projects, the Baltic States welcomed the European Commission's communication on European Energy Security Strategy, thereby channelizing all the efforts into its implementation, (Energy Ministry of Lithuania 2015).

Minister of Economics of the Republic of Latvia Dana Reizniece stated:

> Effective regional cooperation is a crucial step towards the future European Energy Union. Energy policy goes beyond the borders and we need joint effort to fulfil EU common agenda. We have included in our declaration the main dimension of the energy union meaning security of supplies, competitive and completed internal market, our commitment to respect solidarity. I am proud to say that this initiative of three Baltic States fits perfectly into concept of the energy union. Together with positive experience of the Baltic region interconnection plan (BEMIP) such initiatives this will serve as the best example for other EU regions when we will speak about energy policy governance during our presidency.

In a similar context, Minister of Energy of Lithuania Rokas Masiulis stated:

> for the first time our prime ministers and we have managed to come to a common agreement that it is of crucial importance to ensure the implementation of the EU Third energy package together with clear, transparent and competitive rules for third party access to the gas system throughout the Baltic states. Signing of the energy security of supply declaration marks the beginning of the important and irreversible shift in our region towards liberal, transparent, competitive and fully functioning regional gas and electricity markets" Minister of economic affairs and infrastructure of the republic of Estonia- Urve Palo: "we consider it important to create a liberal and transparent regional energy market in the Baltic states. Together with our regional

> partners we aim at ensuring the best conditions for market functioning, ensuring security of supply and developing the infrastructure projects. Solidarity in the emergency situations is a key in the regional cooperation. The energy security of supply declaration signed today provides a strong basis for further cooperation (Energy Ministry of Lithuania 2015).

The current geopolitical condition is one of reasons for new measures to be introduced to reduce the energy dependency and thereby upsurge energy security for both electricity and gas. By signing the declaration, the Baltic states assured their commitment to strengthening regional cooperation. The integration of Baltic energy and gas networks to EU is a major challenge for Baltic states. The implementation of above agreements and projects will guarantee energy security of Baltic states and reduce energy costs.

At the meeting with the Swedish Minister of Energy, Masiulis rejoiced at the successful implementation of the NordBalt project, which will ensure integration of the electricity markets of the Baltic and Nordic countries. They discussed national experience and potential cooperation fields in the area of energy efficiency. Sweden has significant achievements regarding this issue and is ready to share its experience with Lithuania. The Lithuanian Energy Minister's meetings with the US Secretary of Energy at the Atlantic Council Energy and Economic Summit in Istanbul have created new avenues in the energy policy framework. The Lithuanian Minister informed the US Secretary of energy about Lithuania's achievements in the energy sector aimed at ensuring the energy security of the Baltic region and entire Europe. The Lithuanian Minister of Energy extended his gratitude to the Norwegian companies for having contributing to the fact that the LNG terminal project had become a reality: a 10-year agreement on storage lease with a purchase option was signed with the company Hoegh and LNG terminal supply contracts were signed with Statoil (Lithuanian Minister of Energy 2015).

Lack of identical energy resources in Baltic states is also one of the region for limited energy cooperation. Local energy consumptions in Baltic states vary

country to country. Estonia totally depends on its oil shale to satisfy its energy needs. It is one of the leading countries in the world with largest oil shale reserves. It generates electricity and nuclear energy by burning oil share resources. However, it has to reduce its dependency on oil share due to its impact on environment. Latvia is entirely depends on natural gas energy resources. It also imports energy and oil from neighbouring countries. Ignalina nuclear power plant was the main source of electricity for Lithuania. It used to produce more than 70 per cent of electricity for Lithuania. It was closed in 2009 as a pre-condition for Lithuania's integration into EU. Since then, it became more dependent country for its energy needs. All these differences limited the cooperation among Baltic states. The renewable energy sector is a trusted area for regional cooperation in BSR. The Baltic states can cooperate and achieve energy independent status through the development renewable energy projects. However, after surpassing all the limitations and challenges the Baltic states initiated number joint ventures and projects to strengthen energy security of the region and reduce energy dependency (Maigre 2010: 7). The Baltic states initiated several electricity, gas, oil projects in the BSR with the EU support.

Politics of Energy Projects in the Baltic Sea Region

As a part of the European Continental Networks Baltic states initiated the following electricity projects:

- Completion of *LitPol Link*, the Lithuanian-Polish power link;
- Completion of *NordBalt*, the Lithuanian-Swedish power link;
- Visaginas Nuclear Power Plant (VNPP) and
- *EstLink* between Estonia and Finland.

At the meeting of the transmission system operators (TSOs) of the three Baltic countries held in January 2010 in Riga (Latvia), an agreement was reached on the participation of six members of ENTSO-E (i.e. Litgrid (Lithuania), PSE (Poland), Amprion (Germany), Trans power (Germany), Elering (Estonia) and

Augstsprieguma Tikls (Latvia)) in the conduct of a feasibility study on the connection to the European Continental Network.

In June 2012, the Seimas of the Republic of Lithuania adopted the Law on Integration of the Power System into the European Continental Network. The integration into the European power systems includes the strategic energy projects implemented by Litgrid: the LitPol Link and NordBalt power links and the interconnection with the European Continental Network. The LitPol Link and NordBalt international power link projects currently in progress will connect Lithuania with the Polish and Swedish power systems and enable the Baltic power systems integration into the West European power infrastructure.

LitPol Link is a strategic power sector project between Lithuania and neighbouring Poland that will connect the Baltic States' power infrastructure with that of Western Europe for the first time. This power highway will connect the national power system with the European power system. The powerful link with Poland will open opportunities for Lithuania with the energy systems of other West European countries in developing the European market for electricity (Maigre 2010: 7).

Map: 10

LITPOL Interconnection

Source: LITPOL (2016)

As the above map illustrates, the project passes through the Alytus and Lazdijai districts of Lithuania, and Podlachia, Warmia and Mazury districts of Poland. This joint programme is being implemented by the Polish and Lithuanian electricity network companies. However, this project will also help Estonia and Latvia to connect their electricity grids with the European electricity grids. It can produce 500 MW transmission power to the Baltic States. The estimated total cost of the project is 430 million EUR; Lithuania and Poland received financial support from the EU to complete this project (LITPOL 2016: 1). The successful completion of this project will reduce the electricity dependency of Baltic States.

NordBalt is a prerequisite for the common Baltic-Nordic electricity market. The future electricity bridge will enable Lithuania to purchase electricity from Northern European countries that are rich in hydro-energy resources. NordBalt will be an alternative channel for electricity import and export that will help Lithuania avoid dependence on the sole supplier in the East. The length of the 700 MW link is about 450 km. The link will be formed of high-voltage direct-current undersea and underground cables and of current converter stations in Lithuania and Sweden. The cost of the project is 550 million EUR. The European Union, Sweden, and Lithuania have provided financial support to this project (Energy Ministry of Lithuania 2015).

Kruonis Pumped Storage Power Plant (Kruonis PSPP) expansion is planned by commissioning construction of the fifth 225 MW hydro units. The Kruonis PSPP is currently equipped with four hydro units but the initial design of power plant provides an opportunity to build another four units. Therefore, the current infrastructure of Kruonis PSPP is completely suitable for the installation of the new hydro unit. The fifth hydro unit will be much more efficient and flexible compared with the four old units. The major benefits of this storage facility are; use of renewable energy resources, decrease in the

electricity dependency and connecting to LitPol and NordBalt interconnection (Ministry of Energy of Republic of Lithuania 2015: 1-3).

The Visaginas Nuclear Power Plant (VNPP) project is also one the impotent initiatives by the Lithuanian government to overcome the electricity crisis. Lithuania planned to construct a new power plant in the place of the Ignalina nuclear power plant which closed in 2009. This power plant is initiated with new technologies and secured environmental measures. The construction of this pipeline will ensure a safe and uninterrupted electricity supply for the Baltic States.

The construction of this project was delayed by a referendum held in Lithuania in 2012; more than 50 percent of the people participated in referendum. But the majority of the people opposed the project due to the high expenditure. However, the implementation of this power plant will solve the electricity shortages of the Baltic States (Ministry of Energy of Republic of Lithuania 2015: 1).

EstLink 1 and EstLink 2 are the two major power projects between Estonia and Finland. These two projects are able to supply sufficient power to some parts of Estonia and Finland. EstLink-1 interconnection capacity is 350 MW with the total length of 105 km. This project has 74 km-long submarine cable and 31 km-long underground cables. Since the end of December, 2013, the EstLink 1 interconnection is owned by the Estonian and Finnish transmission system operators Elering AS and Fingrid Oyj. Previously EstLink 1 belonged to Eesti Energia, Latvenergo, Lietuvos Energija, Pohjolan Voima and Helsingin Energia (Estonian Ministry of Economic Affairs and Communication 2015: 1).

Table: 20

Differences between EstLink-1 and EstLink-2

EstLink 1		**EstLink 2**
350 MW	Power	650 MW
150 kv	Voltage	450 kv

105 km 74 km submarine cable 31 km underground cable	Length	170 km 145 km submarine cable 12 km underground cable 14 km DC overhead line

Source: EstLink- 2 (2015).

The EstLink-2 is the second key power project between Estonia and Finland. It has the capacity to generate more voltage power than the first link. It has the transmission power capacity of 650 MW and the total length of the cable is 170 km. In this, 14 km is in Finland, and the 145 km submarine cable and 12 km underground cable facility are in Estonia (Estonian Ministry of Economic Affairs and Communication 2015: 1). The EstLink ties between Finland and Estonia, have improved cable connections between the three Baltic states (Smith 2013: 49).

Marine cables between Estonia and Finland, Estlink I and Estlink II, are already finished; the two countries are currently working on an additional electricity connection between Estonia and Latvia. On the gas market, the priority is to completely develop the regional gas market and to enable the participants of the local market to access the regional gas infrastructure on equal conditions. It is also important to expand the Baltic gas market to the north (Baltic connector) as well as to the south (Lithuanian-Polish gas pipeline) (Estonian Ministry of Economic Affairs and Communication 2015: 1 and Maigre 2010: 7).

There are few crucial gas pipelines in Estonia, Latvia and Lithuania. By implementing these projects, the following objectives will be achieved: development of alternative natural gas resources for Baltic states; creating an environment for full utilization of the capacity of the LNG Terminal in Klaipeda; new energy exporting partners; uninterrupted supply of gas to consumers; development of energy markets and energy competition in the Baltic region (Energy Ministry of Lithuania 2015).

