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**OVER A BARREL: WHERE RUSSIAN ENERGY POLICY
LEAVES EUROPE WITH REGARDS TO ITS ENERGY
SECURITY**

by

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**OVER A BARREL: WHERE RUSSIAN ENERGY POLICY LEAVES EUROPE
WITH REGARDS TO ITS ENERGY SECURITY**

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ABSTRACT

Within the last few years, Europe has witnessed several major disruptions in its supply of Russian energy. The recent “gas wars” between Russia and Ukraine in early 2006, as well as the disruption of gas transiting Belarus in January 2007, posed serious implications for an already energy-deprived Europe. Russia’s aging infrastructure, infamously inefficient domestic consumption, and current state of affairs, raises considerable doubts over its ability to supply consistent levels of energy to downstream markets. Consequently, can Europe truly depend upon Russia to supply energy when and where they promise? Despite President Vladimir Putin’s claims to the contrary, Moscow uses energy as an instrument of national power, to influence, dictate and enforce its foreign policy with regards to the rest of the world. Russia’s vast untapped resources are huge, and if harvested correctly could help to provide stability in a world that is starving for energy. Yet, Russia’s actions seem to indicate that it is not willing to permit market forces to dictate what it can supply or even when and to whom it will supply energy. Nevertheless, energy security is and will continue to be, a primary factor in relationships between Europe, Russia and the rest of the world.

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TABLE OF CONTENTS

| | | |
|------|---|----|
| I. | THE ENERGY SECURITY DEBATE | 1 |
| A. | INTRODUCTION | 1 |
| B. | ENERGY BACKGROUND IN EUROPE | 4 |
| C. | ENERGY BACKGROUND IN RUSSIA | 5 |
| D. | CONCERNS REGARDING PRICE AND SUPPLY | 6 |
| E. | ECONOMIC THEORY AND THE ROAD AHEAD..... | 9 |
| II. | RUSSIA..... | 17 |
| A. | INTRODUCTION | 17 |
| B. | ENERGY SITUATION BY SECTOR | 18 |
| C. | RUSSIA'S ENERGY PERCEPTION | 22 |
| D. | THE POLICY DEBATE | 28 |
| E. | RUSSIA'S ROAD AHEAD | 35 |
| III. | GERMANY | 37 |
| A. | INTRODUCTION TO EUROPE | 37 |
| B. | GERMANY: BACKGROUND..... | 40 |
| C. | ENERGY SITUATION BY SECTOR | 41 |
| D. | THE ENERGY DEBATE | 44 |
| E. | ENERGY POLICY | 49 |
| F. | GERMANY'S ROAD AHEAD | 52 |
| IV. | POLAND | 55 |
| A. | BACKGROUND | 55 |
| B. | ENERGY SITUATION BY SECTOR | 56 |
| C. | THE ENERGY DEBATE | 60 |
| D. | ENERGY POLICY | 65 |
| E. | POLAND'S ROAD AHEAD..... | 69 |
| V. | CONCLUSION | 73 |
| | LIST OF REFERENCES..... | 79 |
| | INITIAL DISTRIBUTION LIST | 85 |

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LIST OF FIGURES

| | | |
|------------|---|----|
| Figure 1. | The Future of Energy..... | 12 |
| Figure 2. | Russia's Historical and Potential Oil and Gas Fields | 19 |
| Figure 3. | Russian Pipeline Orientation | 24 |
| Figure 4. | 2003 European Union Energy Consumption v/s Production..... | 38 |
| Figure 5. | German Oil Consumption | 41 |
| Figure 6. | German Natural Gas Consumption | 42 |
| Figure 7. | German Coal Consumption | 43 |
| Figure 8. | North European Natural Gas Pipeline | 48 |
| Figure 9. | Poland's Oil Consumption | 56 |
| Figure 10. | Poland's Natural Gas Consumption and Aggregate Production | 57 |
| Figure 11. | Poland's Coal Consumption and Aggregate Production..... | 58 |
| Figure 12. | Five Country Pipeline to Bypass Russia..... | 63 |

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LIST OF TABLES

| | | |
|----------|--|----|
| Table 1. | Major Russian Oil and Natural Gas Pipeline Projects..... | 27 |
| Table 2. | NCE Energy Consumption and Carbon Dioxide Emissions..... | 59 |
| Table 3. | Energy Supply Indicators in NCE | 60 |

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I. THE ENERGY SECURITY DEBATE

A. INTRODUCTION

One does not have to look far to know that the world is facing a severe energy crisis. Actually, all it takes is a quick trip to the corner gas station or a look at a household's latest energy bill. The world is actually facing two energy crises, but no real answers. The first involves scarcity and traditional power politics, and the second is driven by climate changes. Since the debate about global warming is controversial at best, debate on climate change will be considered only in relation to the fact that there is an ever-increasing demand to develop alternative "clean" energy sources to reduce the dependence upon oil and gas. In theory, both of the energy crises could direct efforts in the same direction. The development of alternative energy sources would definitely reduce the dependence on oil and gas. Since alternative energy sources are years away, the search for new sources of oil and gas will continue to be the central theme driving the foreign policies of all the world's greatest powers, especially in Europe and Russia.

Within the last few years, Europe has witnessed several major disruptions in its supply of Russian energy. The recent "gas wars" between Russia and the Ukraine in early 2006, as well as the disruption of gas transiting Belarus in January 2007, posed serious implications for an already energy-deprived Europe. Additional fears have risen in Europe about Russia's intentions, since both countries have been threatened with further cuts if their large gas debts are not paid, with the latest threat coming as recently as the first week of October 2007. Additionally, there have been countless incidents that, in one way or another, have resulted in supply-system degradation. These incidents range in severity from benign equipment malfunctions and accidents to deliberate acts of sabotage. One example is the terror acts of January 22, 2006, in North Ossetia, Russia that disrupted gas exports for two days. Another is the huge explosion, in

March 2007, which claimed over one hundred lives and was the deadliest of the five major coal (Although coal is not a major export at this time, it is heavily used for energy inside Russia) accidents to plague Russia over the past decade. The nuclear industry, which supplies large quantities of power, is yet another example of Russian energy instability, one that is still scarred by the infamous Chernobyl disaster. Despite all of these incidents, Russia still remains one of Europe's, and even the world's, most crucial suppliers of energy.

Unfortunately, the current state of Russian affairs has raised considerable concern over the questionable reliability of Russia as an energy supplier. With its aging infrastructure and infamously inefficient domestic consumption, Russia occasionally raises doubts over its ability to supply consistent levels of energy to downstream markets. Consequently, with how much certainty can Europe depend upon Russia to supply energy when and where they promise? Another factor of Russian reliability, which must be taken into account is that, regardless of President Vladimir Putin's claims to the contrary, Moscow uses its current energy policies, as an instrument of national power, to influence, dictate and at times enforce its foreign policy with regard to the rest of the world, particularly Europe.

This thesis addresses the possible motivations behind Russia's current energy policies regarding Europe, while at the same time specifically trying to determine what other options remain for Europeans to safeguard their own energy security, with or without Russia. Considering all the theories involved in analyzing Russian statecraft, Adam Stulberg's synopsis provides the best insight into realist and liberal theories of power politics.

Scholars of realist and liberal theories advance contending propositions about the success of statecraft, generating expectations that Russia's energy leverage would be either awesome or ineffectual, respectively. Russia's record of coercion was both more effective than expected by integrationists and less potent than predicted by realists. Counter to integrationist expectations, Russia adroitly seized on the trade of natural gas to wrangle concessions from potential competitors. Yet Moscow

flaunted realist predictions by failing miserably to capitalize on its power advantages and petroleum pipelines to coerce similar concessions.¹

Stulberg's theory refocuses the discussion back to the magnitude that Russia's strategic leverage has over Europe. The answers to which are the keys in solving the energy security dilemma currently faced by not only Russia, but Europe as well.

Along with the standing theories defining the problem, there are also several leading schools of thought concerning the solution to Europe's collective dilemma, but three main ideas for resolving the situation have risen to the forefront. First is an EU centric approach, which asks for all European countries to join together now while planning ways of reducing dependence on Russia in the future. This has several advantages, but "Unfortunately, the EU is currently in the middle of a relapse into economic patriotism."² The second is a go-it-alone attitude favored by the Russians. Due to the inability of the EU to establish a common energy policy, Russia has free reign to bully the individual members of the EU because it "views its energy resources as a valuable foreign policy tool and prefers to get its way through selective bilateral arrangements."³ The best example of this is the Baltic pipeline, discussed in much greater detail later, which is a joint venture between Germany's BASF and Gazprom. The final approach is one supported by the United States. It seeks to limit the influence Russia aspires to "project internationally via its energy exports. It also encourages Moscow to open up its natural resources and make them conducive to investment by trans-national corporations."⁴ This approach is problematic

¹ Adam N. Stulberg, *Well-Oiled Diplomacy: Strategic Manipulation and Russia's Energy Statecraft in Eurasia* (Albany: State University of New York Press, 2007), 5-6.

² Wolfgang Munchau, "Europe needs a joint response to Russia," *Financial Times*, May 8, 2006, 17.

³ *EIU ViewsWire*, "EU Economy: Energy relations with Russia," New York: October 18, 2006.

⁴ "Russia/US/EU: Security thinking fuels energy dilemma," *OxResearch* (September 21, 2006), <http://proquest.umi.com.libproxy.mps.navy.mil/> (accessed January 23, 2007).

because it favors U.S. companies while at the same time touches on the taboo of foreign direct investment (FDI) of which Russia is extremely resistant.

B. ENERGY BACKGROUND IN EUROPE

Although the Europeans are energy deprived, options still remain in which to secure their energy needs without establishing a joint foreign energy policy.

There is some power within the framework of the TransEuropean Networks policy to assist financially the setting up of major transit and import facilities that contribute to greater diversification, otherwise it acts by exerting influence on the institutions of other countries. The EU is also trying to promote a joint regulatory space.⁵

At the same time, there would be some added strength in a treaty that the EU was able to ratify. The Energy Charter Treaty (ECT), also known as the European Energy Charter, plays a crucial role as part of an “international effort to build a legal foundation for energy security, based on the principles of open, competitive markets and sustainable development.”⁶ Two of the more substantial parts of the charter include trade/transit issues and energy efficiency. Considering that the EU has no internal borders, the trade and transit aspect of the treaty follows in line by covering “the entire energy chain from production and generation to the terms under which energy can be traded and transported.”⁷ This chain not only includes various national jurisdictions but also international markets. Trade could also become a factor if a secondary market for excess energy is developed. Concerning energy efficiency, it is simply a calculation of how much energy a country consumes based on gross domestic product. Technology has developed scores of items that uses less energy, particularly in

⁵ Dominique Finon and Catherine Locatelli, “Russian and European gas interdependence: Can market forces balance out geopolitics?” *Cahier de Recherche Lepii*, Serie EPE, No 41 bis (January 2007), 6.

⁶ *Energy Charter*, “About the Charter,” www.encharter.org (accessed March 20, 2007).

⁷ *Energy Charter*, “Trade and Transit,” www.encharter.org (accessed March 20, 2007).

the area of building construction, which in turn would also provide a means of creating additional supplies since less is consumed.

However, serious challenges still plague the Europeans. Even though the EU has been attempting to draw Russia into the multilateral energy framework of the ECT, the treaty is now fifteen years old. It was “signed by 51 states and the EU, but Russia was one of only a few countries, and by far the most important, that has not ratified it. Nor is it likely to do so in the future.”⁸ This is unfortunate because it offers not only legally binding rules covering access to pipelines and investments, but also provides for the arbitration of disputes. Leaving only the economic approach to the situation unresolved.

C. ENERGY BACKGROUND IN RUSSIA

Russia currently has the eighth largest oil reserves in the world. It is the largest non-OPEC producer of oil, ranking second behind Saudi Arabia in total production. It makes up 12 percent of the global production and export of oil while at the same time controls the world’s largest proven gas reserves at 32 percent. Yet only three, predominantly state-owned, companies control 100 percent of the country’s oil and Gazprom, another state-run company, controls 25 percent of the world’s gas reserves. In general, Russia does not look favorably upon direct foreign investment into its oil and gas industry. Concurrently, Russians are generally leery of investing their scant savings. The populations fears are twofold: not only do Russians lack faith in their own government to protect property rights, but due to experiences during the early 1990s many people distrust private enterprise as merely enriching disreputable oligarchs. In turn, this leads to Russia’s largest problem concerning natural constraints of future demands, which is a shortage of infrastructure. Currently, Russia has not invested in any additional exploration for new sources of oil or gas. Russia also

⁸ *EUI ViewsWire*.

has failed to invest in making its industries more efficient users of energy, a situation only exacerbated by the fact that Russia is one of the most inefficient users of energy in the world. Thus as Russia grows so does its own energy needs, albeit at a disproportional rate. If the state were to increase its own energy efficiency it could reduce energy needs, thereby freeing up additional supplies for the ever-increasing demand of foreign customers. This increase in supply would greatly benefit Europe; however, unless things in the country drastically change, it would be quite difficult for Russia to actually accomplish.

Most of the energy produced in, and exported from, Russia is controlled by the state and in turn has become the “biggest stick” behind Russian foreign policies. The Russian government has the power to restrict both the export of Russian oil and gas as well as its production, but this is not the most disconcerting issue. The most unnerving issue is that Russia is becoming increasingly more aggressive in its relations with other countries, they have started to use energy as a coercive tool to either deter or manipulate other countries policies, and they have started to use their newfound wealth to rebuild their massive military establishment. All of these factors leave Europe in quite a predicament since many countries are dependent on Russia for not only their domestic energy needs, but also for a significant portion of their non-domestic international commitments.

D. CONCERNS REGARDING PRICE AND SUPPLY

When looking at simple supply and demand theory, price increases with demand as long as supply either stays constant or declines. In turn, drastic price increases, as seen over the past year with regards to the price per barrel of oil, will lead to increases in both exploration and production as well as research and development of unconventional sources. As a result, until production and exploration catch up to demand, those countries that have steady supplies are in a position to profit greatly. In the longer term, what is most likely to happen is

that prices will drop just as they always have in the past. Eventually, companies will hire more people and build its infrastructure in order to increase production, a situation that is currently happening.

The industry is in the middle of a construction boom, with old facilities not used for decades being reopened. Alternative sources of fuels including unconventional oil from regions such as Canada's oil sands also become more attractive, as do biofuels. Resource nationalism, too, has its cycle: countries that spurned foreign investment decide they need it to revive flagging production.⁹

The best example of high prices making it profitable to explore can be found in the struggle to lay claim to the Arctic seabed. Russia has recently placed a national flag on floor of the Arctic seabed in an attempt to claim that the North Pole is part of the Lomonosov Ridge, which is an extension of the Russian continental shelf, and therefore Russian territory. Analysts say the huge cost of exploring the Arctic "will prevent the exploration of oil and gas reserves for several decades. But oil majors are already positioning themselves for the race."¹⁰ In particular state-backed Russian companies, already enriched with oil and gas revenues, are the primary backers of the high cost expedition. However, all of this will take time and until market forces can balance supply and demand, there is plenty of opportunity for the oil and natural gas market to cause serious economic and social disruption.