Liquefied Natural Gas (LNG) terminal in Klaipeda is the most important energy security project not only for Lithuania but for the entire Baltic Sea region. In 2014, Lithuania initiated the construction of Liquefied a Natural Gas terminal in Klaipeda. This project can emerge as an alternative gas supplier and it will also ensure the security of supply. The construction of this terminal will link Lithuania to the gas market in Europe. The main purpose of the LNG terminal is:

- Creating alternative for gas resources and reduction of energy dependency of Lithuania on external countries.
- To make Lithuania energy-independent and able to cover its energy demand by its own energy resources.
- To create an environment for the local and regional formation of gas markets to supply gas to other neighbouring countries.
- To develop Lithuanian gas market interconnections with the EU gas market.

It will ensure the energy independence of the Republic of Lithuania and it will create competition in the gas market which will ultimately lead to affordable prices for consumers. It has the capacity to supply and fulfil 90 per cent energy needs of Estonia, Latvia and Lithuania.

The Gas Interconnection Poland-Lithuania **(**GIPL) project has been initiated between Lithuania and Poland, and is a very important project to ensure the diversification of gas supply to the Baltic Sea region. This project will connect Lithuania and Baltic states to the EU energy market. The implementation of this project will secure energy security in the region. This project covers a 534 km length to supply the gas between Lithuania and Poland. Every year, this pipeline will transport 27 TWh of gas to the Baltic States. The project is planned to be completed by 2019 with the estimated cost of 558 ERU million. The European Union is extending financial support by bearing a 60 per cent cost of the project (European Commission 2015: 1).

Map: 11

Gas Interconnection Poland-Lithuania (GIPL)

Source: European Commission (2015).

The implementation of this pipeline will benefit the Baltic states by connecting the Baltic gas market with the EU common market; finding out new gas supply routes; securing gas supply without any interruptions and the Baltic States' access to global gas markets and creating competition in the gas market to control the prices (Energy Ministry of Lithuania 2015 and European Commission 2015: 1).

Lithuania has initiated the construction of Syderiai Underground Gas Storage, an underground gas storage facility in 2009 to reserve the gas resources and supply gas uninterruptedly to local consumers. Lithuania decided to construct a gas storage project in the Telsai region after assessing 129 geological structures presented in Lithuania. The underground storage was constructed at the depth of 1450 metres. This project is supported by Poland and other Baltic Sea countries. It has the gas storage capacity of 500 mcm, which can address the Baltic States' energy needs. The construction of this project will ensure

the security supply of gas in the region. If the Baltic States face disruptions of gas supply due to political, economical and technical problems, this gas storage can satisfy the gas needs in Estonia, Latvia and Lithuania. According to experts, this underground gas storage can supply gas to Lithuanian consumers for 52 days (Energy Ministry of Lithuania 2015).

European Union and Politics of Baltic Energy Cooperation

The EU has a significant role to play in the Baltic regional energy cooperation. The EU has financial motivators to facilitate agreements and energy projects between the Baltic States. In addition, the EU provides a multilateral forum for the neutral discussions of various energy issues. This way, the EU can be effective in preventing energy unilateralism (Maigre 2010: 6-7). In 2004, the Baltic States became permanent members of the European Union and NATO. The EU membership of the Baltic States reduced the dependency on the Russian energy sector, thereby creating new avenues (Anatoly and Liuhto 2014: 185).

Russia had serious apprehensions with regard to the Integration of the Baltic States in the European Union and NATO. Russia vehemently opposed this development, keeping its geopolitical strategies under consideration. Besides Russia's geopolitical objections to NATO expansion in the Baltic States, it argues that minority issues and ethnic tensions in the Baltic States is a reason for the West to stay out of the Baltic. In order to add weight to this reasoning, the Russian authorities constantly push their particular interests regarding the fate of the Russian speakers in the Baltic States. This is meant as a warning to the Western governments about including the Baltic States in NATO; Russia suggests that the NATO membership would be a package of problems. First, Russia would consider it as an offence to its own national interests. Second, Russia would be able to destabilize the Baltic domestic politics through the sizeable Russian minority (Lane and Pabriks 2003: 136).

In June 2009, The Baltic Energy Market Interconnection Plan (BEMIP) was accepted by the Baltic States' governments. This project was initiated by the European Commission and the goal of the project is the Baltic States' integration into the single energy system of the EU to put an end to the energy isolation of the Baltic Sea States. The European Commission together with Latvia, Lithuania and Estonia, decided to enhance the energy security situation in the Baltic Sea Region. The plan comprises a lot of actions and projects to include this energy isolated island in the united EU system .The main areas of the BEMIP are electricity market integration, electricity interconnections and generation and internal market and infrastructure for gas (Maigre 2010: 7).

So far, the Baltic Energy Market Interconnection Plan (BEMIP) is the EU's most significant achievement to be generally recognised by all the Baltic energy policy stakeholders. BEMIP is one of six EU priority infrastructure projects under the EU Energy Security and Solidarity Action Plan. The logic driving this plan is that an interconnected internal EU energy market and a proper working system of energy solidarity would increase the energy supply security of all Member States. The goal of the BEMIP is to connect the Baltic energy islands with the EU internal market, and to provide the necessary financial assistance framework. In terms of priorities, the BEMIP focuses on the electricity sector first and then on gas (Maigre 2010: 7).

The EU investments will improve economic productivity in the Baltic States, promote innovation and R&D investments and contribute to the creation of a modern, sustainable and efficient transport system. They will contribute to a balanced territorial development and the creation of an environmental-friendly and resource-efficient economy, aiming to create quality jobs and fight social exclusion. The investments will also enhance the quality of the education system and the effectiveness of public administration. On July 17, 2014, the European Commission has adopted the "Partnership Agreements" with the Baltic States, setting down the strategy for the optimal use of European

Structural and Investment Funds to benefit the regions and its people (Energy Ministry of Lithuania 2015: 1).

In Lithuania, there were given 6.82 billion EUR in the total Cohesion Policy funding over 2014-2020 (current prices, including European Territorial Cooperation funding), 1.61 billion EUR for rural development and €63 million to provide funding for the development of the maritime sector and implementation of the Common Fisheries Policy (Energy Ministry of Lithuania 2015:1).

The EU Strategy for the Baltic Sea Region (EUSBSR) is another important strategic document which identifies the development needs that are significant for Lithuania at the regional level and its growth potential. The EUSBSR, that is closely linked with Europe 2020 and contributes to the implementation of this strategy, outlines several challenges that are characteristics of the Baltic Sea Region, such as the poor ecological condition of the Baltic Sea, lack of transport and electricity interconnections and climate change, which cannot be effectively solved by the efforts of one country and call for actions at the regional level. In order to overcome these challenges, a constructive cooperation of the states in the region and an active engagement of ministries within the states which should be guided by a coordinated international strategic approach, are very important (Sokolowski 2013: 24). Only through this mode is it possible to improve the ecological condition of the Baltic Sea, ensure energy security, improve the transport system in the region, adapt to climate change, boost the competitiveness and innovation capacities of regional enterprises, etc. It should be noted that the EUSBSR allows the tackling of cross-border challenges more effectively, which in turn has a positive impact on the overall development of the country's economy and contributes to the objectives of the Blue Growth Strategy (Partnership Agreement 2014: 10).

European Commission adopted 2015 energy policy for a secure, competitive and sustainable energy. Following are the key measures taken by the 2015 energy strategy of the European commission:

1. This policy adopted short and long-term measures to strengthen European energy security
2. It also supports the construction of energy pipelines and infrastructure throughout the EU. it aims to connect energy islands with EU energy markets.
3. Connecting Baltic Sea states to unified energy market of EU.
4. Increasing competition in the energy market by implementing common energy rules and legislations for all member states.
5. Promoting consumer choice to select energy supplier.
6. Maximum use of renewable energy resources throughout the region and promoting energy efficiency (European Commission Work Programme 2015: 1).

The energy markets of Estonia, Latvia, and Lithuania lack adequate connections, both between themselves and with the rest of the EU. For instance, the only power links currently between the Baltic States and another EU country are the Estlink 1 and 2 connections between Estonia and Finland. The lack of integration drives up the energy prices for consumers and lowers energy security in the region (European Council 2015: 1).

The Baltic Energy Market Interconnection Plan (BEMIP) aims to fix this by creating a fully functioning and integrated energy market in the region, supported by the necessary infrastructure. The BEMIP projects are part of the European Economic Recovery Plan (EERP) which means that they have been eligible for over half a billion Euros in funding. Projects can further be funded through the European Regional Development Fund, the EU's Cohesion Fund, and, as projects of common interests, through the Connecting Europe Facility (European Council 2015: 1).

Under the BEMIP, the Nordic electricity market model (NORDEL) will be extended to the three Baltic States. The aim is to remove barriers to competition in the countries and bring them into conformity with EU rules. The main actions for Baltic energy market integration are: removal of cross-border tariffs on energy trade, reduction of electricity obstruction across the borders, developing common energy reserves, and providing open market and availability of common power exchange in the Nordic and Baltic areas (European Council 2015: 1). For effective integration of the Baltic States into the EU's internal energy market, new electricity infrastructure projects are required in the Nordic countries, Poland, Germany and the three Baltic States themselves. Under the BEMIP, these projects consist of three sets:

- The Nordic Master Plan which encompasses projects linking the Nordic countries together such as the Fenno-Skan II connection linking Finland and Sweden, and the Great Belt project in Denmark.
- Projects linking the Baltic area with the Nordic countries, as well as Poland. These include projects such as NordBalt linking Sweden and Lithuania, and LitPol linking Poland and Lithuania. They also include projects to strengthen the electricity grid between the three Baltic States themselves.
- Interconnections between Poland and Germany to help deal with loop flows caused by increased wind generation in Northern Germany. Loop flows occur when the electricity produced in one country is diverted to a different part of its territory through a neighbouring country's grid (European Council 2015: 1).

Close cooperation between the EU Member States and neighbouring countries, at national, regional and local levels, is vital for jointly tackling numerous challenges in the Baltic Sea region, and fully exploiting its development potential. The creation of a single EU energy market, integration of the Baltic energy sectors, and the aforementioned diversification projects

naturally depend on regional cooperation. There are a number of existing frameworks for energy cooperation. The Council of the Baltic Sea States (CBSS)' intergovernmental Baltic Sea Energy Cooperation (BASREC), initiated by the EC and the Baltic Sea countries, supports the creation of competitive, efficient and well-functioning energy markets and pursues energy efficiency and renewable energy measures (Griga 2013).

The Permanent Partnership Council (PPC) is another framework for cooperation and is the main working body governing the Russia-EU relationship; since 2012 the same has focused on four themes of energy markets and strategies: electricity, energy efficiency and innovation, and nuclear issues. The Baltic Electricity regional initiative comprised of the three Baltic national regulators is operating to elaborate a "European Energy Work Plan 2011-2014" both for electricity and gas at the request of the EC. In 2012, The Baltic electricity transmission system operators (TSOs) signed a Memorandum of Understanding for cooperation on common research and development projects related to transmission grid planning, operation and market modelling. The Baltic TSOs also cooperate and have formed a regional group in the framework of the European Network of Transmission System Operators for Electricity **(Griga 2013: 83).**

The EU initiated an Energy Union to bring all countries together to solve the energy security issues and challenges. The goal of a resilient Energy Union with an ambitious climate policy at its core is to provide the EU consumers—households and businesses-with secure, sustainable, competitive and affordable energy. The main aim of the Energy Union is to articulate with one voice in global affairs (European Commission 2015: 2). The European Commission vision of the Energy Union is of it being a sustainable, low-carbon and climate-friendly economy that is designed to last. The EU imported 53% of its energy at a cost of around EUR 400 billion, thereby making it the largest energy importer in the world. Six Member States depend

on a single external supplier for their entire gas imports and therefore remain too vulnerable to supply shocks (European Commission 2015: 2).

This project is very strong and remarkable due to two reasons: the first one is that this project has been initiated solely by the European Union and the second is that it was entirely funded by the EU (Tabakova 2016: 2). The Energy Union strategy has five mutually reinforcing and closely interrelated dimensions designed to bring greater about energy security, sustainability and competitiveness; energy security, solidarity and trust; a fully integrated European energy market; energy efficiency contributing to moderation of demand; decarbonising the economy, and research, innovation and competitiveness (European Commission 2015: 4).

The Baltic States can find solutions for their energy security vulnerabilities in the future under the Energy Union Project. The European Union is supporting the Energy Union project to come up with updated projects such as LNG terminals, new gas pipeline projects, gas and electricity storage facilities in the Baltic States, and new electricity line projects that are being planned under BEMIP (Tabakova 2016: 2). The successful implementation of these projects along with the European Union's close monitoring and financial support can make the Baltic States overcome their energy security challenges.

Regional cooperation plays a key role in reaching the EU's energy policy objectives. "The Energy Union requires close multi-faceted and multi-level cooperation. The Presidency considers that the regional dimension is crucial-enhanced and streamlined cooperation among the Member States. This should contribute to furthering all five dimensions of the Energy Union, including the creation of a fully integrated internal market, strengthened energy security, transition to low carbon economy, and the realised potential of research and innovation," stressed Ms Dana Reizniece-Ozola, the Latvian Minister for Economic Affairs (Ministry of Economics of the Republic of Latvia 2015: 1).

The Latvian, Estonian and Lithuanian relations are frequently on the level of general interests. Baltic cooperation alone cannot resolve the vital problems of any of the countries; instead, raising Baltic cooperation to the essential level of national interests would increase the Baltic States' regional leverage. Presently, the Baltic cooperation is being implemented merely on the general level, whereas common sense would suggest that regional cooperation is essential for the Baltic States. Competition and short- sightedness should be replaced by cooperation and long term political planning within the Baltic relations (Lane and Pabriks 2003: 129). In the past 15 years there have been numerous meetings between top officials from three Baltic States; each one announcing new or renewed projects for energy cooperation. Unfortunately, except for a diminutive increase in power and gas interconnections, each of the three countries tends to go its own way (Smith 2013: 50).

One possible explanation for the lack of cooperation between the Baltic States could be the limited history of their sovereignty and the fear of losing it again. A second explanation is orientation towards the Nordic countries and a Baltic-Nordic cooperation in NB8 (IBP 2015: 9). The Baltic States have always been perceived as a united entity or as a region, more by the outside world than by the Balts themselves. They are like the "three sisters" whom you do not choose and whom you are destined to live with, whether you like it or not (IBP 2015: 10).

Regional cooperation is also somewhat hindered by Estonia and Lithuania forcing closer contacts with regional, pro-Western strategic neighbours, i.e. Finland and Poland, respectively. Both the countries have denounced the Baltic identity with Estonia claiming a common Nordic identity with Finland and Lithuania similarly claiming to be Central European just like Poland, Czech Republic and Hungary. This has resulted in Latvia being the strongest proponent of Baltic unity and at times being considered as the only country interested in closer relations in the Baltics. Remaining without close pro-

Western partners has also left Latvia in a vulnerable position, muddling with the idea of being a bridge between Russia and the West (IBP 2015: 10).

Given their small size and individual weakness, the Baltic countries have found it sensible to align their political and military resources. Despite the irritants common to all neighbours, the Baltic States have made significant progress in the development of common policies and institutions. They have learned the lessons of the 1930s, wherein their failure to cooperate contributed to their loss of independence (O'Connor 2003: 195). A strong attempt needs to be made by the Baltic States to increase regional cooperation, with the most immediate goal being to counter the import monopoly being exercised by Transneft, Gazprom and Inter RAO in specific Baltic markets (Smith 2013: 51).

To sum up, the energy politics between Baltic States, Russia and European Union is evident in Russia's approach to Baltic States and policy choices of Baltic States. The major challenges for Estonia, Latvia and Lithuania's energy security shape their policy choices and politics. EU energy security policies, which sometimes contradict with national interests of Baltic States and the dominant role of Russia as a major supplier of energy in the region has implications for Baltic states, because Common EU energy policy has a focus on co-operation with Russia. Three Baltic States of Estonia, Latvia and Lithuania are unique case within the EU, as they are termed as "energy islands" and are also entirely dependent on Russia for gas imports.

Baltic States lack trust over Russia and encompass adversarial attitude towards Russia due to historical factors. They equate Russia as successor of Soviet Union that forcefully incorporated and occupied them for almost half a century. As a result Baltic- Russian relations remain strained despite economic cooperation and business. The Baltic's are more vulnerable in terms of gas than many other EU states not only because of their energy dependence on a single source, but due to their gas transport and delivery infrastructure.

This creates a situation in which energy becomes a source of threat to national security and independence. Therefore basis of politics in the energy relations and pipeline projects involving Baltic states, Russia and EU. For an efficient energy security framework in Baltic States, energy co-operation, energy interconnection and renewable energy resources are important. The implementation of new pipeline projects and energy security strategies of EU helps strengthen Baltic states' energy security.

Chapter 7

Conclusion

Energy security is one of the primary concerns for every state in the globalised world. It has emerged as a determining factor in framing foreign and security policies both at national and international level. Energy plays a key role in the development of industry and transport sectors. The energy sector's relation with economy and politics is inseparable. Several countries use energy resources as a "soft power" to achieve their national interests. Likewise Russia also employed energy as a political tool to control the former Soviet states including Estonia, Latvia and Lithuania. The politics of energy between Russia and Baltic states is dynamic. The energy politics has largely resulted in major variations in the political and economic policies of both Russia and Baltic states. In this background The Russian energy company Gazprom played a key role in controlling the Baltic states by holding ownership shares in the local energy industry. The Baltic states including the EU member states import more than 50 per cent of energy from Russia as part of their total consumption. In this sense, one can say that energy has played a very crucial role between the Baltic states, Russia and the European Union. This chapter examines final conclusions, findings and recommendations of the study.

The Baltic States shared a similar history and experience under the former Soviet Union. The Molotov-Ribbentrop non-aggression pact in 1939 between the former Soviet Union and Germany placed all the three Baltic states under the control of Germany. However, in 1939, shortly after the end of the Second World War, these states were transferred to the former Soviet Union. During the Soviet period (1940-1985), the democratic institutions of the Baltic states collapsed. The Baltic energy market was controlled by the Soviets. Decisions pertaining to the Baltic states were decided upon by the Soviet leaders. The policy of Sovietisation ended the political, economic and social rights of the

Lithuanian people. Subsequently after the death of Stalin, a cultural and political revival was initiated in the Baltic States. Several cultural and social organisations were established. "The Popular Front of Estonia, the Popular Front of Latvia and the Lithuanian Movement for Reconstruction (*Sajudis*)" were the major organisations that asserted for the cultural, political and human rights of the Baltic people. The liberal reforms initiated by Gorbachev extended the political opportunity for the Baltic states to fight against the authoritarian former Soviet Union. Gorbachev's reforms *glasnost* and *perestroika* facilitated to develop a national awakening in the Baltic states that mobilised the people to fight together for independence.

In 1991, The Baltic states of Estonia, Latvia and Lithuania regained their independence from the former Soviet Union. Immediately after independence, they initiated the political transition from authoritarianism to a parliamentary form of democracy. The Baltic states introduced the political framework required for democracy such as a constitution, parliament, regular competitive elections and an organised legal system. The adoption of new constitutions and political representatives elected through the democratic electoral process transcended the political structure of the Baltic states. The Baltic states also conducted elections for national parliaments, the presidency, the European parliament and municipalities. In 2004, the Baltic states joined the EU and NATO to strengthen their economic and security policies. The aforesaid structural changes and reforms compelled them to modify their energy sectors. Energy security emerged as the primary concern for the Baltic states since independence.

The energy resources in the Baltic states are in a contrast from each other. Oil shale is the main energy resource for power generation in Estonia. The major chunk of Estonia's electricity is derived from oil shale. Electricity production in Estonia has been diversified by the construction of additional electricity generated plants with the use of alternative fuels, wind power-generated forms and co-generation plants that use different fuels, wind power farms and

balancing stations. However, mining and burning oil shale results in numerous environmental hazards. Latvia has limited primary energy resources. In order to supplement the imports for domestic electricity and heat production, local energy resources like wood and peat are used. In Europe, Latvia is equipped with the third largest natural gas storage facility. The share of natural gas in Latvia that approximately accounts for 30 per cent of its energy resources is expected to increase in the near future. At present, Latvia's natural gas storage facility covers the gas requirements of Estonia, Latvia and Lithuania including the Russian Pskov region. Nuclear energy is the primary energy source for Lithuania. The Ignalina NPP used to supply more than 75 per cent of Lithuania's total electricity production. However in 2009, it was closed down in the process of EU integration. Since then, Lithuania has been facing difficulties in locating new sources of electricity. Its climatic condition is unfavourable for using solar and geothermal energy to generate power. The lack of energy production in the Baltic states has increased their dependency on the Russian Federation for natural gas and oil. Excess dependency on a single supplier of energy has created several security and geopolitical inconveniences for the Baltic states.