Since Europe is in serious need of energy, Russian has the advantage. "As a major supplier of natural gas to European countries, Russia has some ability to set prices."¹¹ As previously mentioned, Russia literally shut off the gas supply to Ukraine and Belarus and was considering shutting off supply to Russian Georgia, all because of a price dispute. These countries as well as

⁹ Ed Crooks, "Drip feed: Why high oil prices threaten to linger," *Financial Times*, July 19, 2007, 7.

¹⁰ Isabel Gorst, "Russia raises stakes over Arctic seabed," *Financial Times*, August 2, 2007, 3.

¹¹ Bernard A. Gelb, "Russian Natural Gas: Regional Dependence" (CRS Report for Congress, January 10, 2007), 2.

other governments probably believe that “Russia has little interest in market forces in the energy sector. In this view, Russia wishes to preserve energy prices at a high level in order to maximize profits.”¹² Although, Russia’s would argue that all of the former Soviet states, have been heavily subsidized and have been paying well under market price for gas and oil. Others would also argue that Russia has been helping safeguard these newly independent states for the last two decades and it is about time that subsidies end. President Putin simply says, “We must not subsidize the economies of other countries in large amounts, comparable with their budgets. No one else does that.”¹³ In time, it is expected that the Russians will push for market prices in all of their former states, as Belarus and Ukraine have recently discovered. Despite the feelings in Europe as well as in the rest of the world, Russia’s actions are quite logical. Most likely the Russian’s are using energy to help dictate foreign policy to get these countries to pay higher rates, even though it is still well under market price. However, Russia could probably go about pursue higher rates in a better and much less political manner.

Even though Russia is reaping the benefits of higher gas prices, they are most likely not that familiar with the many aspects of capitalism and the uniqueness of the energy market.

Since energy consumption usually has a low elasticity to prices in the short term and because energy uses are the result of technical choices embedded in industrial processes, the notion of Energy Security is a dynamic and just not static one.¹⁴

This also means that the Russians may not fully understand the impact that energy supply uncertainty has on economic and technical choices. “As adaptation is slow and elasticity is low, price movements are able to induce cost

¹² Paul Gallis, “NATO and Energy Security,” (CRS Report for Congress,” Order Code RS22409, March 21, 2006), 3.

¹³ Neil Buckley, “Putin considers creation of ‘gas Opec’ but denies plans for cartel,” *Financial Times*, February 2, 2007, 4.

¹⁴ Jacques Sapir, “Energy Security in Russia: The case for Energy Efficiency” (Unpublished manuscript, EHESS-Paris), 2.

push inflation phenomena and can lead to severe wealth crunch.”¹⁵ In other words, if the Russians do not plan wisely and according to market forces, they may be severely crippled if the price of oil or natural gas were to suddenly dive. This very situation happened to the Soviets in the 1980s and the Russians around 1998.

Since the price of energy can never be guaranteed from one day to the next, the only real planning that either the Russian’s or the Europeans can do is work toward guaranteeing supplies. In a utopian world, the Russians and Europeans would work on a rational policy of energy security to

try and make users more sensitive to changes in supply and prices. At the present, most consumers buy electricity at a fixed tariff, which means that if there is a shortage then the lights go off. But if prices responded quickly to wholesale markets, people would be more likely to run off the light, making the whole system better able to compete.¹⁶

Since “European governments view energy security issues primarily in an economic and political context,”¹⁷ the policy side of the debate cannot be overlooked and will be addressed in the following chapters.

E. ECONOMIC THEORY AND THE ROAD AHEAD

The views expressed in this thesis will be largely economic in nature and will focus on: (a) the various energy cost options facing the European countries, (b) the risks associated with alternative energy sources, (c) and the political risk these countries face in dealing with Russia. This thesis will continue by focusing on two case studies specifically looking at how energy security in two different countries might be applied to energy security for the rest of Europe. The first

¹⁵ Sapir, 2.

¹⁶ “Energy giants do not mean energy security Europe has better ways to ensure gas and electricity supplies,” *Financial Times*, January 13, 2007, 8.

¹⁷ Gallis, 2.

case study involves Germany. Germany currently receives 70 percent of its energy imports from Russia and is by far the largest consumer of Russian energy in Europe. The second case study involves Poland. Poland only imports about 30 percent of its energy from Russia, far less than some other countries but, as a country recently emerging from communist rule, poses a nice juxtaposition to compare to a long standing country like Germany. Both of these case studies discuss the current situation, perceptions, the current policy debate, as well as identify policy options.

The importance of this study is to illustrate how the European nations approach the increasingly pressing problem of achieving energy security. In order to do so it addresses several critical issues: What factors come into play in formulating a national energy strategy? What time horizon is critical for national energy decisions? What roles are assigned to the private sector in assuring adequate energy supplies? How do the European countries take their competitors actions into account? Subsequently, are their “competing energy trade policies responsible for the energy security dilemma that both Russia and the European Union are facing?”¹⁸ For purposes of this thesis, energy security is defined as:

the ability to have at disposal energy in quantity and quality needed to cover the nation’s economic and social needs, including its international commitments. What then matters is not only the fact that instant supply could be guaranteed, but that constant supply could be forecasted by potential users with a reasonable degree of certainty.¹⁹

Also, there are two principal economic and political components of energy security. First is the “set of all actions that affect the quantity and reliability of indigenous energy supplies. The second includes actions taken affecting

¹⁸ *OxResearch*, “Russia/US/EU.”

¹⁹ Sapir, 2.

external energy supplies.”²⁰ The two very closely linked together. It is, therefore, the connection between having needed energy in the short term and having an assured energy supply over the long term that binds Europe to Russia.

Energy supplies and prices are also major economic factors throughout the world. Energy markets are usually very unpredictable and at time extremely volatile. The ability to track changes in energy is also equally complicated due to variations in the energy markets themselves.

These markets, for the most part, operate independently, although events in one may influence trends in another. For instance, oil price movement can affect the price of natural gas, which then plays a significant role in the price of electricity. As a result, aggregate indicators of total energy production and consumption do not adequately reflect these complexities.²¹

In theory, price increases in one could also transfer to other sectors that use different forms of energy, especially if the demand for the cheaper form becomes greater than anticipated supply. Even though one form of energy is not easily substitutable for another there can be overlap effects into the other sectors. Since the indicators of total energy production and consumption are difficult to determine, discussions will be limited to the four main energy sectors.

Primarily oil, particularly gasoline for transportation, and electricity generation and consumption. Natural gas is also an important energy source, for home heating as well as in industry and electricity generation. The last two are coal, which is used almost entirely for electricity generation, and nuclear, which is completely used for electricity generation.²²

As can be seen in Figure 1 below, wood and biomass were historically the predominant forms of energy, but coal overtook wood and biomass toward the beginning of the 20th century. However, the last few decades of the last century

²⁰ David A. Deese, “Energy: Economics, Politics, and Security,” *International Security*, Vol. 4, No. 3 (Winter, 1979-1980), 140.

²¹ Carol Glover and Carl E. Behrens, “Energy: Selected Facts and Numbers,” (*CRS Report for Congress*, July 24, 2007), 1.

²² *Ibid.*

saw significant rises in the use of other fuels. Petroleum quickly started becoming the largest source of the world's energy after the Second World War. It rose from about 38 percent in 1950 to a high of approximately 45 percent in the mid-1970s and it has settled to about 40 percent of the world's energy, which it is expected to hold to the latter half of this century. At first, natural gas followed a similar pattern to oil but, unlike oil, natural gas is expected to continue to grow at a moderate rate. Currently natural gas makes up roughly 25 percent of the world's energy and it is expected to overtake oil as the predominate energy sometime within the next 20 to 30 years and reach a high of approximately 30 percent sometime in the last couple of decades of this century.

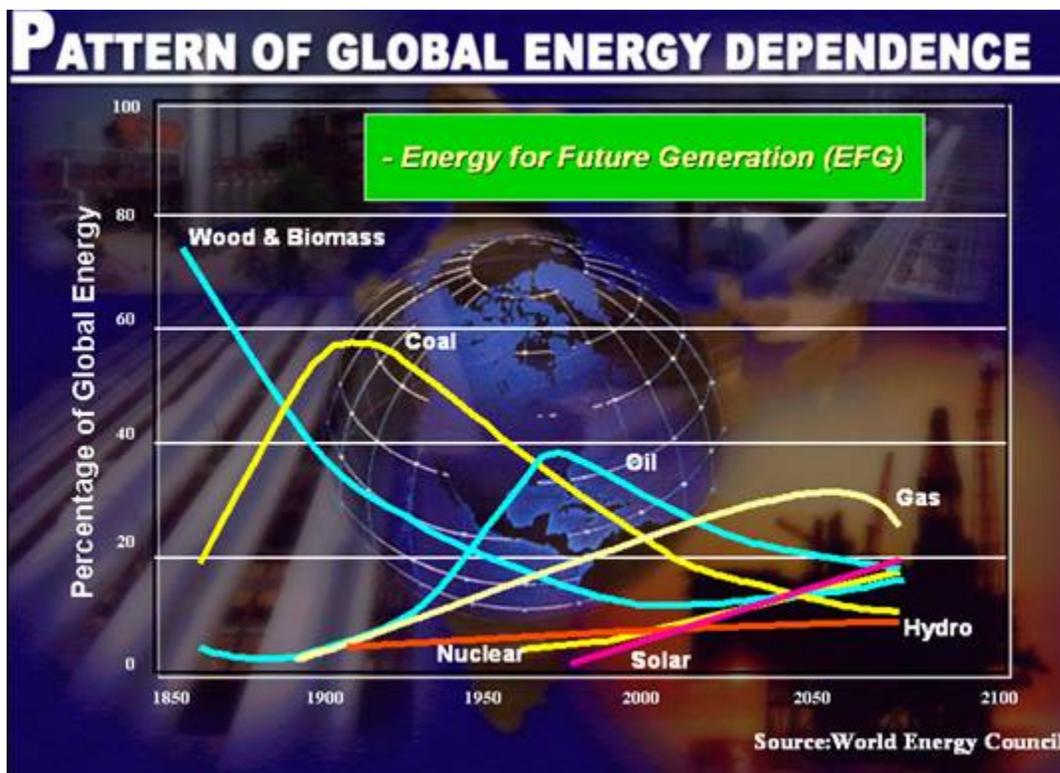


Figure 1. The Future of Energy²³

²³ World Energy Council, Google Energy Security Images, <http://images.google.com/images?svnum=10&um=1&hl=en&q=energy+security> (accessed November 9, 2007).

As for nuclear, hydroelectric, and solar energy each has its own history, but every one of these energy sources is expected to provide between 10 and 20 percent of the world's energy by the year 2075, to include the previously mentioned coal industry. Despite the fact that there are vast quantities of coal available, concerns for the environment have limited its use. Nuclear power has greatly increased since its inception and it could end up providing more than the expected 20 percent of the world's power; however, increases in capital costs to build new plants as well as public opposition to the potential dangers will probably limit its future potential as well. As per Figure 1, solar and hydroelectric power are also seen but neither will be focused upon since in most every situation they are primarily used for internal domestic consumption. Even though they are part of the energy equation and can generate energy, which can be sold on secondary markets, their impact on the overall world market is still relatively small.

Another aspect of energy security is that once a party secures a supply of a particular form of energy (oil, natural gas, etc), it naturally follows that they become dependent on that form of energy because each requires a different infrastructure. One of Russia's greatest assets is that it can produce and supply energy in all its various forms but ironically that doesn't allow for the flexibility one might assume. Actually if there are many potential energy sources, "there can't be complete or fast substitution. If nuclear power can be used for electric power generation, this is not a solution for car and truck engines."²⁴ This issue is not one sided; countries that import energy need to be secure in the fact that the energy will be available when they need it. In turn, countries that produce energy need to be secure in that once energy has been produced there will be a stable market for its export. A lack of either could significantly weaken the credibility of the defaulting party or hurt future relations between the two. This may ultimately lead to a decline in the economic well being of the country. Potential users would then be forced to try and to achieve substitution of "less uncertain energy

²⁴ Sapir, 2.

sources to more uncertain ones, even if these sources are economically inefficient or even destructive on the natural environment.”²⁵ Daniel Yergin, the president of Cambridge Energy Research Associates and a specialist on energy and international politics, strategy, and economics describes the situation quite well.

The world has changed much since the concept of energy security emerged in the 1970s. But agreeing on its importance is not the same as agreeing on what it means. Consuming countries declare that they want ‘security of supply’ – that is, reliability and availability of energy at reasonable prices. Exporting countries, whether Russia or the Middle East, turn it around and talk about ‘security of demand’ – sufficient access to markets and consumers to justify future investment (and protect their national revenues).²⁶

This is why energy companies around the world are constantly speculating and investing in potential new sources of energy. It must also be understood that without new sources of energy no one party will be able to adequately meet the needs of current projected growth. While it may seem to be a marriage of convenience, “the overall EU-Russian energy relationship can be best explained through a framework of mutual interest and dependency.”²⁷ In other words, Russia has become just as dependent on Europe to sell its energy, as Europe is to buy it. Economically, they are bound together.

In short, Russia’s current energy policies are influencing European decision-making concerning energy security. Energy, or lack thereof, is of such importance that it reaches into all aspects of society to include financial, political, and sociological.

Energy statecraft involves access to a resource, property rights, pipelines, investment capital, prices and tariffs that are extended to

²⁵ Sapir, 2.

²⁶ Daniel Yergin, “What Does Energy Security Really Mean,” *Wall Street Journal*, July 11, 2006, A12.

²⁷ Deborah Johnson, “EU-Russian Energy Links: A Marriage of Convenience?” *Government and Opposition*, 256, Vol 40, Iss. 2 (March 2005), <http://proquest.umi.com.libproxy.mps.navy.mil/> (accessed January 23, 2007).

deter, contain, or coerce a target. These tools contrast with the value of military and diplomatic techniques that are generally stipulated in terms of violence, symbols, or negotiation.²⁸

This suggests that energy security is currently, and will continue to be, a primary factor in relationships between Europe, Russia and the rest of the world. The vast resources that currently lie untapped in Russia is incredible and if harvested correctly could help to provide stability in a world that is starving for energy. Yet, Russia's current actions seem to indicate that it is not willing to permit market forces to dictate what it can supply or even when and to whom it will supply energy. However, Russia's antagonism is not new, and it needs to be careful in how it treats its customers. Just because Russia has significant supplies of energy it does not mean it can dictate terms to others.

Even though a hegemon may possess the world's largest consumer market or be the world's largest supplier of a particular set of goods, offering or denying access to these goods may have little effect on the behavior of foreign actors if alternate markets or suppliers can be found, and if the cost of shifting to the alternate source is lower than the costs of the sanctions.²⁹

As will be discussed later, Poland is a firm believer of this concept. Unfortunately, Russia is unable to fully see how this is relevant and only sees itself as a premier energy supplier and therefore worthy of respect. It is simply just a factor of how Russia perceives the energy market and its place in the world. The forthcoming review of Russia will shed some light into this mindset.

²⁸ Stulberg, 17.

²⁹ Ibid., 19.

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II. RUSSIA

A. INTRODUCTION

Russia is “fabulously rich in resources, brimming with natural gas, oil, and vast quantities of timber, coal, and precious metals,”³⁰ which makes the country’s energy background quite a bit different than Europe’s.

Russia has a unique position on the Eurasian landmass and is the only country able to produce energy in all its different forms, from hydrocarbon-based fossil fuels to nuclear generated electric power. There is no doubt that Russia is to be a major partner for most European countries.³¹

Russia has also shaken off its most recent recession of the late 1990s. In 2006, Russia’s real gross domestic product was approximately \$1.7 trillion (all sums are in U.S. dollars). Internally, Russia is completely energy self-sufficient. It gets roughly half of its energy from natural gas, oil accounts for just under 20 percent, with the remainder of its energy needs (approximately 30 percent) coming from coal and nuclear power. Russia’s economic growth since the end of its recession in 2000 can be attributed primarily by energy exports, “given the increase in Russian oil production and relatively high world oil prices during the period.”³² In turn this means that Russia’s economy is extremely dependent on oil and gas exports and is vulnerable to fluctuations in world energy prices or disruptions in demand. Although estimates are varied, IMF and World Bank sources calculate that oil and gas account for roughly “20 percent of the country’s GDP, generated more than 60 percent of its export revenues, and accounted for 30 percent of all

³⁰ David E. Hoffman, *The Oligarchs: Wealth and Power in the New Russia* (Public Affairs, New York, 2002), 21.

³¹ Sapir, 1.

³² Energy Information Administration, “Russia: Country Analysis Briefs,” 1, <http://www.eia.doe.gov/cabs/Russia/Full.html> (accessed September 28, 2007).

FDI in the country.”³³ Even though 30 percent of the FDI can attributed to energy exports further progression of private enterprises, as previously mentioned, have been met with serious roadblocks by the state. State owned export companies have continued to grow and have slowly been buying out or forcing out previously owned and led foreign projects. Despite politics, which will be discussed later, it is best to start with an analysis of what Russia currently has with respects to its various energy sectors.

B. ENERGY SITUTATION BY SECTOR

Over the past several years Russia has developed into one of the world’s greatest energy powerhouses. Russia currently has the eighth largest oil reserves in the world. It is the largest non-OPEC producer of oil, ranking second behind Saudi Arabia in total production. It makes up 12 percent of the global production and export of oil and according to the Oil and Gas Journal, “Russia has proven oil reserves of 60 billion barrels, most of which are located in Western Siberia, between the Ural Mountains and the Central Siberian Plateau.”³⁴ As of 2006, Russia had an oil production capability of almost 9.2 million bb/d, down from 12.5 million bb/d during the Soviet era, which leaves room for future growth. “Russian oil production is expected to grow at an annual rate of around 1.5-2.5 percent.”³⁵ However, not all is well with the oil sector. There has traditionally been little investment in field maintenance of equipment, the majority of the oil only comes from a few fields which has already yielded 80 percent of their recoverable resources, and the poor state of its refineries could result in declines in oil versus ever increasing expectations. A couple of new fields have been brought on line over the past few years, but without western expertise in searching for new finds or allowing FDI to help offset the price of exploration and

³³ Energy Information Administration, “Russia,” 1.

³⁴ Ibid., 2.

³⁵ Ibid.

establishing these new fields, it won't be enough by 2020. Additionally, Russia's refinery capability is not as secure as they should be. In 2006 Russian refineries produced 4.4 million bb/d which is below their capacity of 5.4 million bb/d, due to inefficiencies and the fact that the refineries are very old and in need of major modernization. Nevertheless, Russia produced roughly 9.8 million bb/d of liquids while only consuming 2.8 million bb/d leaving around 7 million bb/d for exportation. Figure 2 provides an excellent snapshot of the oil situation as well as natural gas.



Figure 2. Russia's Historical and Potential Oil and Gas Fields³⁶

Russia's second energy sector under discussion is natural gas. Just like oil, Russia is rich in natural gas and actually controls the world's largest proven

³⁶ Energy Information Administration, http://www.eia.doe.gov/emeu/cabs/Russia/images/fsu_energymap.pdf (accessed November 9, 2007).

gas reserves at 32 percent, which equates to nearly twice the reserves of the next largest country (Iran) at 1,680 trillion cubic feet (Tcf).

Russia is the world's largest exporter of natural gas, the dominant gas supplier to Europe and the neighboring former Soviet states, and a major provider of oil. Some countries are entirely or largely dependent upon Russian natural gas. Of Russia's total natural gas exports of 7.1 Tcf in 2004, 6.7 Tcf went to European countries, including destinations in Eastern Europe.³⁷

Initial analysis of Russian natural gas would indicate that Russia has leverage over the rest of the world, however that is not the case. Politically, Gazprom is a burden, which will be discussed later. Nevertheless, Gazprom produces 90 percent of Russia's natural gas and operates the country's natural gas pipeline network, but the industry is in decline due to "aging fields, state regulation, Gazprom's monopolistic control over the industry, and insufficient export pipelines."³⁸ According to an International Energy Agency (IEA) report, "Gazprom's three largest fields are declining at an average rate of 700 Bcf per year, necessitating around 6,100 Bcf per year of new production by 2015,"³⁹ just to simply maintain current production levels. Of all the natural resources, natural gas could be Russia's greatest asset, however it also the most likely to be used by the Kremlin as a political tool. Large quantities of gas are used domestically but sold at an extremely under priced (roughly 15-20 percent of market price) rate and it has to rely on shipping much of its gas through various countries that are not necessarily the best business partners. These factors will also be discussed later, as the focus shifts to coal.

In addition to owning some of the largest oil and gas reserves, Russia also possesses the world's second largest coal reserves at approximately 173 billion short tons. Traditionally coal has not been a significant export, but coal production has seen a marked increase over the past several years. "Russian

³⁷ Gelb, 1.

³⁸ Energy Information Administration, "Russia," 8.

³⁹ Ibid., 9.

energy ministry sources estimate that 2005 coal production was 269.6 million short tons,⁴⁰ with estimates that Russia could produce between 441 and 496 million short tons by 2020. Additional income could result if exports to the former Commonwealth of Independent States (CIS) continue to increase, but this is not expected due to Russia's recent agreement to follow the Kyoto Protocol. However, if Russia could develop and use cleaner forms of coal, similar to the United States, there is no telling where this industry could end up in the future.

The final energy sector that factors into the total energy equation in Russia is nuclear power. With the Kyoto Protocols reducing the amount of coal consumed the need for more and more electricity increasing every year, Russia has had to turn to consuming greater amount of natural gas to make up the difference. However, this also reduces Russia's ability to provide ample supplies to its customers. This has resulted in Russia investing in and relying more and more upon nuclear energy with plans to expand the role of nuclear power in the future. "Russia has an installed nuclear capacity of 21.2 million kilowatts, distributed across 31 operational nuclear reactors at 10 locations."⁴¹ However, Russia's nuclear power facilities are seriously aging, fifteen of the plants are at least 22 years old with nine of the plants between 28 and 30 years old. This may not seem old but the operational life of a reactor is considered to be 30 years. If proper efforts are taken the lifespan can be extended past 30 years. Estimates in upgrading and decommissioning those that can't be upgraded are placed between \$5 and \$10 billion per year over the next ten years. Even though the Russians can afford the \$50 to \$100 billion, based on the revenue earned from oil and gas exports, it decided not to do so. The main reasons were that nuclear fuel costs were rising above other fuels like natural gas and many of the plants were poorly designed along the lines of the ill fated Chernobyl plant and it would be better to simply close them. On July 15, 2006, Russia approved a "\$55 billion nuclear energy program that calls for the completion of ten new 1,000 megawatt

⁴⁰ Energy Information Administration, "Russia," 12.

⁴¹ Ibid., 13.

reactors, with an additional ten under construction, by 2015.”⁴² The new reactors will generate much larger quantities of energy but until they all come on line and the inefficient ones are closed, oil and gas that could be exported will continue to be consumed domestically. The weaning off of domestic oil and gas in order to export more is a concept Russia is more than aware of when it comes to its overall perception of its energy situation.

C. RUSSIA’S ENERGY PERCEPTION

Russia has quickly become one of the most critical suppliers of energy to Europe, but this is not necessarily a good thing. Russia has become dependent upon Europe’s need for energy as a means to provide a majority of its annual income. At the same time Europe has become dependent upon Russian energy to sustain its variety of rapidly growing economies which need greater and greater amounts of energy to keep them running. When looking at energy security from Russia’s viewpoint there are several strategic considerations.

The state already holds controlling stakes in the country’s largest hydrocarbons companies, and this consolidation trend is likely to continue. The pipeline networks also remain overwhelmingly in government hands. The ostensible rationale behind the current nationalization drive is to ensure that Russian people, and not oil companies or end consumers, reap the benefits from the exploitation of Russia’s natural wealth.⁴³

When looking at energy security politically, the Kremlin does not admit to “using energy supplies as a political weapon, although it certainly regards energy power as instrumental to achieving political goals unrelated to energy.”⁴⁴ This means that most of the Energy produced in, and exported from Russia is controlled by the state and in turn has become the “biggest stick” behind its foreign policies. A

⁴² Energy Information Administration, “Russia,” 13.

⁴³ *OxResearch*, “Russia/US/EU.”

⁴⁴ *Ibid.*

assertion recently proven when Gazprom warned that it would cut gas supplies to Ukraine over \$1.3 billion in debt that it says are owed to it by Naftogaz Ikrainy, Ukraine's state gas distributor. The political ramifications of which will be discussed in the next section. Needless to say, the Russian government has the power to restrict both the export of their oil and gas as well as its production, but this is not the most disconcerting issue.

Of even greater concern, is that Russia, in general, does not look favorably upon direct foreign investment into its oil and gas industry.

Russia demands non-discriminatory access for state gas giant Gazprom to lucrative downstream assets in Europe. Russian officials view the obstacles encountered by Gazprom and its affiliates as unfair business practices. They believe that West European governments and rival European gas companies are behind attempts to block Gazprom's expansion.⁴⁵

Besides, Russian's are generally leery of internally investing what little they have due, not only to the lack of faith in their own government, but also to past experiences during the early nineteen nineties when many people lost their investments to less than reputable oligarchs.

A closely associated obstacle and probably Russia's largest is that the country's energy infrastructure is serious need of modernization. The current network of pipes, both oil and liquefied natural gas are rapidly decaying. Also, the pipes that Russia does have are no longer sufficient nor have the capacity to transport the required demand. Basically, Russia's entire domestic market is in definite need of redevelopment to not only cover the direction pipelines are currently oriented, but new ones need to be built north to south for domestic needs.

About 80 percent of the entire Russian pipeline system, parts of which dates backs to the 1950s, was oriented toward export, rather than domestic consumption. Lack of pipeline capacity, and resulting local dependence on tanker trucks and rail, increases the

⁴⁵ *OxResearch*, "Russia/US/EU."

threat of hijackings and sabotage, dries up transportation costs and raises the likelihood of illegal ‘cut-ins’ and siphoning.⁴⁶



Figure 3. Russian Pipeline Orientation⁴⁷

Figure 3, provides an excellent picture of the general east west orientation of Russian pipelines. Oil and gas are not the only industries in need of

⁴⁶ Yuri M. Zhukov, "Eurasia Insight: Addressing Pipeline Security Challenges in Russia," *Eurasianet.org*, December 7, 2006, www.erasianet.org/departments/insight/articles/eav120706a_pr.shtml (accessed 12 March 2007).

⁴⁷ Google Russian Pipeline Images, <http://www.eoearth.org/upload/thumb/f/fe/Ruspipes1.gif/300px-Ruspipes1.gif> (accessed November 9, 2007).

modernization. The recent coalmine catastrophe merely highlights the history of the hazardous state of "Russia's mining industry, which fell into disrepair when government subsidies dried up after the Soviet collapse."⁴⁸ Many blame union officials and unrealistic quotas, but it comes back to lack of capital. President Putin refuses to allocate funds to "modernize the economy and infrastructure. Instead he keeps the money in foreign banks as a strong guarantee against economic or political losses."⁴⁹ As time progresses, this attitude will only push Russia further behind the developed nations and make them uncompetitive in international markets; an affliction called "Dutch disease" as a situation that results when a

country's excessive dependence on the export of raw materials can have serious economic consequences as a country becomes increasingly dependent on that raw material sector. Even more dangerous is the leader's loss of a sober assessment of reality.⁵⁰

While Russia is not beyond recovery, Putin's aggressiveness has increased over the past two years and his actions are quite reflective of a country that has been afflicted with this syndrome.

Another factor that does not help is that Russia is one of the most inefficient users of energy in the world.

At a time when Russia aims to increase its oil and gas production for domestic and foreign markets, the country's pipeline networks are incapable of meeting producers' ambitions. Up to 60 percent of the Russian pipeline network is in need of modernization. For its export market, Russia produces almost 7 million barrels per day of oil and refined products, of which only about 4 million bbl/d can be

⁴⁸ Reuters, "Russian coal mine blast toll rises to 105," March 20, 2007, <http://www.msnbc.msn.com/id/17687093/> (accessed March 22, 2007).

⁴⁹ Vladimir Shlapentokh, "Intoxicated by high oil prices: Political Dutch disease afflicting the Kremlin," *Oil & Gas Journal*, 104, 41 (November 6, 2006), 19.

⁵⁰ *Ibid.*, 19.

transported by major trunk pipelines. For the remainder, Russia depends on more vulnerable and expensive rail and maritime transportation routes.⁵¹

Russia's inherent inefficiency translates into higher production costs that will be passed on to consumers in the form of higher prices and, as previously mentioned, will result in those consumers turning to other sources. "If internal consumption is progressively 'eating' the export margin, there is no Energy Security for customer countries."⁵² This is another important Energy Security dimension and one that is particularly relevant for not only Russia, but for its European partners. When compared to Europe and the United States, Russia is significantly under levels of primary energy consumption per capita unit. However, when energy consumption is compared to purchasing power parity, as well as energy efficiency, Russia is two and a half to three higher than its counterparts (higher is not better). If Russia could become more efficient like their western counterparts large reserves of energy would be saved to meet their international commitments. One final minor background point is that Europe is not Russia's only customer. The government's efforts to "diversify supply routes for Russian hydrocarbons are designed to encourage competition among Russia's Asian and Western customers."⁵³ However, the pipelines are not geared to divert supply from west to east or vice versa. The needs of both partners are currently different, so the future competition that the Russians say they are expecting only appears to be veiled threats to keep the Europeans in line.

Regardless of the situation, the one thing that energy distributors have to adhere to over the long term is the demands of market forces.

Free markets are usually very good at delivering commodities. But in the case of energy there are some problems. First the raw materials are often in places that are hostile, remote, or both;

⁵¹ Zhukov.

⁵² Sapir, 1.

⁵³ *OxResearch*, "Russia/US/EU."