The new constitution and governments have adopted several changes to the energy policies of the Baltic states. Since 1990, Estonia, Latvia and Lithuania have developed and revised their energy strategies several times and have initiated few effective energy projects. In 2009, the National Energy Development Plan was adopted by Estonia until 2020. In accordance with the energy development plan, the construction of electricity-generated plants with new technology will result in the diversification of Estonia's electric production. Similarly, in order to balance the supply and demand of energy resources, Latvia adopted the Sustainable Development Strategy until 2030. The main aim of this strategy is to create interconnections between Latvia and the EU member states. Lithuania adopted the National Independence Energy Strategy for the implementation of energy infrastructure projects, which is of

prime importance for a balanced energy security in Lithuania. The main aim of the 2012 national energy strategy is to transform Lithuania as an energy-independent state by 2020. The strategies have focused on regional cooperation and energy independence from Russia. One of the primary objectives of energy strategy is to counter the energy threats and blockades by implementing certain exclusive projects in the region.

Since the beginning of state formation, the energy security issue has emerged as one of the major impediments for the Baltic states. It has played very significant role in the Baltic states' political and economic sectors. After the declaration of independence in 1991, Russia blocked energy supply to the Baltic states in order to prevent them from gaining independence. Russia is the primary and the sole energy supply source for the Baltic states. The Russian gas company Gazprom holds an ownership stock in the Baltic energy companies and it exports gas to all the three Baltic states. Lack of interconnections between the Baltic States and other countries in the region is also disturbing their energy security. The Baltic states are also called as "energy islands" due to their isolation from the region. Due to their historical reasons and geographical reasons, they were integrated into the Soviet energy infrastructure. Lack of energy diversity, absence of strong common energy policy, lack of regional cooperation, lack of sufficient energy planning, etc., are the other major issues of Baltic energy security. The Baltic states' idealistic mode of cooperation with the EU and other neighbouring countries may reduce the energy security complexities.

After the declaration of independence, the Baltic states tried to associate with the European Union and NATO. This integration process led to massive changes in various institutions with the implementation of European community principles. Estonia, Latvia and Lithuania adopted the market economy, independent institutions and democratic principles to gain a place in the EU. In 2004, they officially joined the EU. This integration process led to the development of a common energy policy in the Baltic region. The EU

adopted separate energy strategies and packages related to Baltic energy security. It has provided financial assistance to various projects and pipelines in the Baltic region to avoid Russia's dominance and monopoly in the region. The EU as an institutionalised organization has a capacity to play a major role in the energy security collaboration of the Baltic region. The Baltic States' membership of the EU has reduced the dependency on the Russian energy sector and provided energy security. Subsequently the Baltic states were successful in using the EU membership as an energy bargaining tool with Russia.

Russia emerged as the successor state to the former Soviet Union and has used energy to control and influence the Baltic states. The relationship between the Baltic states and Russia has fluctuated due to their historical association with Soviet Russia. All three states pursue their own distinctive relationship with Russia. Estonia has maintained its independent status quo, thereby deciding its domestic policies, and placing Russia as an external actor. Latvia is experiencing a hostile relationship with Russia over its illegal ethnic Russian population. Lithuania, with its relatively small ethnic Russian population, has dealt with Moscow with utmost composure. During Putin's presidency, Russia has emerged as an energy superpower in the region by acquiring ownership and control over oil ports, retail gas stations, pipelines, refineries and power stations in the European region. Gazprom is holding an ownership share in the Estonian, Latvian and Lithuanian energy sectors. All the major energy pipelines and energy projects are being controlled by Gazprom. Russia was strongly opposed to the Baltic states' integration process into the EU and NATO. The historical experiences of the Baltic states compel them to consider Russia as a threat to their political independence and security.

Russia is the one of the major producers and suppliers of electricity, gas, oil and coal to the European Union. Most of the EU member states including the Baltic states are entirely dependent on Russia for natural gas. The EU adopted an energy roadmap to develop energy relations with Russia. Russia developed

strong energy relations with the EU member countries such as Germany and Bulgaria. It launched the Nord Stream project under the Baltic Sea to supply gas to Germany. It also launched the South Stream and Turkish Stream pipelines to counter the EU-initiated Nabucco pipeline. These projects contradict the national interests of the Baltic states. EU is not diversifying its energy resources; this leads to overdependence on the Russian energy sector. The EU member states' close relations with the Russian Federation are disturbing the Baltic states. Estonia, Latvia and Lithuania are worried about their energy and national security. (please remove this sentence)

Most of the former Soviet states including the Baltic states have experienced energy disruptions from the Russian energy companies. Russia is out rightly uses energy as a soft power to implement its policies in the region. Estonia, Latvia, Lithuania, Belarus, Georgia, Moldova and Ukraine have confronted energy disruptions from the Russian energy companies Gazprom and Transnet. In 2007, Estonia encountered energy blockades from the Russian Federation. In 2002 and 2003 Latvia also faced a similar situation continuously. The situation of Lithuania is most vulnerable due to the energy blockades from Russia. Lithuania was a victim of the Russian energy aggression during the independence period. In 1991, immediately after the declaration of independence, Russia halted energy exports to Lithuania. Lithuania witnessed energy disruptions again in 2001, 2005 and 2006. Russia has been highly successful in using its energy resources to control the Baltic States. The Baltic energy isolation and absence of the necessary infrastructure is the primary reason for the energy vulnerability of Estonia, Latvia and Lithuania.

The European Union has initiated a number of strategies and projects to integrate the Baltic states' energy market into the EU market. It has adopted a common energy policy to strengthen the member states' energy security supply. Creating a single energy market in the region is a primary objective of the common energy policy. It provided an opportunity to new member states

to raise their voice against energy security challenges. In 2009, The EU also adopted a third energy package with the aim of developing energy interconnections and integrating the energy sector. This policy facilitated the member countries to cooperate and participate in a cross border energy trade. In 2009, the EU initiated the Baltic Energy Market Interconnection Plan (BEMIP) for the Baltic States. The main aim of this plan was to put an end to energy islands and integrate the Baltic States with other EU members. The main areas that the BEMIP has focussed on are energy infrastructure, integration of the Baltic electricity market, internal gas market, electricity generation and interconnections. So far, the BEMIP is one of the most notable programmes for the Baltic energy security to be acknowledged by each and every Baltic states energy policy stakeholder. The EU "Strategy for the Baltic Sea Region (EUSBSR)" is another significant strategic document which identifies the development needs that are important for the Baltic states at the regional level.

The EU initiated Trans-European Networks for Energy (TEN-E) to construct new pipelines and projects between the member states. Under this programme the EU launced a number of electricity projects such as Germany-Netherlands-Belgium-France electricity inter-link and the Baltic Ring-Germany-Denmark link. It also launched gas pipelines between the UK and Russia through the Baltic Sea region. Similary it initiated the construction of Liquified Natural Gas terminals in the Baltic states and other member states of the EU. The TEN-E programme also supported the construction of an underground gas storage facility in the Baltic Sea region to reduce the energy dependency. The EU also adopted a European Neighbourhood Policy (ENP) to strenthen regional integration and create a unified energy market. The Implementation of these projects and pipelines will strenthen the energy security of the Baltic states.

In comparison to the Soviet period, the mutual trust and support between Estonia, Latvia and Lithuania is very strong, cooperative and much more

institutionalised in the post-Soviet era. Several efforts have been initiated to strengthen the cooperation between the Baltic states such as trade, border crossing, energy, defence and transport. Since the initial period of independence, the Baltic States have continued to share several similarities. All three countries experienced foreign rule, a short period of independence and the Soviet invasion and finally, regained independence. In 1999, the inter-governmental Baltic Sea Region Energy Co-operation (BASREC) was established in the Baltic region for energy cooperation. The participant countries in the BASREC are "Denmark, Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland, Russia, and Sweden". As a part of regional cooperation, the Baltic Sea countries established the Baltic Battalion (BALTBAT), the Baltic Naval Squadron (BALTRON), the Baltic Defence College (BALTDEF COL) and the Baltic Free Trade Agreement (BAFTA). Energy poverty and energy security brought all the Baltic Sea countries together and the Baltic States are now able to implement very crucial projects and pipelines with the neighbouring countries. The LitPol Link (the power link between Lithuania and Poland), NordBalt (the power link between Lithuania and Sweden), the Visaginas Nuclear Power Plant (VNPP) project, EstLink-1 and EstLink-2, the Liquefied Natural Gas (LNG) terminal in Klaipėda, the Syderiai Underground Gas Storage and Gas Interconnection Poland-Lithuania (GIPL) are strategic and important energy projects between the Baltic countries.

The energy relations between the Baltic States and Russia are inconsistent and continue to remain uncertain. Russia often adopts energy as a political weapon for geopolitical interests. At the most, we can expect that the EU involvement in Russia-Baltic relations will improve the energy security of Baltic States. This study intended to test the following hypotheses:

1. The EU-Russia energy cooperation as a main focus of the common EU energy policy and bilateral pipeline projects like the Nord Stream contradict the national interests of the Baltic States, which keep an

adversarial attitude towards Russia and have strained political relations with it.

2. The Baltic States of Estonia, Latvia and Lithuania pursue their own distinctive energy security policies with Russia, due to identity and historical reasons.
3. A lack of integration into the EU energy infrastructure and effective common energy policy limits the EU's capacity to deal with the energy isolation and security challenges of the Baltic States.

Relatively, all the hypotheses are tested positive. However, Russia is able to associate closely with other member states of European Union. It has developed strong energy cooperation with Germany and other states. This complimentary policy of the Russian Federation towards the EU member states is disappointing the Baltic states.

Findings of the Study

These are the salient findings of the study:

1. Energy security is a never-ending issue for Estonia, Latvia and Lithuania. An absence of primary energy resources and a necessary energy interconnection between the Baltic states and EU member states lead to an energy dependency on a single supplier.
2. Russia will not hesitate to use energy as "soft power" to reach its targets against the EU member states. Several post-Soviet countries including the Baltic states have experienced energy disruption.
3. The EU-Russia energy relationship is based on mutual dependency. Russia is the only supplier which exports more than 50 per cent of the EU energy consumption. Likewise, Russia is receiving 50 per cent of its GDP income from the EU energy market.
4. Russia is opposed to the Baltic states' integration into the EU and NATO. It is adopting "divide and rule" policy to disintegrate the European Union by developing close relations with EU member states

like Germany. The Nord Stream project between Russia and Germany through the Baltic Sea is in contradiction with the national security interests of the Baltic states.

5. The Baltic states have developed separate individual policies towards Russia due to the presence of a Russian-speaking minority and the availability of energy resources. The Baltic states have also succeeded in using EU and NATO membership to bargain on energy issues and impose sanctions on the Russian Federation.
6. The Baltic states and European Union are now prepared to face Russian energy disruptions. The EU has adopted several programmes such as the Baltic Energy Market Interconnection Plan (BEMIP), The EU "Strategy for the Baltic Sea Region" (EUSBSR) and the Energy Union. Under these programmes, a number of LNG terminals, underground gas storage facilities and electricity grids have been constructed in the Baltic states. This development has resulted in decreasing the energy dependency on Russia.
7. The Baltic states have been able to reduce their energy security challenges through the cooperation with the Baltic Sea countries. Estonia, Latvia and Lithuania have initiated several electricity and natural gas-generating projects with Poland and Sweden. Regional cooperation and development of energy infrastructure will ensure the energy independence of the Baltic states.
8. In the forthcoming years, the Baltic states can overcome energy dependency by increasing the share of renewable energy resources in their total consumption. Estonia, Latvia and Lithuania have adopted the EU's renewable and climate change policies and are implementing the measures to generate energy from renewable resources. All these measures encourage the Baltic states to emerge as energy independent states.

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GLOSSARY

Agricultural Energy

Agriculture consumes significant quantity of energy. The various forms of energy involved in the process of agriculture, either as inputs (water, pump irrigation, transport and electricity) or as useful output (food, manure).

Biomass Energy

Biomass is a fuel that is developed from organic materials. It is renewable and sustainable energy to create electricity. Energy sources such as forest, agricultural residues, and urban wood waste and energy crops are considered as biomass.

Blue Stream

The Blue Stream gas pipeline is designed to deliver Russian natural gas to Turkey across the Black Sea via Ukraine, Moldova, Romania and Bulgaria. It is one of the most important pipelines in terms of Russia and EU energy security. The main aim of this pipeline is to produce gas to the EU members. Russia initiated this pipeline as counter to Nabucco project of the European Union.

Climate Change

It is a change in the typical average weather of a region. This could be a change in a regions rainfall, temperature and change in earths overall climate.

Energy Charter

Energy charter is an international agreement signed in The Hague, Netherlands in 1991. Its objectives were to facilitate long-term energy co-operation between countries, to improve the security of energy

supplies and to provide greater efficiency in the production, transport and use of energy.

Energy Consumer

The state which imports and produces energy for its own necessities is called energy consumer. United States, china, India, Japan, Russia, and Germany are largest consumers of energy in the world.

Energy Conversion

Energy transformation or energy conversion is defined as the process of changing one form to another. There are different forms of energy which changes from one form to another, the best example is energy from thermal process called heat energy.

Energy Crop

A crop grown specifically for its value in producing energy; the term usually applies to fast-growing crops used for liquid fuel or electricity. These crops are; certain grasses and trees such as poplar, maple, black locust, willow, syca-more, sweet gum and eucalyptus.

Energy Dependency

The term refers to describe the dependence of one country on energy resources from another country in order to meet its energy needs. Many of the EU countries including Latvia, Lithuania and Estonia are depended on Russian energy.

Energy Diplomacy

Energy diplomacy is a diplomatic activity designed to enhance access to energy resources through high level political activity. This will help to develop energy cooperation, energy supply and infrastructure and energy security between different countries.

Energy Disruption

Energy disruption is a major threat to the energy security. World energy markets continue to be vulnerable to disruptions predicted by events ranging from geo- politics and natural disasters. Several times Russia cuts energy supply to EU member states including Ukraine in 2009.

Energy Diversification

Energy diversification refers to a nation using multiple sources of energy to run its economy and public services. It helps countries eliminating dependence on any one source of energy by using renewable and non-renewable energy resources. Energy diversification encourages economic growth and energy security.

Energy Efficiency

Energy efficiency means using less energy to provide the same service. It can reduce energy dependency of the country and reduce greenhouse gas emissions.

Energy

Energy is the ability to do work. It can be described more generally as the potential capacity of a system to influence changes in other systems by imparting withers work or heat. The use of this capacity to perform useful for heating or cooling buildings, lighting, cooking foods, powering vehicles and machinery and so on.

Energy Governance

Governance play significant role regarding energy policy decision making. Before adopting energy policy or energy security strategy governments have to priorities their security and cost of supply, the national environment, economic growth, import dependency, resource income, and political relations. International and national governance institutions like International Energy Agency (IEA), United Nations

(UN), European Union (EU), G20, G8, the International Energy Forum (IEF) and the Energy Charter Treat (ECT) are playing very crucial role in energy security decision making in global and national level.

Energy Independence

Energy independence is a situation where a nation in which all its energy needs will be supplied by domestic sources. In the realistic sense, a situation in which a nation is able to satisfy its energy needs with minimal dependence on imported oil. Energy independence is described as a freedom from control and freedom from dependency. It can be achieved through energy security, alternative transportation fuels and multi- fuel vehicles.

Energy Infrastructure

Energy infrastructure is very essential for the energy efficiency and energy security. It is very crucial for energy cooperation between energy producer and consumer. Infrastructure is crucial to integrate its energy market and to meet its energy and climate goals.

Energy Islands

Energy Island is a term to be referred as country without energy inters-connections. Energy island issue is closely related to energy security issues and infrastructure. Energy infrastructure is a prerequisite to integration of regional energy system. In the Baltic Sea region Estonia, Latvia and Lithuania are considered as the energy islands without energy interconnection with other European countries.

Energy Policy

Energy policy is a strategy adopted by a nation or governing body to address the issues of energy development including energy production, consumption, supply, energy disruptions and energy security. This

strategy is a road map to energy state to achieve their energy independence and security.

Energy Poverty

Energy poverty is the lack of reliable access to energy resources like electricity, oil and gas.

Energy Producer

Energy producer term refers to the countries which produces energy and supply to other nations. United States, Russia, china, Iran, Canada, and Saudi Arabia are the largest energy produced countries in the world.

Energy Security

Energy security is a condition in which a nation and all, or most of its citizens and industries have access to sufficient energy resources at affordable prices for the predictable future free from serious threat of major disruption of service.

Energy Security Risks

Energy security is facing various threats in the present world. There are different types of energy security risks. Natural disasters, energy disruptions, economic risks, political and environmental risks are destructive energy security.

Energy Superpower

An energy super power is a nation that supplies large amounts of energy resources such as crude oil, natural gas, coal, uranium to other states. It has the potential to influence the world markets to gain political or economic advantages. Russia is considered as one of the energy super power in the present world.

Energy Terrorism

Terrorism became one of the biggest threats to energy security. The oil and gas industry is one of the new targets for the terrorist groups. These targets created economic and political instability in global politics. Generally terrorist groups targeted oil and gas pipelines.

Energy Transportation

Energy plays a significant role in the transport sector. Transport sector uses different fuels to transport goods and services. Roads (buses and trains), ships, airplanes and pipelines are different modes of transportation.

Energy Union

It is a strategy adopted to bring energy security with low carbon levels. The goal of energy union is to ensure sustainable, secure, affordable and competitive energy to Europe.

Environment

The total of all the surrounding natural conditions that affect the existence of living organisms on earth including air, water, soil, minerals, climate and the organisms themselves.

Environmental Degradation

The term refers to any degradation in the structure or function of the environment, especially human caused. It leads to the air and water pollution, desertification and deforestation.

Fossil Fuels

Coal, oil and natural gas are the three main types of fossil fuels. It is a general term for buried combustible geologic deposits of organic materials. The burning of fossil fuels by humans is the largest source of emissions of carbon dioxide which is one of the reasons for global warming.

Gazprom

Gazprom is a Russian state controlled company which produces gas and oil. It emerged as a strong natural gas company since the collapse of the Soviet Union in 1991. Russian energy company also focuses on production, transportation, storage, processing and sales of gas, as well as generation of heat and electric power. It controls nearly 90 percent of Russian gas production. It is the major supplier of gas to European countries including the Baltic states. The company appears to be more focused on achieving political gains than generating economic profit and attracting foreign investment.

Geopolitics

Geopolitics is a method of studying foreign policy to understand and explain international political behaviour. It is an analysis of the geographic influences on power relationship in international relations. Several countries including U.S, China, Russia and India are trying to get geo- political control in different regions.

Nabucco Pipeline

The Nabucco pipeline is a joint programme of both EU and Russia. The gas would be shipped via Turkey, Bulgaria, Romania and Hungary. This project was initiated by EU to reduce the dependence on Russian gas. The Nabucco pipeline initially planned to bring gas from Azerbaijan via Georgia and Turkey to Bulgaria. It was designed to transport an annual capacity of 32 billion cubic metres of Azeri and other central Asian gas through Turkey and South-Eastern Europe into Austria.

Nord Stream

The Nord Stream pipeline project was launched between Russia and Germany across the Baltic Sea for gas supply. This pipeline was launched in 2010. It links Russia's Baltic Sea coast near Vyborg with

Germany's Baltic Sea coast in the vicinity of Greifswald. Nord Stream allows Russia to bypass Ukraine, Poland, the Czech Republic and Slovakia to supply gas to Germany.

Nuclear Energy

Nuclear energy is released by a nuclear reaction especially by fission or fusion. Nuclear energy uses for fuel made from mined and processed uranium to make steam and generate electricity.

Oil Bunkering

Oil bunkering is the process of stealing oil directly from pipelines to be refined or sold abroad.

Pipeline Politics

Pipelines remain as one of the best option for transporting the gas and oil domestically and globally. Cross border pipelines are used as political tools between producer (of oil and gas) and consumer state. Pipelines gave domination position to energy super powers on energy dependent countries through energy disruptions. For instance Russia stopped energy supply to European countries over political and economic issues.