Europe increasingly relies on gas from Russia. Second, energy is so essential that an interruption to supply could bring the economy grinding to a halt. Third, the high cost of energy grids and pipelines means that suppliers are often natural monopolies.⁵⁴

European countries are focused on the economic value of energy security while Russia, on the other hand, is looking at the entire continent as potential buyers. Russia is not only focused on their current customers in central and Eastern Europe, but also on more distant customers like France and Spain.

| OIL | | | | | | |
|------------------------------|---------------------|--|---|--|--|--------------------------------------|
| Name | Length (miles) | Current Capacity (million bbl/d) | Expected Capacity (million bbl/d) | Location | Completion Date | Notes |
| Adria Reversal Project | 470 | 0.1 | 0.3 | Central Europe (Hungary, Slovakia) to Croatian Adriatic Port of Omisalj | Unknown - but once approval given--> immediate | Environmental hold-up in Croatia |
| Druzhba Expansion | 2,500 | 1.2-1.4 | same | Russia to Europe via Belarus, Ukraine, Slovakia, Czech Republic | none | Expansion proposed into Germany |
| Baltic Pipeline System (BPS) | 1,600 | 1 | 1.24 | Exports via Baltic Sea port of Primorsk | 2005 | |
| Murmansk | various | n/a | 3 | Baltic Sea (NE of Primorsk) | none | Project for pipeline and terminal |
| Taishet-Nakhodka | 2,480 | n/a | 1 | Linking from existing pipeline near Lake Baikal to Russian Pacific Coast | 2008 | Transneft planning spur to China |
| NATURAL GAS | | | | | | |
| Name | Length (miles) | Current Capacity (Billion cubic feet/yr) | Expected Capacity (Billion cubic feet/yr) | Location | Completion Date | Notes |
| Yamal-Europe II | n/a | 1,060 | n/a | Second branch from Russia via Belarus and Poland via Europe | n/a | Route undetermined |
| Blue Stream | 750 | 565 | same | Izobilnoye to Dzhugba (RU), under Black Sea, Samsun to Ankara (Turkey) | finished | ENI-Gazprom proposing expansions |
| North Trans-Gas Pipeline | 1300 (737 offshore) | 0 | 700-1000 | Russia to Finland, UK via Baltic Sea, with connections to Sweden and Germany | 2010 | Also called N. European Gas Pipeline |

Table 1. Major Russian Oil and Natural Gas Pipeline Projects⁵⁵

⁵⁴ *Financial Times*, "Energy giants."

⁵⁵ "Major Russia Oil and Natural Gas Pipeline Projects" <http://www.exorthodoxforchrist.com/resources14.htm> (accessed October 10, 2007).

One important factor the Europeans tend to forget is that Russia is concurrently focused on expanding its energy distribution into other parts of the world. Many of Russia's actions might seem to be taken at the expense of the Europeans, but Russia also has customers to its east and south that have to be taken into account. As can be seen by Table 1 above, Russia currently has eight expensive oil and natural gas projects at various points in their construction. Finally, the "confusion between energy dependence and the issue of energy security has clouded approaches to the question of the economic risk in the European market."⁵⁶ Fortunately, trading between Europe and Russia is determined by market principles. Stable long-term contracts based on commitments by credible entities keeps the market thriving.

D. THE POLICY DEBATE

When looking at how to best correct the collective problem between Russia and the rest of Europe with regards energy security, consistent demand, and reliable supply the current policy debate is relatively simple. Each of the three aforementioned approaches could apply to the situation, but Russia's past actions clearly show that it is interested in only one. President Putin has drastically consolidated national interests in the hope to vastly improve Russia's competitiveness across international markets. Additionally, Russia's energy strategy calls for

Reorienting the energy lobby's push from capturing specific markets to upgrading Russia's stature in various markets around the globe. Emphasis was placed on tapping the country's vast resource potential and export infrastructure to preserve Russia's exclusive role as the largest provider of energy raw materials in the international community. The focal point of strategic energy policy was to steer market mechanisms to uphold the country's role as *primes inter pares* (first among equals) in the Eurasian gas

⁵⁶ Finon and Locatelli, 29.

equation, and to exploit this dominance as a springboard for achieving competitive advantages in global markets.⁵⁷

Therefore, the EU centric approach has absolutely no redeeming value for Russia in the immediate future. There is absolutely no reason that Russia would be prefer a united Europe in which the customer has a more advantageous negotiating position than the supplier. Fortunately for Russia, the Europeans cannot come to agreement on a common energy policy leaving it as a non-relevant and un-viable solution for Europe. Another reason Russia would not seek to pursue this approach is that anything that could unite Europe in reducing its dependence on Russian energy would greatly destabilize Russia in the long run. In turn, this would result in a less secure Russia, in which nobody is interested. On the other hand, even if the EU could establish a common policy, Russia would never actively seek this approach because it would limit its control over the market and reduce the international influence it has desperately been seeking to regain, and has actually gained, over the past several years.

Another approach that the Russia's will never actively seek to pursue is the one sponsored by the United States. The objective is to simply come up with a way to establish alternate routing systems. The plan is for developing redundancy in the system to prevent legitimate physical breakdowns or other political issues that might lead to Russia cutting off supply. The plan is supposed to try to prevent Russia from using energy as a political weapon. Unfortunately, this approach is often associated with that which NATO favors, because Russia only views NATO as U.S. expansionism. NATO advisers have warned the military alliance that it "needs to guard against any attempt by Russia to set up an 'OPEC for gas' that would strengthen Moscow's leverage over Europe."⁵⁸ As previously mentioned Russia is leery of any further military expansion by NATO and they have a right to be.

⁵⁷ Stulberg, 98.

⁵⁸ Neil Buckley, Daniel Dombey, and Carola Hoyos, "NATO fears Russian plans for 'gas OPEC,' Energy tensions deepen between Kremlin and EU," *Financial Times*, November 14, 2006, 1, <http://proquest.umi.com.libproxy.mps.navy.mil/> (accessed 23 January 2007).

NATO governments have already been involved in military efforts to secure energy resources. In the 1980s, *Operation Earnest Will*, was an effort explicitly designed to secure the supply of oil. Specifically the operation was designed to protect tanker traffic in the Gulf during the Iran-Iraq War (1980-1988).⁵⁹

If that was the only intrusion by NATO then the concern would not be as great, but as recent as February 2006,

NATO governments discussed a range of potential actions in the event of future disruption of oil supplies caused by military actions. NATO is attempting to become a global security organization, but concentrating on protecting the interest of the United States and its European partners.⁶⁰

Thus proving that the last thing Russia desires is for NATO to get involved in energy supply and distribution, even though they would be ideal to help provide security of potentially vulnerable pipelines. “Only a madman could think that Russia would start to blackmail Europe using gas, because we depend to the same extent on European customers.”⁶¹ At the moment Russia does not have to fear NATO because the organization is still struggling to actually define energy security due to the diversity of all the various countries national interests. This is a situation quite similar to the EU’s common energy policy and one that does not appear to be resolved quickly. However NATO will eventually settle on a policy and the Russian’s would be remiss if they did not take advantage of anything the organization is pushing for. “It has called on individual member states such as Poland and Finland to explore bilaterally with Russia ways to strengthen protection of pipelines that carry crucial gas supplies to Western Europe.”⁶² If Russia waits they may not like the results of a unified NATO policy which would

⁵⁹ Gallis, 5.

⁶⁰ Ibid., 5.

⁶¹ Buckley, Dombey, and Hoyos, 1.

⁶² Brooks Tigner, “Allies Struggle to Define Energy Security,” *Defense News*, March 5, 2007, 38.

most likely favor U.S. companies while at the same time touch on the foreign investment taboo that Russia is extremely resistant towards.

This only leaves the go it alone approach for Russia to pursue. This approach might appear hostile at first, but it is the one most highly favored by Russians in general. This approach actually gives Russia much more leeway in how it interacts with its various customers and it permits Russia to freely seek agreements that maximizes its greatest interests. While many economists would argue that this is not a problem and simply market forces working at their best, the Europeans need to be cautious. Without the protection of an EU-wide common energy policy, Russia will be able to sway individual members of the EU into less than desirable one-on-one contracts because European nations are not negotiating from a position of strength. Additionally, the revenue from only one country is nothing compared to the revenue Russia receives from Europe as a whole. Russia can sustain the loss of partial revenue, however few countries can survive on less than half of the energy it is accustomed to consuming and will give in to Russia before Russia ever notices or feels any discomfort from the loss of a few dollars. Then there is the recent situation between Russia and the Ukraine, where a nation with a large outstanding debt to Russia is being manipulated in various ways similar to conventional “mob” tactics to repay that debt.

During the first week of October 2007, Russia warned the Ukraine that it could cut gas supplies concerning a dispute over the \$1.3 billion in debt it owes for past gas shipments. Gazprom likes to “present itself as a purely commercial company. But the Russian state-controlled gas group gave a spectacular demonstration of its political clout.”⁶³ The decision to potentially cut off gas supplies actually came

just as the counting of election votes seemed to indicate that the next Ukrainian government would be a pro-western coalition, to

⁶³ Roman Olearchyk and Catherine Belton, “Gazprom puts on display of political muscle,” *Financial Times*, October 3, 2007, 2.

replace the outgoing Russia-friendly regime. If Gazprom wanted to be seen to be totally even-handed, it should have announced that Ukraine owed it more than \$1 billion in unpaid gas bills at the same time it accused neighboring Belarus of owing \$456 million at the end of the July.⁶⁴

Russia would argue that Belarus is different from Ukraine, in that the decision to cut off supplies to Belarus was due to Belarus unpredictable behavior of siphoning off gas. Russia tends to forget that this was simply an act of desperation following the unexpected decision by Russia to double the price of gas it charged Belarus. Nevertheless, when returning back to the issue with Ukraine, Gazprom continues to say it is only driven by commercial motives and any other country in their position would want to collect a running debt of \$1.3 billion. Perhaps there is more to the issue than just money. The first question is why would a company allow such a large debt to be accumulated in the first place? Many nations run on deficits, but there are few companies that can afford to do so, unless it was in their best interests. For years Gazprom has been trying to reduce its dependence on transit countries (Belarus and Ukraine) for its gas shipments. Many in the oil sector would also like to do the same, but they are not as large as Gazprom nor do they have the potential political opportunity to do so. The behavior reminds, the already quoted Financial Times columnist Quentin Peel of

the detested “gombeen man” in colonial Ireland, a sort of rural loan shark who allowed his customers to run up big debts at usurious interest rates, which could be paid off only by selling him their land. Gazprom has succeeded in taking 50 percent ownership of the pipeline through Belarus, but has so far failed in Ukraine.⁶⁵

Perhaps this is the answer to the question, but even if it is not the situation needs to be monitored closely. Gazprom never starts or does anything without overwhelming approval from Moscow while constantly insisting that no matter

⁶⁴ Quentin Peel, “Russia’s politics are wedded to its business,” *Financial Times*, October 4, 2007, 2.

⁶⁵ *Ibid.*, 2.

what actions are taken; Europe will continue to get all their gas in the full amount. As for now it looks as if the situation has temporarily been resolved. The Ukraine, on October 9, 2007, signed an agreement with Russia to pay \$900 million in cash as well as transfer back \$1.2 billion worth in gas back to Gazprom. The problem with this deal is that it will probably only temporally alleviate future supply cut offs. Russia can only see the benefits of continuing its strong-arm energy politics. Observers warned that it “significantly boosted Gazprom’s leverage in future talks with Ukraine, whose pipeline system serves as the key artery for Russian supplies to Europe.”⁶⁶

Speaking of Russian involvement with pipelines, another excellent example of Russia’s mentality, especially with regards to using energy politically, is the Baltic pipeline. Even though this pipeline is not yet complete it will cost Germany billions of dollar. Could this place Germany in a similar position to Belarus and the Ukraine? Perhaps, but this very issue will be covered in much greater detail in the German case study. In the meantime, variations of these three basic ideas can be observed in almost every possible solution, but one feature needs to be clear.

There should be no illusions about Russian potential: Saudi Arabia will continue to be the dominant player in the global market. Russia lacks both the surge capacity and the export infrastructure to battle Saudi Arabia successfully. Yet this should not prevent Russia from becoming a more significant player.⁶⁷

The west’s policy towards Mr. Putin is to “be nice to him. Never mind that the Russian leader has stifled democracy and civil liberties; forget the Kremlin’s use of arbitrary power to seize the country’s assets,”⁶⁸ as well as all of the other

⁶⁶ Roman Olearchuk and Neil Buckley, “Ukraine repays Gazprom debt in cash and gas,” *Financial Times*, October 10, 2007, 4.

⁶⁷ David Quayat, “The Russian Oil Sector and the Global Oil Economy: A Prospectus,” *SAIS Review*, 23.2, 2003, 9, <http://proquest.umi.com.libproxy.mps.navy.mil/> (accessed 24 January 2007).

⁶⁸ Philip Stephens, “The west pays a heavy price for foreign policy realism,” *Financial Times*, London, October 14, 2005, 19, <http://proquest.umi.com.libproxy.mps.navy.mil/> (accessed 23 January 2007).

diplomatic constraints. Perhaps the only reason the United States and Britain continue to be nice to him is Russia's possession of nuclear weapons. There is definitely a double standard when dealing with repressive regimes. Whether or not to intervene or be pragmatic has been a point of contention for quite some time. For example, "The Iraq war has polarized the debate about how western democracies should treat tyrants."⁶⁹ Most western leaders have reverted to the notion that foreign policy is not either/or, however honest realism would argue otherwise. In the meantime, two things remain constant, "Mr. Putin wants to be treated as an equal on the international stage and Russia needs to sell its oil and gas as much as Europe needs to buy it."⁷⁰

A bright spot in the foreign policy world emerged with Germany's new Chancellor Angela Merkel who remains committed to her country's special relationship with Russia. Both the chancellor and Russian President Vladimir Putin agreed to terms in Dresden in early 2006 to develop strategic relations between Russia and the EU by "placing the main emphasis on the implementation of the road maps leading to the establishment of four common spaces of co-operations."⁷¹ This has real significance for Germany too by providing real leadership for the rest of the continent while working on the new Russia-EU Treaty Strategy Partnership. There is also great concern because "if handled badly, Russia's energy diplomacy has the potential to divide the EU just as much as the U.S.-led war against Iraq did three (now four) years ago."⁷²

However, in an ideal world, the Europeans and Russians could co-develop a shared policy on competition in the energy market and security of supply. Such a policy would most likely

support new production from alternative sources: marginal gas fields in Western Europe, gas captured from abandoned coalfields

⁶⁹ Stephens, 19.

⁷⁰ Ibid.

⁷¹ *EIU ViewsWire*.

⁷² Munchau, 17.

and rubbish dumps, and facilities to import gas by tanker from overseas. Policy makers should also promote diversity of supply, using incentives for renewable energy. Such measures will work regardless of whether energy companies own their own pipelines.⁷³

This would be a significant breakthrough since the very lack of ownership of pipelines is one of the main factors that weighed heavily in the gas wars. With this revelation, the discussion has come full circle, however one thing will continue to remain constant and plague Russia until it changes its ways. It simply does not matter “who is right or who is wrong in these disputes. The threat to cut off supplies will once again damage the image of Russia as a player on the world energy markets.”⁷⁴

E. RUSSIA’S ROAD AHEAD

When all is said and done, Russia’s has the option to pursue whatever it wants. There are obvious advantages in continuing along the bilateral approach versus the others. Some of the European nations even prefer bilateral agreements, which is very surprising. There is also some potential for the EU centric approach, but only if it includes Russia. If the EU establishes a policy that is to the detriment of Russia, it has absolutely no chance of success. There is also some merit for the U.S. led approach, but it comes with additional problems, which could be a problem in the long run. The current level of anti-Americanism is extremely high in Europe and the continent in general is fed up with globalization. Perhaps for once, the United States should let Europe solve some of its own problems. The Cold War is over, Europe has been rebuilt for 70 years following the devastation of World War II, and while the U.S. still needs to provide

⁷³ *Financial Times*, “Energy giants.”

⁷⁴ Isabel Gorst, “Russian threat to cut Belarus gas supply in pursuit of \$450 debt: Move could hurt European customers,” *Financial Times*, August 2, 2007, 1.

assurances, it is time for the continent to take the lead. With this in mind, the textbook answer of how the world, specifically how the EU, should deal with Russia is straightforward.

The case for a joint response to Russian oil and gas imperialism is overwhelming. Yet, Germany and others prefer to deal with Russia on a bilateral basis, often undermining the wider EU interest in the process.⁷⁵

Although in my opinion, Russia should seek out multilateral relations with the European Union, as opposed to bilateral relations with individual members. Circumstances that drive Russia toward bilateral agreements are the larger short-term gains. The reason for these gains is that each individual agreement can be tailored to maximize profit and pit other members against each other. In this situation, the supplier has the advantage. When you seek agreements with a group, options become limited and customers gain leverage. However, if Russia continues to seek individual agreements, what prevents countries that negotiated a lower price from selling their surplus to other countries at a rate lower than the Russians? As mentioned before, Individual agreements can destabilize the continent. The completion of the Baltic pipeline could further complicate relations because there may be the potential for disagreement between Germany and Poland, two members of the EU that have previously been united in their negative feelings toward Russia over the past century.

⁷⁵ Munchau, 17.

III. GERMANY

A. INTRODUCTION TO EUROPE

With Russia's position in the energy security debate established it is time to focus on how Europe views the situation. Before jumping into the two European case studies of Germany and Poland, however, it is necessary to first establish what the current position is toward energy security within the European Union as a whole. Without a doubt, energy is probably the most divisive issue facing the European Union today.

Tensions between Poland and Germany have been raised by a Russo-German plan to build a new gas pipeline under the Baltic Sea. But while the Germans are placing their bets on securing long-term supplies from Russia, some other EU countries are scrambling to diversify their sources of supply – alarmed by the prospect that Russia could threaten to turn off the gas, as it did with Ukraine in 2006. Britain has its deal with Norway. The Brits and the Finns are constructing big new nuclear power stations.⁷⁶

To make matters worse, it is estimated that in 25 years time, Gazprom might be one of only three gas suppliers left in the world. Conversely, Europe is almost the complete opposite of Russia in terms of availability of natural resources.

The continent of Europe lacks sufficient energy, as can be seen in Figure 4 below, particularly in the form of oil and natural gas to meet its past and current, much less future, needs and is in a position of great dependence on Russia. "According to European Commission forecasts up to 2030, energy dependence (for all categories of energy) will rise from 52% in 2004 to about 75% in 2030."⁷⁷ Although becoming more energy efficient will aid in becoming less energy dependent, it will not be the salvation of Europe's future. European

⁷⁶ Gideon Rachman, "The world has two energy crises but no real answers," *Financial Times*, July 10, 2007, 11.

⁷⁷ Finon and Locatelli, 5.

countries have massively improved their energy efficiency, however “more efficiency gains will be costly as most wastages have been addressed and energy saving return per 1 Euro of investment is clearly decreasing.”⁷⁸

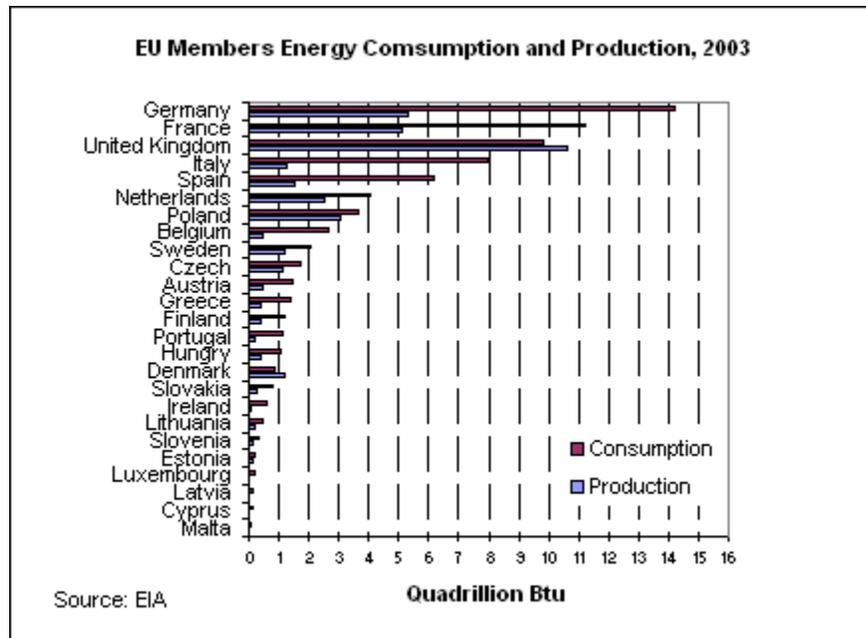


Figure 4. 2003 European Union Energy Consumption v/s Production⁷⁹

An additional problem lies in the fact that the European Union (EU) does not have any direct control over its energy policy. In the short term, The International Energy Agency (IEA) is “responsible for oil supplies through coordination of strategic reserves, but there is no collective approach to the problem for gas.”⁸⁰ Additionally, about “80% of Europe’s energy markets are rigid, while the rest suffer all the price volatility.”⁸¹ What is needed is a common and comprehensive energy policy regarding all forms of energy. Repeated attempts have been made to establish a common policy, but this is quite a difficult task. There are 27

⁷⁸ Sapir, 3.

⁷⁹ Energy Information Administration, “European Union: Country Analysis Briefs,” http://www.eia.doe.gov/emeu/cabs/European_Union/Energy.html (accessed October 5, 2007).

⁸⁰ Finon and Locatelli, 5.

⁸¹ “Special Report: The politics of power – European energy markets,” *The Economist*, 75, Vol. 378, Iss. 8464 (February 11, 2006) (accessed via ProQuest March 19, 2007).

members of the EU from all over the continent with varying cultural backgrounds; there are also several other countries currently applying for membership, which will only complicate the future situation even further.

Further complicating the EU's attempt to establish better energy relations with Russia is that by comparison to Russia, most Europeans view energy security primarily in economic and political terms versus energy simply as a profit-maximizing endeavor. Additionally, even though Russia is willing to cooperate with customers "in the hopes of securing bigger political and economic payoffs, the government was (and is) more inclined to use natural gas as a lever to foil regional diversification."⁸² As for now, the Europeans want Moscow to allow European companies access to Russian reserves, which Moscow adamantly opposes. Hypocritically though, Russia continues to seek and secure access in European markets. As a result, this has created an unhealthy relationship that has granted Russia too much leverage in European energy markets. Consequently, the EU has had to take significant actions to prevent Russia from reducing competition between energy companies, establishing a cartel like atmosphere, and reducing energy security in Europe.

Basically, the Europeans have significant energy needs and limited options available to them.

At one extreme, there is Austria, landlocked and even more vulnerable on energy issues than Germany. Austria has banned nuclear power and the use of any energy derived from it. At the other end, there are examples like France, which has lived comfortably for some time with more than 70 percent of its power coming from nuclear plants.⁸³

If extrapolated, Europe's situation comes down to the fact that "other energy sources, particularly renewable sources are far from being mature, and some others are raising strong political opposition."⁸⁴ Some EU governments believe

⁸² Stulberg, 99.

⁸³ Finon and Locatelli, 4.

⁸⁴ Sapir, 3.

that close cooperation with Russia in energy commerce will not lead to energy security, but as of now there is no substantial alternative to European countries. The one thing that keeps coming up is that Russia figures to be an important supplier for many years to come. The two-country analysis, which follows, provides a revealing snapshot of the continent. Germany is the largest consumer of Russian energy, and currently imports 32 percent of its energy needs from Russia while Poland imports two-thirds of its natural gas needs and 97 percent of its oil. Some Central and East European countries have “made significant efforts to switch away from Russian imports in recent years, and satisfy diverse energy demands from a range of sources.”⁸⁵ Nevertheless, a majority of the countries in Europe are still dependent upon Russia to provide them with desperately needed supplies of energy to meet their daily needs because they just cannot afford the costs of the alternatives.

B. GERMANY: BACKGROUND

Germany experienced some of its toughest times immediately following the reunification with East Germany, however those days of want and need are quickly becoming a memory. In recent years economic growth has reemerged and has propelled Germany into one of the largest economies in the world. With a 2005 gross domestic product of approximately \$2.8 trillion, Germany has also become one of the world’s largest energy consumers. Except for coal, Germany has limited domestic energy resources, does not have sizeable hydrocarbon reserves, and must heavily rely on imports to meet the majority of its energy needs. However, before delving into the energy relationship between Germany and Russia, the environment of what Germany has, with regards to energy reserves versus what it requires.

⁸⁵ “CEE: Diversifying Energy Away From Russia Has Costs,” *OxResearch* (February 13, 2006),¹ (accessed via ProQuest, March 19, 2007).

C. ENERGY SITUATION BY SECTOR

Germany is currently the fifth largest oil consumer in the world and consumes roughly 2.65 million barrels of oil per day. It has "367 million barrels of proven oil reserves (as of January 2006), with most of these reserves located in northern and northeastern Germany."⁸⁶ However these reserves cannot even come close to providing what is consumed as can be seen in Figure 5.

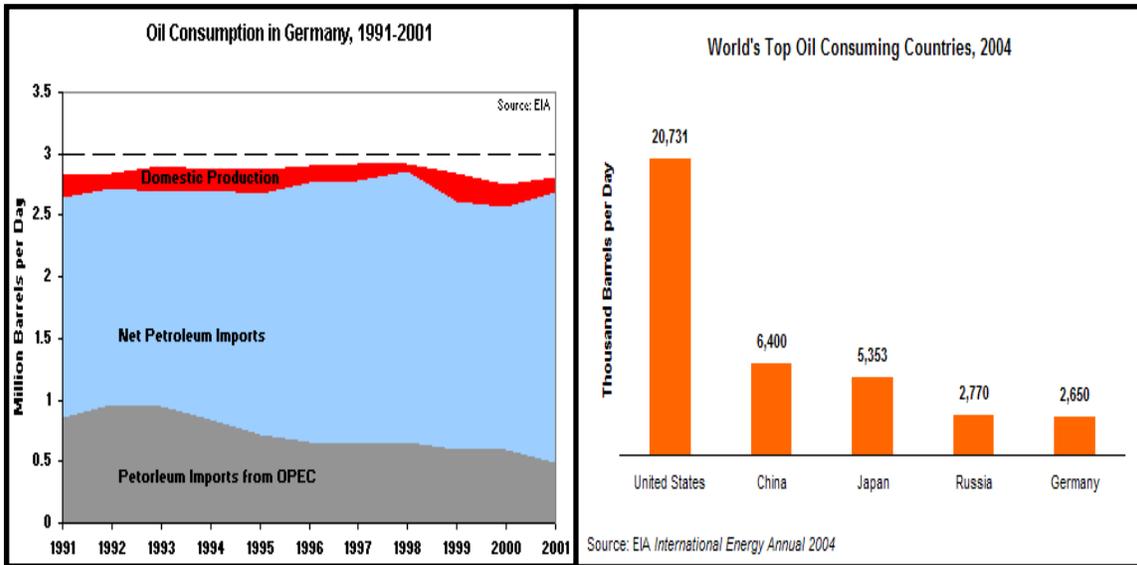


Figure 5. German Oil Consumption⁸⁷

Most of the oil produced internally comes from only one field and when operating at peak efficiency only provides approximately 67,000 bbl/d. Projecting forward current consumption, Germany will end up importing over 2.1 million bbl/d in 2007 alone. Some estimates calculate that Germany might need to import upward of 90% of the oil it needs each year, with the largest source of imports

⁸⁶ Energy Information Administration, "German Energy Data, Statistics and Analysis – Oil, Gas, Electricity, Coal: Country Analysis Briefs," 1, <http://www.eia.doe.gov/emeu/cabs/Germany/Background.html> (accessed August 30, 2007).

⁸⁷ Ibid., <http://www.eia.doe.gov/emeu/cabs/Germany/Oil.html> (accessed October 11, 2007). In order to remain consistent in comparing energy sectors between Germany and Poland Figures 5 to 7 and 9 to 11 are not consistent in years represented. Germany is a compilation of the latest study conducted in December 2006 (valid data for 2004) and the previous study with data ending in 2001. Poland's data varies only between oil data ending in 2005 and the other sectors that end in 2003.

coming from “Russia (34 percent), followed by Norway (16 percent), the United Kingdom (12 percent), and Libya (12 percent).”⁸⁸

In addition to oil, Germany needs vast supplies of natural gas. Per figure 6, Germany is the third largest consumer of natural gas in the world, consuming approximately 3.7 Trillion Cubic Feet (Tcf) each year, based on 2004 usage. As of 2006, the country has 9.1 Tcf of proven natural gas reserves, however there are problems in getting what it has into production and to the consumer.

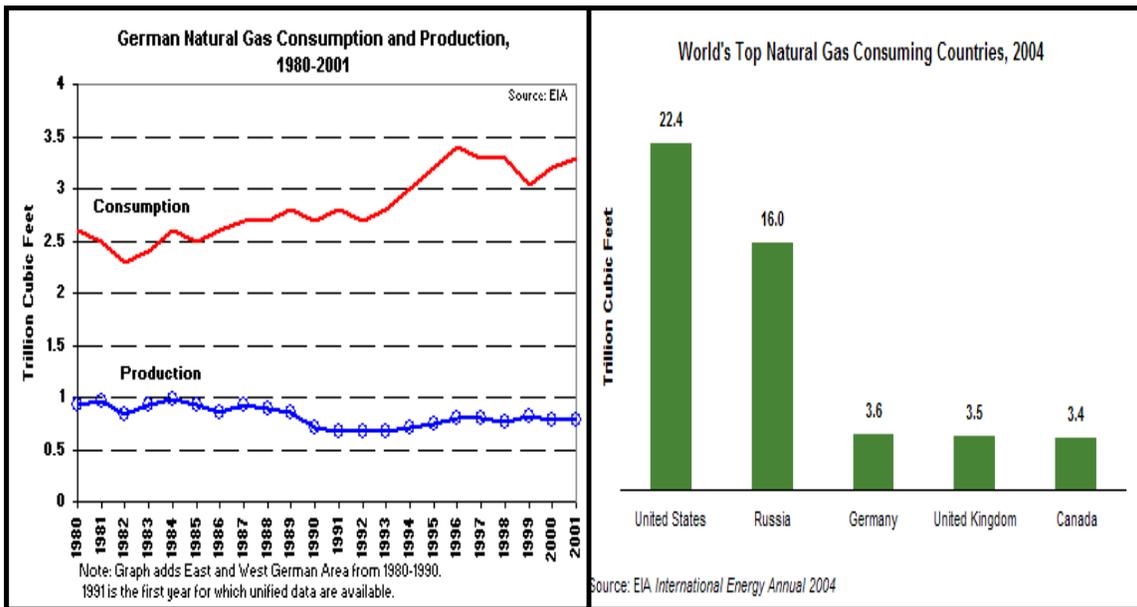


Figure 6. German Natural Gas Consumption⁸⁹

The majority of Germany’s reserves and production “occur in the northwestern state of Niedersachsen, however governmental regulations have curtailed the complete exploration and development of the area.”⁹⁰ Germany also operates a single off shore natural gas field, but total production in Germany is only about 730 Billion Cubic Feet (Bcf), which means, it has to import almost 3 Tcf of natural

⁸⁸ Energy Information Administration, “German,” 2.