Renewable Energy

Renewable energy is energy produced from natural resources such as sunlight, wind, rain, tides and geothermal heat which are renewable. Mostly renewable energy comes either directly or indirectly from the sun. Solar energy can be used for industries, lighting homes, generating electricity, water heating and solar cooling.

Rosneft

Rosneft is the world's largest petroleum trade company of the Russian Federation. Rosneft is a global energy company and it also participates in international projects in Venezuela, Cuba, Belarus, Canada, Norway, Italy, Ukraine, Germany, china, Brazil and Turkmenistan. Its core

objectives are production maintenance, exploration of hydrocarbon deposits, upstream offshore projects and marketing in Russia and abroad.

South Stream

South Stream gas pipeline was signed between Russia and Italy in 2008. This pipeline was launched by Russia's Gazprom and Italy's ENI. It is designed to pump 30 billion cubic metres of Russian gas per year to Europe under the Black Sea via Bulgaria, Greece, Serbia and Croatia to Italy. Russia initiated this pipeline to counter the Nabucco pipeline of the European Union.

Sustainable Energy

Sustainable energy is a kind of energy that meets our present demand of energy without putting them in danger of getting expired or losing and can be used over and over again. Sustainable energy should be widely encouraged as it do not cause any harm to the environment and available widely free of cost. Every renewable energy resources including solar, wind, hydropower, geothermal are considered as sustainable energy.

Transneft

Transneft is a state owned oil transport company of the Russian Federation. It manages the world's largest oil pipeline in the world. It was established in 1993 by the Russian Government. The main objective of the Transneft is transportation of oil and oil products via the trunk pipeline system within the Russia and abroad. It has 500 pumping stations, 23 million cubic meters of storage tanks, with more than 71k km of trunk pipeline. It exports 90 percent of the oil to abroad which extracted from Russia.

White Stream

The EU and Ukraine together initiated a White Stream project in 2008. This pipeline would bring gas from Turkmenistan via the Caspian Sea,

South Caucasus and the Black Sea to Ukraine and EU territory. Basically this project was initiated to counter the Nord Stream pipeline of Russian Federation.

Wind Energy

Wind energy is a form of solar energy. It is a renewable energy which is used to generate electricity.

Sources: (Cleveland and Morris 2014; Diamond 2002; Gazprom 2016; Hall 1991; Hordeski 2004; Madureira 2014; Shaffer 2009 and Slesser 1988).

APPENDIX I

EU ENERGY POLICY: GENERAL PRINCIPLES

Challenges facing Europe in the field of energy include issues such as increasing import dependency, limited diversification, high and volatile energy prices, growing global energy demand, security risks affecting producing and transit countries, the growing threats of climate change, slow progress in energy efficiency, challenges posed by the increasing share of renewable energy, and the need for increased transparency, further integration and interconnection on energy markets. A variety of measures aiming to achieve an integrated energy market, security of energy supply and sustainability of the energy sector are at the core of the European energy policy.

LEGAL BASIS

Article 194 of the Treaty on the Functioning of the European Union (TFEU). Specific provisions:

- Security of supply: Article 122 TFEU;
- Energy networks: Articles 170-172 TFEU;
- Coal: Protocol 37 clarifies the financial consequences resulting from the expiry of the ECSC Treaty in 2002;
- Nuclear energy: The Treaty establishing the European Atomic Energy Community (Euratom Treaty) serves as the legal basis for most European actions in the field of nuclear energy.

Other provisions affecting energy policy:

- Internal energy market: Article 114 TFEU;
- External energy policy: Articles 216-218 TFEU.

OBJECTIVES

According to the Treaty of Lisbon, the main aims of the EU's energy policy are to:

- ensure the functioning of the energy market;
- ensure security of energy supply in the Union;
- promote energy efficiency and energy saving and the development of new and renewable forms of energy; and
- Promote the interconnection of energy networks.

Article 194 TFEU makes some areas of energy policy a shared competence, signalling a move towards a common energy policy. Nevertheless, each Member State maintains its right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply' (Article 194(2)).

ACHIEVEMES

A. General Policy Frameworks

The current policy agenda is driven by the comprehensive integrated climate and energy policy adopted by the European Council in March 2007, which sets out to achieve the following by 2020:

- A reduction of at least 20% in greenhouse gas emissions compared to 1990 levels;
- An increase to 20% of the share of renewable energies in energy consumption;
- An improvement of 20% in energy efficiency.

A Green Paper entitled 'A 2030 framework for climate and energy policies' (COM (2013) 0169), launching discussions on the post-2020 goals and policies, was published by the Commission on 27 March 2013.

Different long-term scenarios are described in the Commission communication entitled 'Energy Roadmap 2050' (COM (2011) 0885), which reflects on the

challenges and opportunities the EU is facing on its road to long-term decarbonisation.

B. Completing the Internal Energy Market

On 4 February 2011, the European Council agreed upon an ambitious objective to complete the Internal Energy Market by 2014 and to ensure that there are no energy islands in the EU. This objective was reaffirmed by the European Council in March 2014. The Third Energy Package, the Regulation on Guidelines for Trans-European Energy Infrastructure (Regulation (EU) No 347/2013) and the Regulation on Wholesale Energy Market Integrity and Transparency (Regulation (EU) No 1227/2011) are some of the main legislative instruments aiming to contribute to the better functioning of the internal energy market (5.7.2 on the internal energy market).

C. Strengthening external energy relations

The Commission communication entitled 'On the security of energy supply and international cooperation-EU energy policy: Engaging with partners beyond our borders' (COM(2011) 539) was adopted on 7 September 2011, with the objective of promoting further cross-border cooperation on the part of the EU with its neighbouring countries and creating a wider regulatory area, through regular information exchange on intergovernmental agreements and collaboration in the areas of competition, safety, network access and security of supply. Following on from this, the decision to set up an information exchange mechanism with regard to intergovernmental agreements between Member States and third countries in the field of energy (T7-0343/2012) was adopted on 25 October 2012.

D. Improving security of energy supply

In light of the crucial importance of gas and oil for the security of the EU's energy supply, the EU adopted several measures to ensure that risk assessments are carried out and that adequate preventive action plans and emergency plans are developed. Regulation (EU) No 994/2010 concerning measures to safeguard

security of gas supply and repealing Council Directive 2004/67/EC was adopted on 20 October 2010 with the aim of strengthening prevention and crisis response mechanisms. Directive 2009/119/EC requires Member States to maintain a minimum of oil stocks, corresponding to 90 days of average daily net imports or 61 days of average daily inland consumption, whichever of the two quantities is greater.

In response to the crisis in Ukraine, the March 2014 European Council called on the Commission to present by June 2014 a comprehensive plan to reduce EU energy dependence.

E. Boosting energy efficiency

The cornerstone of EU energy efficiency policy is Directive 2012/27/EU of 25 October 2012 on energy efficiency, which aims to bring Member States back on track towards meeting the 2020 targets. Some other important policy instruments include product labelling and measures targeting the energy efficiency of buildings (5.7.3 on energy efficiency).

F. Making the best use of the EU's indigenous energy resources (including renewables)

One of the agreed priorities of the May 2013 European Council was to intensify the diversification of EU energy supply and to develop local energy resources in order to ensure security of supply and reduce external energy dependency. With regard to renewable energy sources, Directive 2009/28/EC of 23 April 2009 introduced a 20% target to be reached by 2020 (5.7.4 on renewable energy).

G. Research, development and demonstration projects

1. Horizon 2020 (H2020)

The Horizon 2020 programme runs from 2014 to 2020, and is the main EU tool for promoting energy research. Funds amounting to EUR 5 931 million have been earmarked to support the development of clean, secure and efficient energy and sustainable development.

2. European Strategic Energy Technology Plan (SET-Plan)

The SET-Plan, adopted by the Commission on 22 November 2007, is aimed at accelerating the market introduction and take-up of low-carbon and efficient energy technologies. The Plan promotes measures to help the EU position itself to develop the technologies needed for meeting its political objectives and, at the same time, to ensure that its companies can benefit from the opportunities of a new approach to energy. The Commission communication on 'Investing in the Development of Low Carbon Technologies (SET-Plan)' (COM(2009) 0519) evaluated the implementation of the SET-Plan and concluded that stronger EU-level intervention should be considered if the plans to develop a broad portfolio of technologies were to succeed.

3. Future energy technology strategy

The Commission communication on 'Energy Technologies and Innovation' (COM(2013) 0253), published on 2 May 2013, sets out the strategy to enable the EU to have a world-class technology and innovation sector fit for coping with the challenges up to 2020 and beyond.

ROLE OF THE EUROPEAN PARLIAMENT

Parliament has always expressed its strong support for a common energy policy addressing competitiveness, security and sustainability issues. It has called a number of times for coherence, determination, cooperation and solidarity between Member States in facing current and future challenges in the internal market and for the political commitment of all Member States, as well as a strong initiative from the Commission in progressing towards the 2020 objectives.

It has been striving for greater energy market integration and the adoption of ambitious, legally binding targets for renewable energy, energy efficiency and greenhouse gas reductions. In this connection, Parliament supports the adoption of stronger commitments to the EU's own targets, underlining that the new energy policy must support the long-term objective of reducing the EU's greenhouse gas emissions by 80-95% by 2050.

It also supports the diversification of energy sources and routes of supply, in particular the development of the southern gas corridor, deeper cooperation with countries in the Caspian Sea region and, more generally, the importance of the gas and electricity interconnections through central and south-eastern Europe along a north-south axis, creating more interconnections, diversifying liquefied natural gas terminals and developing pipelines, thereby opening up the internal market.

With a view to Europe's growing dependence on fossil fuels, Parliament welcomed the SET- Plan, convinced that it would make an essential contribution to sustainability and the security of supply, and prove to be absolutely necessary in attaining the EU's energy and climate goals for 2020. Underlining the significant role of research in ensuring a sustainable energy supply, Parliament stressed the need for common efforts in the field of new energy technologies, in both renewable energy sources and sustainable fossil fuel technologies, as well as for additional public and private funding to ensure the successful implementation of the plan.