⁸⁹ Ibid, <http://www.eia.doe.gov/emeu/cabs/Germany/NaturalGas.html> (accessed October 11, 2007).

⁹⁰ Ibid., 3.

gas per year. “The largest source of natural gas imports was from Russia (46 percent), followed by Norway (33 percent) and the Netherlands (23 percent).”⁹¹

The third energy sector and one in which Germany is actually doing better than other European countries is coal, although, even small amounts of coal needs to be imported to meet its demands. Germany has the largest coal reserves in the European Union and they are the seventh largest producer of coal in the world, yet they are also the world’s fourth largest consumer of coal.

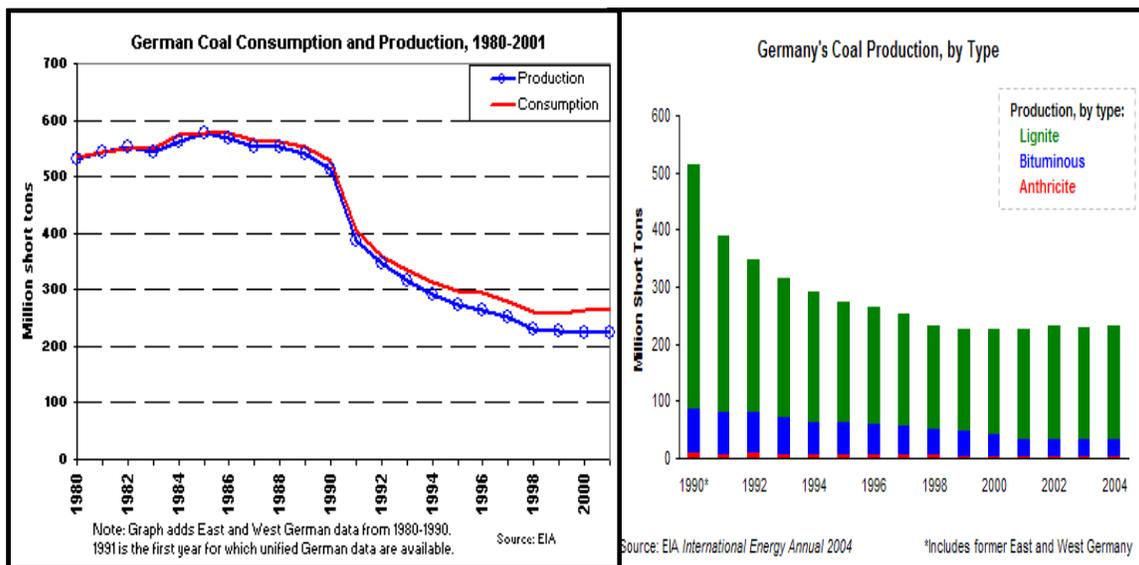


Figure 7. German Coal Consumption⁹²

The problem lies in that many of the mines in Germany reside in the eastern part of the country, which were built by the former Soviet Union and are severely inefficient. An additional problem in bringing coal to production is that most of it is very deep underground and extremely expensive to extract. Over half of the coal that is brought to production resides in the Rhineland region in the western part of the country. As previously mentioned, this means that, like oil and natural gas, Germany will also need to import coal in order to meet its domestic needs. Additionally, with current and expected estimates of domestic coal

⁹¹ Energy Information Administration, “German,” 4.

⁹² Ibid., <http://www.eia.doe.gov/emeu/cabs/Germany/Coal.html> (accessed October 11, 2007).

production declining, reliance on foreign coal is going to grow. As of 2006, “Poland was the single largest source of these imports (23 percent), followed by South Africa (22 percent) and Russia (20 percent).”⁹³

The last sector for analysis is nuclear power. Germany is the fourth largest producer of nuclear power in the world. In 2004 they were only behind the United States, France, and Japan. Germany has 17 operational nuclear power plants with two plants currently shut down. Nuclear power provides the Germans extra capacity to make up the difference between what is needed versus the amount of material Germany can import to meet all of its energy needs. However, nuclear power has always been controversial and with recent gains in political power by the Green party of the current coalition government nuclear power most likely will not continue into the middle of the century. Two nuclear power plants have already been shut down with two more scheduled to be phased out by 2009. Current plans call for the closure of all nuclear power plants by 2022. Which means that unless things change Germany is going to become even more dependent on imports from energy rich nations.

D. THE ENERGY DEBATE

All of this leads to the fact that Germany needs to import vast sums of energy and fortunately for Germany, Russia has been able to supply approximately 70 percent of that need. The current energy situation between Germany and Russia is very delicate. It consists of a balancing act with both sides desiring the security that long-term bilateral agreements provide while at the same time attempting to regain what is perceived as lost foreign policy independence. This means that each may provoke the other at times to gain political support at home. Yet, the general topics of the bilateral meetings

⁹³ Energy Information Administration, “German,” 7.

between the two countries remain mostly the same. Germany needs the energy and Russia needs the income from selling its surplus energy to Germany.

Politically, relations between the two countries have been very cold at times, but relations actually started to grow warmer under Chancellor Merkel's predecessor, Gerhard Schroeder and have since remained favorable. Since 1997 Germany has been the largest consumer of Russian energy in Europe. Schroeder's efforts to warm relations started with regularly scheduled summits between him and Russian President Vladimir Putin. President Putin also sought friendlier relations with Germany in the hope of securing long-term demands for energy exports. Their summits routinely discussed the issues of trade and investment, World Trade Organization (WTO) accession, and energy. However, both sides avoided contentious issues such as,

Germany's concerns about human rights and democracy in Russia, Moscow's (initial) reluctance to sign the Kyoto Protocol on climate change or Germany's apparent unwillingness to lobby within the EU for Russia's WTO entry.⁹⁴

Today, Chancellor Merkel's relationship with President Putin is not as close as her predecessor's, but it is still favorable and she has frequently stated that "Germany's foreign policy towards Russia will continue to be driven by mainly commercial interests, in particular the energy sector."⁹⁵

The cost options facing Germany are very simple; either they continue to rely predominantly on Russia to supply most of its energy or they need to start looking for energy from other sources. The relationship with Russia has provided them with the cheapest source of energy the market can provide, however, this relationship might come at more of a cost than the Germans anticipated. Politically, Germany is a catch twenty-two situation. Nuclear power is unpopular and is not as ideal as an "energy source due to waste products, but nuclear

⁹⁴ "Russia/Germany: Relations to focus on economics," *OxResearch* (October 10, 2003), 1 (accessed via ProQuest, March 19, 2007).

⁹⁵ "Germany/Russia: Merkel sets new tone in Relations," *OxResearch* (January 19, 2006), 1 (accessed via ProQuest, February 1, 2007).

power mitigates the dangers from a number of environmental problems, such as air pollution and climate change.”⁹⁶ This is also why Germany cannot turn to coal or other contaminating forms of energy, If Germany truly intends to reduce greenhouse gas emissions, “it will be committing itself to vastly stepping up energy conservation while also switching to new, and perhaps, as-yet un-invented technologies,⁹⁷ Although, as mentioned previously, Germany has already spent large sums of money on becoming more energy efficient. Further efficiency is possible, but will come at a significant cost. New technologies don't always result in positive gains and could end up becoming a further burden on the German economy.

From a trade aspect, German companies and industry have ambitious plans for the fast growing Russian market, but Russia has been more and more reluctant to permit foreign investment within its borders. Additionally, Russia is in a much stronger position than it has been in the past.

Germany had been Russia's biggest national creditors, with debt amounting to about 20 billion dollars in 2004, although Russia has recently used its oil windfall to repay debt ahead of schedule.⁹⁸

This means that Russia, if it wanted to, could reduce the amount of energy it supplies to Germany, since it no longer needs income to pay off its debt to Germany, and use this energy as a political tool against not only Germany but also other nations. Actually, this has recently become reality and should come as no surprise to Germany, since Russia previously used energy as a political tool against the Ukraine and later Belarus. Britain's “Financial Times” reported on August 25, 2007, that:

Russia has made significant cuts to oil supplies sent to German refineries recently, rekindling concerns in Germany over the reliability of Russian energy supplies. LUKoil, Russia's second

⁹⁶ Bart Mongoven and Davis Cherry, “Germany and China: In Search of Energy Certainty,” *Stratfor* (January 25, 2007), 3.

⁹⁷ Mongoven and Cherry, 4.

⁹⁸ *OxResearch*, “Germany/Russia.”

largest oil producer, on [August 24] acknowledged that supplies to Germany had been reduced by about one-third in July and August but refused to explain why the reduction had occurred. The paper also added that, analysts said LUKoil's decision not to provide previously contracted quantities of oil could be aimed at extracting higher prices from German refineries or be part of LUKoil's efforts to acquire stakes in German and European refineries.⁹⁹

This aggressive strategy could also mean that Russia is planning to use energy as a means to acquire other non-German refining assets. Germany's Frankfurter Allgemeine Zeitung reported on August 25, 2007, "an unnamed LUKoil official said that the company found it more profitable to ship its oil "in other directions because of increased transit fees in Belarus."¹⁰⁰ This is a situation that could easily be remedied if Russia had control of or partially owned refineries on the other end of the pipelines. Shortly after the incident, reports in Germany later confirmed that oil deliveries from Russia had dropped recently and added that it was not the first time it had happened.

Energy security in Germany is not going to come cheap or easily. There are several ways in which Germany can seek steady energy supplies, but Germany is only as secure as its supplier, and for now Russia is not reliable. In my opinion, Germany has to start looking elsewhere for energy. Yet, Germany is proceeding in just the opposite direction and furthering its dependence upon Russia by investing in the development of a direct pipeline. The Baltic pipeline, also known as the Nord Stream pipeline, is a six billion dollar 1200 kilometer North European Gas (SEG) pipeline and is currently undergoing construction. Early estimates predict that the pipeline could have a capacity upward of "27 billion cubic meters of gas by 2010 with a total capacity of approximately 52 billion cubic metes when the second pipeline is completed in 2013."¹⁰¹

⁹⁹ Radio Free Europe, "Russia Reduces Oil Exports to Germany," RFE/RL Newsline Vol. 11, No. 158, Part I, August 27, 2007.

¹⁰⁰ Ibid.

¹⁰¹ Ariel Choen, "The North European Gas Pipeline Threatens Europe's Energy Security," *Backgrounder: The Heritage Foundation*, 4, no. 1980 (October 26, 2006), <http://www.heritage.org/Research/Europe/bg1980.cfm> (accessed October 20, 2007).



Figure 8. North European Natural Gas Pipeline¹⁰²

The location of this pipeline was included in Figure 3, but the route of the pipeline is much clearer in the enlarged image of Figure 8. This BASF and Gazprom joint venture will traverse Russia and Germany. However, it will bypass both Belarus and Poland, two countries that have become reliant on transit fees, revisiting yet again an issue that has already brought both parties into conflict (non military) with Russia within the last year.

This pipeline allows Russia to cut off gas supplies to Poland and others while maintaining steady deliveries to Germany. There is no question that this pipeline will make Russia's east European neighbors economically more dependent and politically more insecure.¹⁰³

¹⁰² Google Nord-Stream Pipeline Images, http://web.stratfor.com/images/maps/8_23_baltic_sea_pipeline_167-1.jpg (accessed November 9, 2007).

¹⁰³ Munchau, 17.

At the same time, the opposite is also true. If Russia is willing to reduce or withhold gas (as indicated in the before mentioned Financial Times article) on a pipeline that has three countries involved then there is little to suggest that Russia would not be even more willing to do so on a pipeline that involves only one country. If Germany is not careful, there could be very little to prevent Russia from trying to force its way into the German energy market, just like it did in Belarus and is currently attempting to do in the Ukraine. Let us not forget that Russia, specifically Lukoil, is interested in buying refineries in Europe and Lukoil has cut back supplies of oil in what might be considered as pressure to get Germany to sell their refineries in exchange. Germany has yet to cede to this pressure, but it will be interesting to see what happens over the next few years.

E. ENERGY POLICY

Germany, like Russia, is in a unique position concerning energy security and its intimate relationships with not only Russia, but with the rest of Europe. Also like Russia, Germany is in a position in which all three aforementioned approaches could be applied to the resolve Germany's energy dilemma, but unlike Russia the situation is a bit more complicated. Germany could successfully pursue any of the approaches, but decisions made in developing its national energy strategy have steered it closer to one than the other two. Before identifying which approach Germany prefers to pursue, it helps to know how it plans to pursue energy security in general.

With regards to a national energy strategy, "German chancellor, Angela Merkel, announced an ambitious plan (on July 4, 2007) to reduce greenhouse emissions by up to 40 percent by 2020."¹⁰⁴ Yet, at the same time she also mentioned that Germany's plan to reduce nuclear power has not changed and

¹⁰⁴ Judy Dempsey, "Merkel Confronts German Energy Industry with Radical Policy Overhaul," *International Herald Tribune*, July 4, 2007, <http://www.ihf.com/articles/2007/07/03/business/nuke.php> (accessed September 3, 2007).

intends to require that energy producers further increase their energy efficiency by 3 percent a year. “This is about putting in place a long-term energy policy until 2020 for the environment that includes energy efficiency and energy security,”¹⁰⁵ a statement made during a conference with Germany’s largest electricity, natural gas, and coal companies. So, for the immediate future, Germany’s plan is to increase the use of renewable energy via combined heat and power plants to compensate for the decrease in nuclear power plants. The energy industry however is highly critical of the plan with the overall opinion that the government’s energy policy is an anti-energy policy. Many point out that the decision to reduce nuclear power was made before climate protection and the environment became important issues, however for the immediate future things are not likely to change until 2009 when the Merkel government officially expires.

The first approach, which is not going to be pursued by Germany is the U.S. led and often NATO associated approach. Despite the very close relationship Germany has had with the United States in the past and major role it plays in not only the EU, but NATO as well, Germany is not interested in the U.S. sponsored plan. As previously quoted European governments view energy security in political and economic terms. Germany is no different and it clearly prefers that market forces secure access to energy, versus what could be considered as a premature entry of NATO into the equation.

Some EU governments also believe that discussion of energy security at NATO sends the wrong signal to other governments, which might assume that the allies are contemplating military action to ensure the flow of oil and gas.¹⁰⁶

Unfortunately, NATO is seen as mostly a U.S. led organization and no matter what message is sent to the contrary, NATO will only be seen as trying to secure pipelines, just like in Iraq. Therefore Germany is not interested in any U.S. sponsored approach to the problem. Germany most likely feels that if the U.S.

¹⁰⁵ Dempsey.