Recent major resolutions:

- 15 December 2015: The European Parliament adopted a resolution entitled 'Towards a European Energy Union' in response to the Commission communication on the subject. Parliament took note of the five pillars of the Energy Union outlined by the Commission and insisted that policies pursued under these pillars must always contribute to ensuring the security of energy supply, decarbonisation, the long-term sustainability of the economy and the delivery of affordable and competitive energy prices. It recalled that energy is a public social good and that the EU should therefore focus closely on the issue of energy poverty and promote concrete measures to tackle this problem;
- 5 February 2014 on a 2030 framework for climate and energy policies (T7-0094/2014);

- 10 September 2013 on making the internal energy market work (T7-0344/2013);
- 21 May 2013 on current challenges and opportunities for renewable energy in the European internal energy market (T7-0201/2013);
- 21 May 2013 on the proposal for a Regulation of the European Parliament and of the Council on safety of offshore oil and gas prospection, exploration and production activities (T7-0200/2013);
- 14 March 2013 on the Energy Roadmap 2050, a future with energy (T7-0088/2013);
- 12 March 2013 on the proposal for a Regulation of the European Parliament and of the Council on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC (T7-0061/2013);
- 11 September 2012 on the proposal for a Directive of the European Parliament and of the Council on energy efficiency and repealing Directives 2004/8/EC and 2006/32/EC (T7-0306/2012);
- 12 June 2012 on engaging in energy policy cooperation with partners beyond our borders: A strategic approach to secure, sustainable and competitive energy supply (T7-0238/2012).

Source: Stoerring-European Union (2017).

APPENDIX II

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 10.6.2009

COM (2009) 248 final

COMMUNICATION FROM THE COMMISSION

TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Concerning the

European Union Strategy for the Baltic Sea Region

{SEC(2009) 702}

{SEC(2009) 703}

{SEC(2009) 712}

European Union Strategy for the Baltic Sea Region

1. INTRODUCTION

Eight of the nine states bordering the Baltic Sea are members of the European Union. The introduction of Community rules, and the opportunities created by Community instruments and policies (for example cohesion policy, the strategy for sustainable development, environmental policy, the integrated maritime policy, the internal market and the Lisbon Agenda) have opened important new possibilities for a more effective co-ordination of activities, thus delivering higher standards of living for the citizens of these Member States. However, even with good levels of international and inter-regional communication and cooperation, full advantage of the new opportunities that EU membership provides has not yet been taken and the challenges facing the region have not yet been adequately addressed.

The Baltic Sea Region is a highly heterogeneous area in economic, environmental and cultural terms, yet the countries concerned share many common resources and demonstrates considerable interdependence. This means that actions in one area can very quickly have consequences for other parts, or the whole, of the region. In these circumstances, the area could be a model of regional co-operation where new ideas and approaches can be tested and developed over time as best practice examples.

Recognising this, the European Parliament published a report in late 2006 calling for a strategy for the Baltic Sea Region. On 14 December 2007, the European Council in its Presidency Conclusions invited the Commission to present a European Union strategy for the Baltic Sea region no later than June 2009. This followed increasingly visible degradation of the Baltic Sea itself but also the need to address the disparate development paths of the countries in the region and the potential benefits of more and better co-ordination.

The European Council set three parameters for the Commission in its development of the strategy. It should be without prejudice to the Integrated Maritime Policy endorsed in the same Conclusions, it should inter alia help to address the urgent environmental challenges related to the Baltic Sea and the Northern Dimension framework should provide the basis for the external aspects of co-operation in the region. In the same Conclusions, the European Council endorsed the Integrated Maritime Policy and asked

the Commission to ensure that regional specificities be taken into account. The present strategy thus also constitutes an important first step towards the regional implementation of the Integrated Maritime Policy in the Baltic.

This Communication presents the strategy requested by the European Council. The strategy seeks to provide both a co-ordinated, inclusive framework in response to the key challenges facing the Baltic Sea Region and concrete solutions to these challenges. It should be read with the indicative action plan. The strategy and the proposed actions and flagship projects have been prepared following intensive consultation of Member States and stakeholders. The Commission has also endeavoured to keep non EU Member States in the region fully informed of the preparations for this strategy.

2. CHALLENGES AND OPPORTUNITIES

2.1. Challenges

Many challenges require action at the level of the Baltic Sea Region: responses at national or local level may be inadequate. Four key challenges have been identified as requiring our urgent attention. They are:

- To enable a sustainable environment
- To enhance the region's prosperity
- To increase accessibility and attractiveness
- To ensure safety and security in the region.

Foremost among these is the environment, highlighted by the European Council. Particular attention is therefore given to the impact of excess nutrients in the Baltic Sea itself leading to eutrophication and algal blooms. There is also damage to the ecological balance due to overfishing, land-based pollution, rising sea temperatures, the presence of hazardous substances and other pressures. Adaptation to climate change is also a growing challenge. These impacts are now so widespread that leisure activities and small scale commercial uses suffer in many areas.

The main economic challenges are to overcome the wide disparities (and hence realise the high potential) in research and productive innovation and to remove impediments to the single market. Priority issues for accessibility are the improvement of networks, ending the energy isolation of parts of the region, and ensuring sustainability of

transport modes. Finally, priorities in the field of safety are to reduce risks posed to the region's citizens, infrastructure and environment by hazards from a variety of sources, in particular accidental marine pollution and organised crime.

2.2. Opportunities

Clearly the region has significant potential that can be better used. This includes a very well-educated workforce, expertise in innovation – especially in knowledge-based industries – a spacious and relatively unspoilt land environment rich in natural resources and a strong tradition of intra-regional cooperation. Networking among research funding agencies from all EU Baltic States, supported by the Research Framework Programme, provides a sound basis for collaboration in research and knowledge transfer within the Region. The framework provided by European Union policies and law provides a strong base on which to build more effective cooperation. For example, designation of the Baltic Sea as a Particularly Sensitive Sea Area will help to ensure that the growth of shipping and other maritime activities is sustainable.

3. THE STRATEGY: AN INTEGRATED FRAMEWORK TO ADDRESS THE CHALLENGES AND OPPORTUNITIES OF THE BALTIC SEA REGION

The analysis conducted by the Commission shows:

- An integrated approach is necessary for the sustainable development of the Baltic Sea Region. The issues are interrelated: for example, improvements to the sea quality bring increased employment due to more marine business potential, which will require better transport links. Through an integrated strategy, everyone stands to benefit from a common approach.
- Better coordination and a more strategic use of Community programmes are key ingredients, especially at a time of crisis, to ensure that funds and policies in the region contribute fully to the strategy. Moreover results of research programmes in the area must be fully integrated into other programmes and policy areas.
- Within the existing financial and legal framework, there are great opportunities for effective action through closer cooperation and co-ordination.
- Specific actions are needed to respond to the identified challenges. These will be undertaken by stakeholders in the region, including governments and agencies, municipalities, international and non-governmental organisations.

- The strategy is an internal one addressed to the European Union and its Member States. The effectiveness of some of the proposed actions will be enhanced by continuing constructive cooperation with interested third countries in the region. Existing well functioning structures, notably but not exclusively within the Northern Dimension, provide the framework for the EU to pursue further cooperation with these countries.

So the strategy should provide an integrated framework that allows the European Union and Member States to identify needs and match them to the available resources through co-ordination of appropriate policies. This will enable the Baltic Sea Region to enjoy a sustainable environment and optimal economic and social development.

The Commission is therefore proposing an indicative action plan, fully discussed with the Member States and regional stakeholders, to encourage the implementation of visible projects. The action plan is organised around the four pillars. It is, however, an integrated strategy; the proposed actions often contributing to more than one identified objective. The individual actions and flagship projects have been selected for their fast implementation and impact.

3.1. BACKGROUND AND CONTEXT

3.2 Geographical coverage

The strategy covers the macro-region around the Baltic Sea. The extent depends on the topic: for example on economic issues it would involve all the countries in the region, on water quality issues it would involve the whole catchment area, etc. Overall, it concerns the eight Member States bordering the Baltic Sea. Close cooperation between the EU and Russia is also necessary in order to tackle jointly many of the regional challenges. The same need for constructive cooperation applies also to Norway and Belarus.

3.3. Relevant policies

Many European Union policies and programmes are important in the region and we expect these to be key elements in the strategy. Among these is Cohesion Policy, which contributes over EUR 50 billion to the region in 2007-2013. The Common Fisheries Policy (CFP) directly contributes another EUR 1.25 billion. The Commission

plans to work with the managing authorities to help them ensure that allocations are aligned with the strategy.

The Arctic region, the subject of a specific Commission Communication last year, has strong links with the Baltic Region through its interaction with the Barents Euro-Arctic Region. The Marine Strategy Framework Directive and the Helsinki Commission (HELCOM) Baltic Sea Action Plan guide the interventions on the environment, keeping in mind EU common policies affecting the marine environment such as agriculture, fisheries, transport. The Common Agricultural Policy, in particular through rural development, contributes to the objectives of making the Baltic Sea Region an environmentally sustainable and prosperous place. The Single Market policies and the Lisbon Agenda including the Small Business Act, will provide the inspiration for relevant parts of the strategy especially the section related to prosperity while the European Research Area, together with its funding instrument the 7th Framework Programme (FP7), will provide a sound scientific basis for sustainable management of the Baltic Sea basin. The Trans-European Networks for transport and energy are the backbone of the accessibility and attractiveness pillar. In addition, the European Economic Recovery Plan offers important additional financial support for numerous energy infrastructure-related projects in the region. Cooperation on fisheries with Russia will be promoted, where relevant, under the framework of the EU-Russia agreement on fisheries.

4. RESPONSE

Guided by the almost unanimous position of respondents to the consultations, from every level and type of partner, the Commission is convinced that these challenges and opportunities can best be addressed by an integrated multi-sectoral regional strategy. The range of issues makes this an ideal case for the application of a territorial cohesion approach, as requested in the informal meeting of Ministers at Leipzig in 2007.

The Baltic Sea Region is a good example of a macro -region – an area covering a number of administrative regions but with sufficient issues in common to justify a single strategic approach. Other areas of the European Union are beginning to self-identify as macro-regions and the approach adopted in this strategy will offer important lessons as to the potential of the macro-regional approach.

This follows the territorial cohesion proposals of the Commission in the Green Paper of October 2008, whereby interventions are built around the needs of functional regions rather than according to pre-determined financial and administrative criteria. This form of macro-regional approach also provides the EU with an innovative policy instrument, which could serve as a good example of efforts to achieve common EU objectives and a more effective coordination of territorial and sectoral policies based on shared territorial challenges.

In the same way, the coherent and pro-active implementation of the maritime actions in the strategy will be an important test case for the regional (sea-basin) implementation of Integrated Maritime Policy initiatives.

We can group the needed actions into the four pillars below plus a section addressing horizontal issues. This grouping is only for ease of analysis: every pillar relates to a wide range of policies and will have impacts on the other pillars.

5. An environmentally sustainable region

The Baltic Sea is one of the largest bodies of brackish (part saline) water in the world with significant salinity differences between sub-basins. It is relatively shallow (average depth of 50 metres compared with the Mediterranean's 1500 metres) and almost completely enclosed. Only 3% of the water (by volume) is exchanged each year – i.e. more than 30 years for the total volume. Rivers drain a land area four times larger than the sea itself with a population of nearly 90 million.

The unique features of the Baltic Sea, and its environmental pressures, demand a macro-regional approach to combat its long-term deterioration. This has been long-recognised, including through joint action in HELCOM, although there is a need for increased coordination among sectoral policies.

The Action Plan covers the following priority areas: (1) To reduce nutrient inputs to the sea to acceptable levels; (2) To preserve natural zones and biodiversity including fisheries; (3) To reduce the use and impact of hazardous substances; (4) To become a model region for clean shipping; (5) To mitigate and adapt to climate change.

5.2. A prosperous region

The region is united by the sea. But it is also clearly divided between a prosperous, highly innovative North and West and a developing East and South. However, the differences between the most successfully innovative regions in the EU, in the Nordic countries and Germany, and the regions with well-educated young people and deficient infrastructure in Poland and the three Baltic States, provide opportunities for complementary co-operation and development of great benefit to all sides. In particular, such co-operation should provide real business opportunities to SMEs, especially those working in innovative fields.

The European Union is confronting a severe economic crisis. It needs to profit from the internal market on one hand and maximise the opportunities from innovation on the other. The strategy offers the opportunity to further reduce the barriers to trade and draw greater benefits from the Single Market and to exploit the potential of wide innovative disparities. In addition, it is important to maintain the profitability and competitiveness of the key sectors of agriculture, forestry and fisheries in order to enhance their contribution to the economy and to sustainable development.

To achieve high productivity, high levels of innovation and sustainable economic growth, the Baltic Sea Region also needs to increase labour market inclusion and integration. High levels of employment, good quality jobs, the continued presence of a well-trained and adaptable workforce as well as low levels of social exclusion are all vital factors in assuring both the competitiveness and attractiveness of the region.

5.4. A safe and secure region

The region's safety and security environment will continue to experience significant changes during the coming years: Maritime traffic is expected to increase, thus increasing the risk of accidents and vulnerability to pollution. Cooperation already exists, but should be strengthened to make the region a world-leader in maritime safety and security. A maritime disaster such as the ‘Erika’ shipwreck would have a catastrophic effect. The expansion and deepening of EU cooperation in criminal matters means that regional activity in combating crime should focus on intensified practical cross-border cooperation. Finally, the region must be prepared for the expected increase in extreme weather events as a result of climate change.

The Action Plan covers the following priority areas: (1) To become a leading region in maritime safety and security; (2) To reinforce protection from major emergencies at sea and on land; (3) To decrease the volume of, and harm done by, cross border crime.

IMPLEMENTATION AND GOVERNANCE – FROM WORDS TO ACTIONS

6. Consultation process

The Commission has engaged in an intensive consultation process which has had three principal components: non-papers from governments and other official bodies in the region; stakeholder events to allow official, NGO and private sector participants to contribute their expertise; public consultation through the Europa web site which elicited a very wide response.

The messages were clear:

No new institutions. The Baltic Sea Region has many cooperative structures: we should not create new ones that could impose added administrative overhead without contributing to effective action. Not just a strategy. There must be actions – concrete, visible actions – to overcome the challenges facing the region. In its action plan, therefore, the Commission insists that Member States and other stakeholders take responsibility as lead partners for specific priority areas and flagship projects, for example by developing integrated maritime governance structures in line with the Integrated Approach to Maritime Policy.

6.1. Governance and implementation proposals

In the light of these conclusions, and the need for a flexible approach in view of the wide range of actions, we make the following proposals on governance and implementation:

- Policy development: As Member States come together to cooperate on concrete measures, general oversight will be within Community structures, with periodic reports and proposals for recommendations from the Commission to the Council. The European Council will be updated regularly on the progress of the strategy.
- The Commission will be responsible for co-ordination, monitoring, reporting, facilitation of the implementation and follow-up. In partnership with the

stakeholders of the region, it should prepare regular progress reports, and use its power of initiative to make proposals for adaptation of the strategy and action plan whenever these are required. Coordination should keep under review how the use of funds is contributing to the priorities of the strategy. A review of the European added-value of the strategy and the implementation of the Action Plan is foreseen in 2011.

- Implementation on the ground – the responsibility of the partners already active in the region – will be further aligned with the objectives and targets of the strategy. The Commission will work in partnership with the other institutions, Member States and regions, international financing institutions, transnational programming bodies and inter- governmental organisations such as HELCOM to identify co-ordinating bodies at the level of priority areas and lead partners for flagship projects.
- In order to maintain the high level of involvement of all the stakeholders in the region, clearly evident during the consultation exercise, there will be an annual forum to bring together partners concerned with different aspects of the strategy, including from interested third countries, to review and discuss the progress of the strategy and to make recommendations on implementation.

Finally, relations with third countries should be conducted primarily through the Northern Dimension with the option to use alternative channels when useful.

7. CONCLUSION

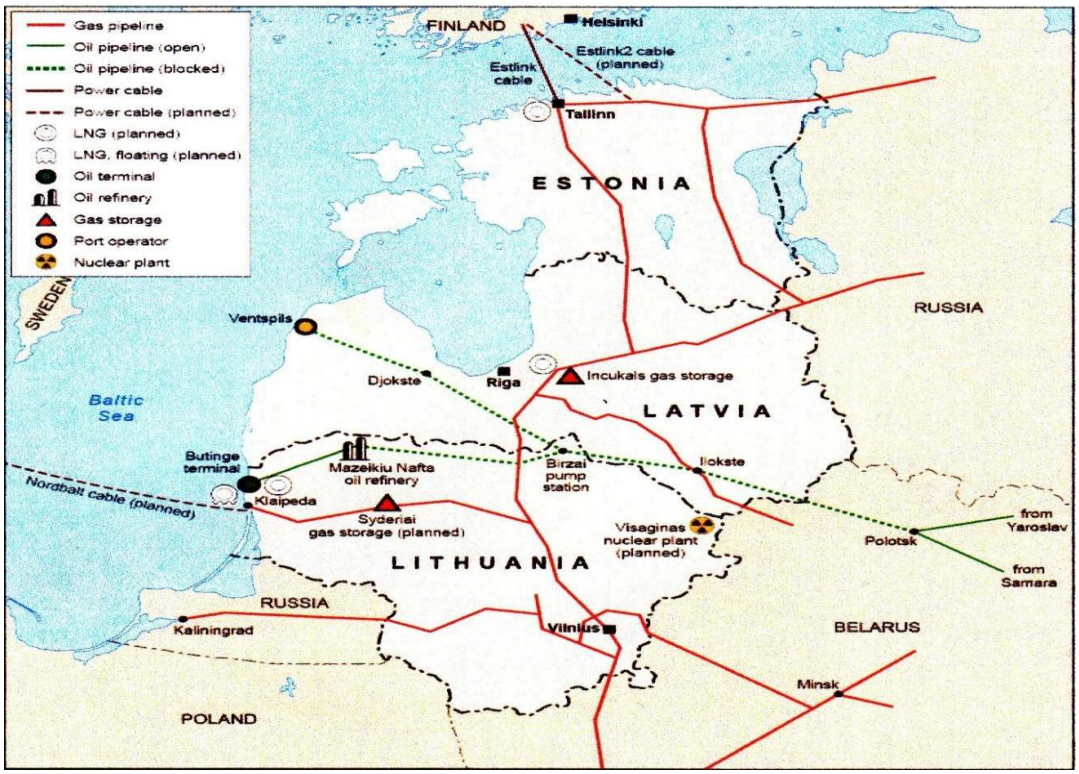
The Baltic Sea Region has an established history of networking and cooperation in many policy areas. This strategy offers the opportunity to move from words to action and to deliver real benefits for the region as a whole.

The analysis described above demonstrates the need for a common strategic vision to guide future territorial development for the Baltic Sea Region. It is clear that no one acting alone can apply the range of measures necessary to confront the challenges and exploit the opportunities of the region. We are convinced that a strategy for the Baltic Sea Region, consisting of the approach and actions described above are essential to protect the Baltic Sea and to exploit fully the opportunities open to the region.

Source: EUSBSR-European Union (2015).

APPENDIX III

Energy Infrastructure Projects in the Baltic Region



Source: Grigas (2013).

The BSR countries planned to construct several energy infrastructure projects under the BEIMP and EUSBSR programmes. They initiated gas and oil pipelines with other EU member states. Gas interconnection between Lithuania and Poland with the EU financial assistance is a major development for Baltic energy market integration. Likewise, Lithuania and Latvia constructed underground gas storage facility to avoid energy disruptions and vulnerabilities. They have also developed LNG terminals by using environment friendly technologies. Oil refinery stations are initiated in three Baltic states. Estonia planned Est-Link 1 and Est-Link 2 power generating projects with Finland. Lithuania also launched Nord-Balt electricity link with Sweden. In addition, Lithuania planned Lit-Pol electricity project with Poland. The successful implementation of these projects will reduce the energy dependence of Baltic states and strengthen their energy security further enhancing their self-reliability.

APPENDIX IV

Gazprom Pipelines

Source: Gazprom (2015).

Gazprom is a Russian state owned global energy company focused on geological exploration, production, transportation, storage, processing and sales of gas. Gazprom's strategic goal is to establish itself as a front-runner among global energy companies by diversifying sales markets, ensuring reliable supplies, improving operating efficiency and fulfilling its scientific and technical potential. Gazprom accounts for 11 and 66 per cent of the global and national gas output correspondingly. Gazprom holds the world's largest natural gas reserves and it is the main supplier of energy to EU member states. It controls the major pipelines in the BSR and EU by holding ownership rights in domestic energy companies. The Blue Stream, Dzhubga, Nord Stream and Yamal-Europe are the major pipelines export Gazprom gas to BRS and European countries. In this background, Russia is successful in using Gazprom as energy weapon for its strategic and political interests in Baltic states.