¹⁰⁶ Gallis, 6.

were to be involved the relationship with Russia, which has taken decades to establish, would be quickly sacrificed and is not worth the risk.

The second approach discussed regarding Germany is the EU-centric approach. Many would argue that Germany, being a major player and leader in the European Union, should be all in favor of establishing and seeking a EU-centric approach to balance Russia's energy aspirations. Logically, any time there is one dominant, overbearing, and assertive power there is reason to believe that other smaller powers will come together in support of one another. It would be hard to argue against wanting to establish a mutual support mechanism, especially a plan that would enable EU members to counter disruption in supplies to another country. If Russia were to use energy as a political weapon and shut off supplies, another EU country could simply making up the shortfall with any surplus it has. However, this is also not the path Germany is seeking.

Germany prefers to deal with Russia on a bilateral basis and remains "Russia's favorite partner within the EU – and a willing accomplice in a diplomatic game in which Russia plays EU member states off against each other."¹⁰⁷ Another factor that might limit the EU from gaining ground with its common policy is that Angela Merkel of Germany currently holds the EU presidency.

Europe continues to talk about diversification of its energy sources. Yet coal is generally discouraged and there is confusion in many countries about whether to invest in new generation of nuclear power facilities. The region has not invested sufficiently and quickly enough in liquefied natural gas terminals. It leaves Europe facing a supply gap, according to *Petroleum Economist*, of up to 70bn cubic meters a year by 2012.¹⁰⁸

This is not to say that Merkel or Germany is complicit in any way, but it might be something that Europe as a whole might want to look into further. The only

¹⁰⁷ Munchau, 2.

¹⁰⁸ "Dealing with the neighbors," *Petroleum Economist*, November 2006, 1 (accessed via ProQuest February 1, 2007).

reason is that Germany has large reserves of coal and has been extremely resistant to furthering its dependence upon nuclear energy. In short, Germany's nuclear policy "is alienating other European states in particular Central European states who would increase nuclear energy were it not for EU restrictions."¹⁰⁹ Germany also could potentially be in position to be the continent's main distributor of surplus gas once the Baltic Sea pipeline is complete and leads to the approach that Germany prefers to pursue.

F. GERMANY'S ROAD AHEAD

There truly is not much to debate concerning Germany's path toward linking itself even closer to Russia as its main energy supplier. Apparently somewhere along the line the old Russian saying of fool me once shame on you, fool me twice shame on me, has been overlooked by the west and in particular Germany. Nevertheless, Germany is geared toward implementing the third and final approach, that of going it alone and establishing a bilateral agreement with Russia. In Germany's defense, its options are limited by the policies of its government and decisions it has made over the past few years. As previously mentioned, there are several factors involved in formulating a national energy strategy, critical time constraints necessary for making national energy decisions, and roles assigned to the private sector to assure adequate energy supplies. In addition, it would be extremely difficult to step away from the billions of dollars already invested in building the Nord Stream pipeline. Ironically though, other countries objected to Germany's unilateral negotiations with Russia, but "Germany's new government is suddenly worried about what this pipeline – and its firm dependence on Russia – will do for its own security of supply."¹¹⁰ All of these factors directly influence how Germany judges Russia's latest actions and

¹⁰⁹ Mongoven and Cherry, 3.

¹¹⁰ Ibid.

most likely blinds Germany to some of the things Russia does, because it is so deeply invested and intertwined with Moscow.

Despite all of Germany's efforts to become a "greener" country with regards to energy consumption, the only thing that is going to happen is that its energy security is going to become even less certain. Germany is on course to reduce its own energy production, at the expense of satisfying the green coalition, while its growing economy will demand ever-increasing amounts of energy, which will have to be imported. Regardless of the colossal efforts to increase efficiency, at some point it will become cost prohibitive to increase efficiency further. This translates into the simple fact that Germany will eventually have to import more and more energy each year. If trends continue, and there is little evidence to suggest otherwise, Germany will have to seek more energy from an increasingly aggressive and less friendly Russia. That is unless something miraculously happens and Germany suddenly becomes more willing to seek alternative means of energy. It will be costly, but in the end, it should provide them with much greater energy security. This is exactly what Poland has attempted to do and can be seen in the following case study. If not, then the only other option is for Germany to break with its greenhouse gas commitments and reverse its commitments on nuclear power, but this does not seem likely anytime soon.

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IV. POLAND

A. BACKGROUND

Poland is in a completely different situation from Germany with regards to its energy security. It was once a communist state and part of the Eastern Bloc. Yet Poland, despite its slowing economy over the past several years, remains one of the best examples of a country successfully transitioning from communism to democracy and a market based economy. Poland's crowning achievement came when it became a full-fledged member of the European Union in 2004. Poland is highly dependent upon trade with the rest of the EU and in particular Germany. As of 2005, Poland's Gross Domestic Product was 301.7 billion dollars, which was much greater than the other countries that entered the European Union at about the same time. In fact, the combined GDPs of the Czech Republic, Slovakia, and Hungary in 2005 was only 278.6 billion, which was more than 22 billion less than Poland alone. Yet, Poland still faces serious economic restructuring challenges. Poland's agricultural sector is antiquated and it needs to implement significant processes to increase energy efficiency throughout its entire industry sector in order to decrease energy consumption.

Another difference between Germany and Poland is that the only real energy resource Poland has is coal, which accounts for most of its energy consumption. However, like Germany, Poland has to "import most of its crude oil and natural gas requirements, which comes mainly from Russia."¹¹¹ Another hurdle for Poland is that it has had to make full-scale changes to its infrastructure, unlike its German counterparts. In order to join the EU, Poland had to privatize its energy markets, but it was and still is against giving up complete control of its state energy companies. The government's fear is that

¹¹¹ Energy Information Administration, "North-Central Europe: Country Analysis Briefs," 1, http://www.eia.doe.gov/emeu/cabs/NC_Europe/Full.html (accessed September 6, 2007).

“not only could it compromise national energy security, but also increase Russian-based companies control through acquisition.”¹¹²

B. ENERGY SITUATION BY SECTOR

Poland is the seventh largest consumer of energy in the European Union and while production was close to production in 2003, consumption has greatly outpaced production over the last four years. As for oil, Poland has proven reserves of 96 million barrels of which it only produces about 33,500 barrels per day. Yet, as can be see by Figure 9, Poland consumes over 400,000 barrels per day, which means it is heavily dependent upon imports.

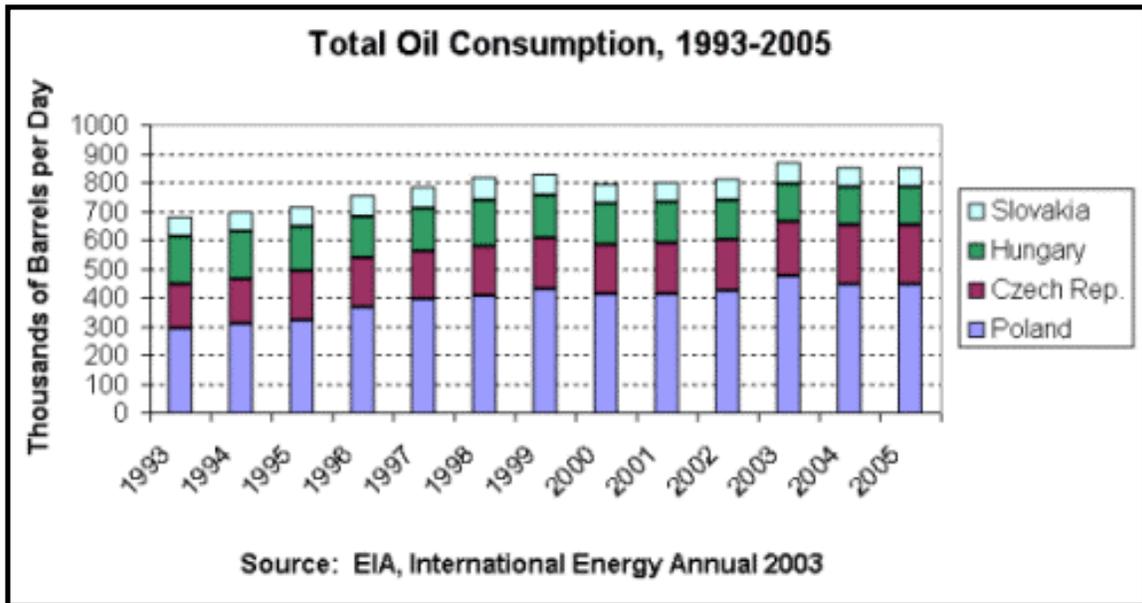


Figure 9. Poland's Oil Consumption¹¹³

Fortunately, Poland has 350,000 bbl/d refining capacity, the largest in North Central Europe. The primary means of oil imports come from Russia via

¹¹² Energy Information Administration, “North-Central Europe,” 2.

¹¹³ Ibid, 3. Oil consumption shown is an aggregate of all four countries classified as North-Central Europe: Slovakia, Hungary, Czech Republic, and Poland. Currently, there is very little data on Poland alone especially that which is consistent enough to use for comparison to Germany.

the Druzhba (Friendship) pipeline. The pipeline originates in Russian and splits in Belarus into a northern and southern pipeline and it is the 1-million-bbl/d capacity northern branch, “which brings oil to Poland and Germany. Poland also receives limited amounts of oil from the Naftoport terminal at Gdansk ”¹¹⁴

In addition to oil, natural gas is also very limited in North Central Europe. Poland has roughly 5.8 Tcf of natural gas reserves with the capability of producing only 200 BcF or about 40 percent of its domestic consumption, which is roughly 500 BcF. Figure 10 shows this disparity with Poland indicated in blue.

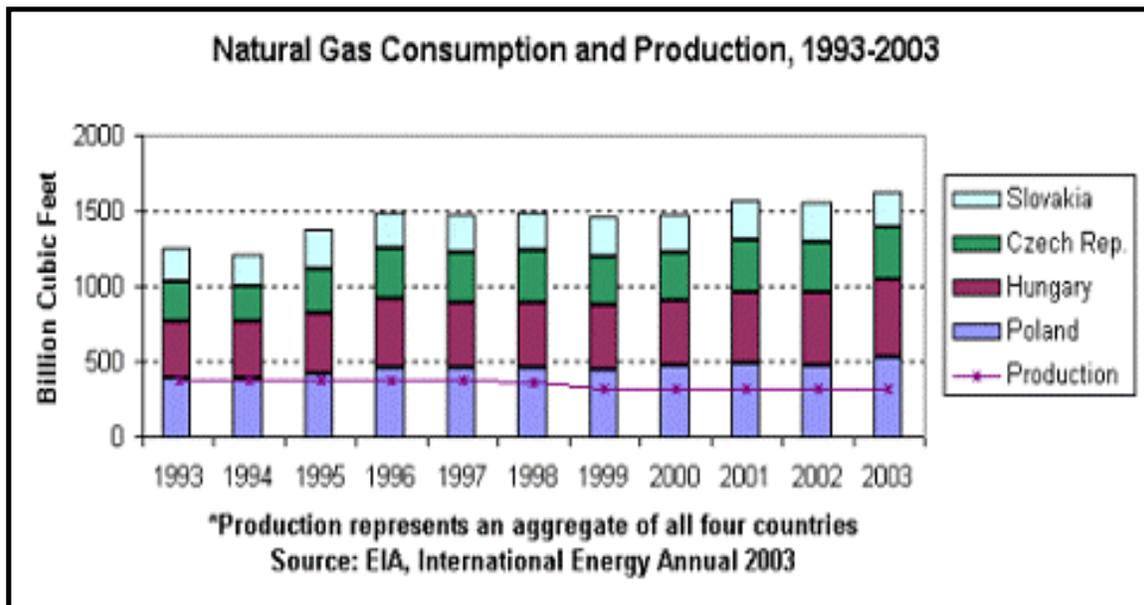


Figure 10. Poland’s Natural Gas Consumption and Aggregate Production¹¹⁵

The remaining natural gas comes predominately from Russia with a small portion coming from Germany and Norway. Oddly, though, Poland is in a very interesting position when it comes to natural gas. Poland owns about four percent of the primary pipelines, which run through Poland and supplies gas to not only Poland, but to the rest of Western Europe. In addition, Poland has begun to invest in its own natural gas industry, which has actually resulted in a slight surplus of natural gas in the country. With demand remaining relatively flat

¹¹⁴ Energy Information Administration, “North-Central Europe,” 2-3.

¹¹⁵ Ibid., 2.

over the past few years Poland has actually looked into the possibility of becoming a net natural gas distributor as well as looking into diversifying its natural gas suppliers. This has other repercussions in the foreign policy arena, which will be discussed later.

When looking at coal, Poland is also similar to Germany in that coal is its most abundant energy resource. Poland has more than 15,000 million short tons (Mmst) in reserve accounting for more than 90 percent of its primary energy production and coal is one of the country's primary employers. However, coal is environmentally unfriendly and there have been problems with the industry in general. Also, in order to be accepted into the EU, Poland had to meet certain environmental standards that called for vast restructuring efforts on its part. Inefficiencies in the coal sector have "resulted in large annual losses, spurring the government to reform the sector."¹¹⁶

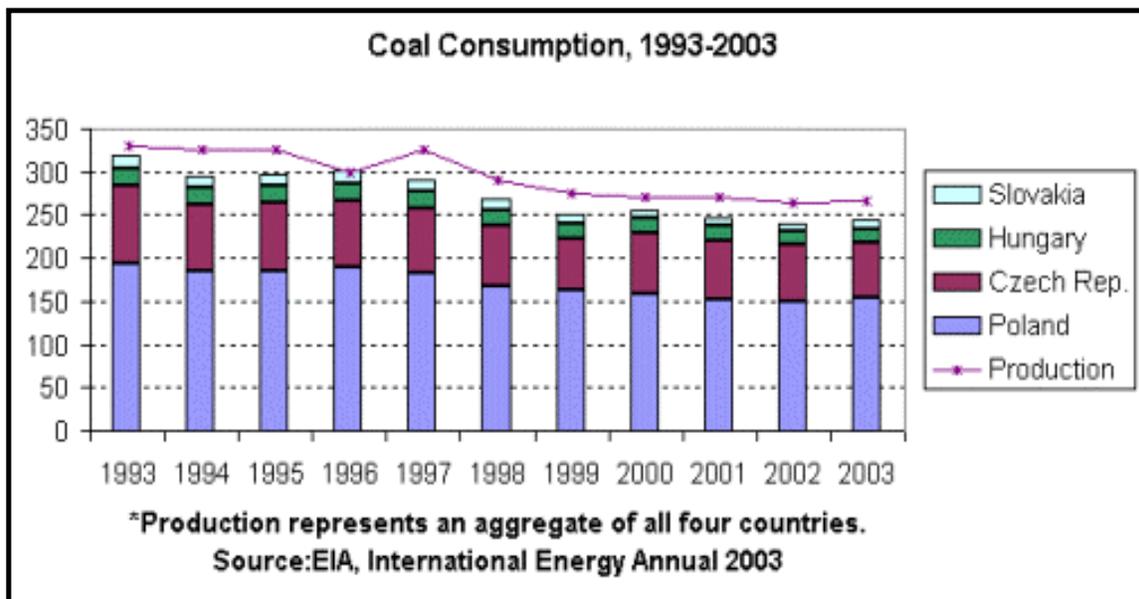


Figure 11. Poland's Coal Consumption and Aggregate Production¹¹⁷

¹¹⁶ Energy Information Administration, "North-Central Europe," 7.

¹¹⁷ Ibid.

The problem with this is that as the industry continues to transition, less coal will be produced. This means other sources of energy will be required to fill the gap left by coal, increasing the reliance upon imports and Russia.

The final energy sector for comparison involves nuclear power of which there is nothing to compare. Poland currently has no nuclear power program and the government does not even foresee the feasibility of having a nuclear power program until after 2020. The reasoning for this is that any attempt to commission a nuclear power plant would take at least ten years to build, plus an additional five years to campaign and gain public support for the plant before the first dollar was even invested into the project. While nuclear power has not been ruled out permanently, the only reason Poland could possibly have for pursuing this route would be to diversify its primary energy sources in order to restrict greenhouse gasses and sulfur dioxide emissions. Until then, Poland will be tied to both oil and gas from Russia, non-environmentally friendly coal, and renewable energy sources, but this sector is only a miniscule portion of its entire energy equation.

| Energy Consumption and Carbon Dioxide Emissions in North Central Europe | | | | | | |
|---|--|--|--|---|--|--|
| Country | Total Energy Consumption, Quadrillion Btu, 2003E | Oil Consumption, Thousand Barrels per day, 2005E | Natural Gas Consumption, Billion Cubic Feet, 2003E | Coal Consumption, Million Short Tons, 2003E | Electricity Consumption, Billion kilowatt hours, 2003E | Energy-Related CO2 Emissions, Million Metric Tons of Carbon Dioxide, 2003E |
| Poland | 3.65 | 447 | 528 | 153 | 121 | 286 |
| Czech | 1.74 | 206 | 340 | 65 | 57 | 112 |
| Slovak | 0.8 | 71 | 246 | 10 | 25 | 38 |
| Hungary | 1.07 | 129 | 515 | 16 | 40 | 58 |
| Total | 7.26 | 853 | 1,629 | 244 | 243 | 494 |

Table 2. NCE Energy Consumption and Carbon Dioxide Emissions¹¹⁸

¹¹⁸ Energy Information Administration, http://www.eia.doe.gov/emeu/cabs/NC_Europe/Tables.html (accessed October 26, 2007).

Tables 2 above and Table 3 below provides an excellent snapshot of the key energy supply indicators, energy consumption and carbon dioxide emission for not only Poland but for the rest of North Central Europe (NCE).

| Energy Supply Indicators in North Central Europe | | | | | | | | |
|--|--|--|--|---|---|---|---|---|
| Country | Crude Oil Reserves, Million Barrels, 1/1/06E | Natural Gas Reserves, Trillion Cubic Feet, 1/1/06E | Coal Reserves, Million Short Tons, 2003E | Total Oil Production, Thousand Barrels per day, 2005E | Natural Gas Production, Billion Cubic Feet, 2003E | Coal Production, All Types, Million Short Tons, 2003E | Electricity Generation, Billion Kilowatt hours, 2003E | Crude Oil Refining Capacity, Thousand Barrels per day, 1/1/06 |
| Poland | 96 | 5.82 | 15,432 | 37.2 | 200 | 177.8 | 141.3 | 467 |
| Czech | 15 | 0.14 | 6,120 | 15 | 5 | 70.4 | 78.2 | 198 |
| Slovak | 9 | 0.53 | 190 | 12.6 | 10 | 3.4 | 32.2 | 115 |
| Hungary | 102 | 1.21 | 3,700 | 45 | 100 | 14.5 | 29.7 | 161 |
| Total | 222 | 7.7 | 25,442 | 109.8 | 315 | 266.2 | 281.4 | 941 |

Table 3. Energy Supply Indicators in NCE¹¹⁹

C. THE ENERGY DEBATE

Poland, like Germany, is in a position in which it needs to import large amounts of energy to cover its domestic consumption. Poland only imports approximately 30 percent of all its energy needs from Russia, which is far less than that imported by Germany. This means that Poland is in a better position, and less vulnerable, with regards to energy security than Germany and many of its neighboring states. Ironically, Poland did not start out as being more energy independent and secure than other countries, but they ended up that way. Many of Poland's gains actually came as an unexpected benefit from cleaning up its energy sector, by switching from coal to natural gas as a main fossil fuel, a mandatory requirement before seeking EU membership. Even though coal is more abundant and cheap, Poland has made vast strides to clean up its image as a heavy polluter. The rest of Poland's gains came from what could be considered as questionable and highly unorthodox leadership by the twin

¹¹⁹ Energy Information Administration and the Oil and Gas Journal, http://www.eia.doe.gov/emeu/cabs/NC_Europe/Tables.html (accessed October 26, 2007).

Kaczynski brothers. The brothers are both members of the socially conservative government and have repeatedly been accused of using aggression in domestic politics and of souring ties with Moscow and Brussels. In fact, the brothers' policies have tended to be so hostile to Russia that the only point they serves is to be disruptive toward any attempt by the EU to bring Russia closer to the continent no matter the issue; from WTO entry to securing energy supplies. Nevertheless, under the Kaczynskis' direction, Poland has been forced to seek mini energy alliances and supplies from other more expensive suppliers. Consequently, Poland now has a supply system in place that is much more resistant to disruptions in the energy market by any one single supplier. Much like a diversified money portfolio, Poland now has a diversified energy supply portfolio.

The cost options facing Poland are very much like that of Germany, but reversed. Poland can either continue to spend more for its energy from non-Russian suppliers or they can slowly work on their relationship with Russia to try and secure larger amounts of cheaper energy. Poland even has the option in which they could be a primary leader in establishing several different suppliers into an integrated supply network. Over time this could also lead to an integrated energy distribution network, but that would take some very serious commitments by all the parties involved and large amounts of capital, which means this idea is quite some time away, if even possible. Unfortunately, Poland's energy industry is a bit more inflexible than Germany's in that it does not have nuclear power (even though Germany is removing their nuclear power plants). The industry is also not as well developed and able to stave off unwanted Russian assertiveness like Germany. Nevertheless, the strength of Poland's energy industry lies in that it is already in compliance with the EU's push to break up monopolistic national energy structures. Since it does not have such structures, Poland can already be considered as unbundled. In theory this is supposed to make it harder for non-EU companies to buy energy supply and distribution business and is probably targeted at Gazprom whose actions toward Belarus and Ukraine have already

been discussed. This policy also allows for greater diversification of energy supplies by member states. As a result, Poland is in a very good position to reduce its dependence on Russian natural gas and oil.

In the past Poland, like other countries to include Germany, has allowed the high costs associated with new energy politics to override the feelings it has for Russia and its cheaper energy, but that is changing. Poland's state owned gas monopoly PGNiG is in the process of purchasing a 15 percent stake in ExxonMobil's Skarv and Snadd fields off the coast of Norway, which are estimated to hold upward of 36 billion cubic meters of natural gas. This deal also partners Poland with BP, Royal Dutch/Shell, Norway's Statoil and Nordk Hydro some of the world's leaders in natural gas exploration and production. The expertise gained from working with these giants could easily transition into furthering development and production within Poland itself. Poland is also looking into building a pipeline with the Norwegians from the coast of Norway through Denmark and ending in Poland. One of the primary benefits of this plan is that there is already a vast infrastructure from Norway to Denmark in place, so the only real costs would be in building the lines into Poland. This is highly supported and an exceptional deal for Norway, which has been looking into and has considerable potential for expanding supplies to Europe. In fact, Norway is "the world's third largest exporter of oil and gas, with less than one third of its total expected petroleum resources used up."¹²⁰ This partnership would be of exceptional value to Poland because it could gain invaluable expertise in the field of building undersea pipelines, which Poland lacks but the Norwegians do not. Finally, Poland is working on additional plans with France to help build a liquefied natural gas terminal in Gdansk. This project would cost "a whopping \$4 billion to \$5 billion – but once completed would allow Poland to secure supplies from almost any foreign (*non-Russian*) supplier in the world."¹²¹

¹²⁰ David Ibison, "Oslo's Arctic arc could yield a European gas champion," *Financial Times*, February 6, 2007.

¹²¹ *Stratfor*, "Poland: Putting Politics and Security Before Economics," March 2, 2007, <http://www.stratfor.com/products/premium/print.php?storyId=285134> (accessed March 2, 2007).

Poland is also in a position to seek the support of and lead other European nations into becoming significant energy partners. With Poland leading the discussions, five countries agreed on a pipeline to bypass Russia. On October 10, 2007, Ukraine, Georgia, Azerbaijan, Lithuania, and Poland all agreed on a deal for “construction of an oil pipeline linking the Black and Baltic seas – a project aimed at improving regional energy security and reducing dependence on Russian crude oil.”¹²²



Figure 12. Five Country Pipeline to Bypass Russia¹²³

¹²² Radio Free Europe, “Five Countries Agree on Pipeline to Bypass Russia,” RFE/RL Newline Vol. 11, No. 188, Part I, October 11, 2007.

¹²³ Google Oil Pipelines in Europe Images, However, a better resolution image was found on the wikimedia site, http://upload.wikimedia.org/wikipedia/commons/a/ad/Oil_pipelines_in_Europe.png (accessed November 9, 2007).

The pipeline deal involves building a 500-kilometer extension to the current pipeline located in western Ukraine northward to link up with Gdansk on the Baltic Sea, while securing crude from Azerbaijan and the Caspian Sea. The route of the pipeline extension, is highlighted with a circle, is shown in Figure 12 above. The deal is expected to cost approximately \$700 million and begin operations sometime in 2011. The hope is that the pipeline will provide some predictability and stability to oil supplies in a region that has traditionally only know instability.

In reflection, it would be very difficult to deny that Poland's actions have placed it in a very interesting position with regards to the rest of Europe, especially when dealing with energy problems. From a trade aspect, Poland is in an ideal location/position to be a key distributor of energy throughout the European Union. Even though Poland does not have large supplies of oil and gas it has been entering into agreements that could place it at the center of an ever-increasing energy transit and distribution business for the continent. Poland is not as entrenched with its traditional ways of doing things as the older members of the EU (France, Great Britain, and Germany to name a few) and is probably its greatest advantage. Poland has been successful enough to the point that they can be looked upon as a role model for other Eastern European countries still seeking EU membership. Poland's energy industry while not as advanced as its western counterparts still provides the government enough flexibility to seek out new, non-Russian solutions to its inadequate energy supplies. As long as market forces remain consistent, Poland should continue to have better leverage over the energy market than other nations. Norway, France, the group of five (the five countries seeking ways around Russia) and others will always be open to deals that could potentially increase their market share as well as diversify customers and ensure stability. Poland is ideally placed to help provide Europe with what it needs most – leadership in establishing more secure energy supplies at a time when Russia is regarded as becoming increasingly belligerent.

D. ENERGY POLICY

Historically, relations between Russia and Poland have never been cordial and have at times been extremely hostile dating back to the Second World War and even further. Yet, the cool relations between Russia and Poland have significantly deteriorated since the presidential and parliamentary elections of 2005, when the twin Kaczynski brothers came into power. President Lech Kaczynski and Prime Minister Jaroslaw Kaczynski deeply nationalistic policies have been an area of concern domestically, politically, and economically. Their policies have also been seen in Poland's foreign relations as well. "Relations with some neighboring states and the European Union have been strained at times, but ties with the United States have not undergone significant change."¹²⁴ In addition to the EU, Poland's relationship with Russia has also been strained to say the least.

General attitudes toward the Russians are negative at best, and the recent trend is for Poland to confront Russia whenever it is in Poland's best interest rather than to appease Russia. For example:

The twins led a witch hunt to root out any communists and their sympathizers, replaced much of the cabinet, scrapped the Soviet-era intelligence community and began negotiations with the United States over a missile defense base in Poland.¹²⁵

As a response, Russia erected trade barriers against Polish agricultural products. Consequently, Poland continues to derail any hopes the EU has of establishing better relations with Russia by vetoing any and all potential agreements between the two. The actions on both sides eventually pushed Russia into using energy as a political weapon. The final straw came in the not so direct threat posed from Russia seeking to build a natural gas pipeline, Nord Stream, through the Baltic Sea to Germany, which will completely bypass Poland. This pipeline has caused

¹²⁴ Carl Ek, "Poland: Background and Policy Trends of the Kaczynski Government," (*CRS Report for Congress*, August 2, 2006), 1.

¹²⁵ *Stratfor*, "Poland."

significant angst in and has been vehemently opposed by Poland ever since its first inception. This pipeline deal is a prime example of the type of power politics Russia has resorted to quite recently. Russia has turned off the supply of gas to both Ukraine and Belarus, supposedly their two closest and friendliest neighbors over price disputes and other political agenda. Even though Poland has not been threatened directly, it is not out of the realm of possibly that once the direct pipeline to Germany has been established, gas could be withheld and politically used against them. "Russia has been able to maintain the upper hand in the feud because it controls such a large portion of Poland's energy supplies,"¹²⁶ and without diversification Poland has few alternatives but to adhere to Russia's demands.

Despite the openly hostile attitude of the twin brothers and all of the theatrics involved, Poland has actually been able to establish guidelines for a national energy strategy and policy. Guidelines for Poland's energy policy are envisioned to guide and direct state activities up to the year 2020. The plan is basically two-fold; the first aspect is to diversify sources of supply (other than Russia) that has been previously and thoroughly discussed. The other aspect of Poland's energy policy is a

Strategy based on an Improvement in energy efficiency, whose central element includes a promotion of modern, highly efficient power machines and equipment capable for competition both in national and foreign markets. The rationalization policy consists of: improvement of fuel consumption efficiency, rational heat and electricity consumption, and the promotion of non-conventional and renewable energy sources.¹²⁷

¹²⁶ *Stratfor*, "Poland."

¹²⁷ Austrian Energy Agency - Österreichische Energieagentur, "Energy Policy, Legislative Background, Funds and Programmes," February 27, 2007, <http://www.eva.ac.at/en/enr/index.htm> (accessed July 19, 2007). Poland's energy policy is laid down in full in "Guidelines for Poland's Energy Policy until the year 2020," with supporting documentation found in "The Development of Strategy for Renewables" and "The Long-term Strategy for Sustainable Development for Poland until 2035." There are additional documents, but these are the primary ones.

As opposed to Germany, Poland's energy industry is relatively inefficient and has more to gain from promoting energy efficiency. Through direct regulations, market stimulation, and better education, any money spent will see much greater return per dollar than in Germany. This leads the discussion back to which of the aforementioned approaches Poland is most likely to pursue.

Needless-to-say, Poland is not interested in any approach that would establish additional or even further ties to Russia; thus, Russia's preferred method of seeking bilateral agreements is not feasible. The Nord Stream pipeline and Russia's actions to Poland's neighbors to the east have soured any potential solutions for the immediate future. Poland repeatedly argues that "there is no economic justification for the NEGP (Nord Stream Pipeline) and it is in line with the Molotov-Ribbentrop pact between Hitler and Stalin."¹²⁸ Although the pipeline is not an overtly hostile act, like the pact that triggered the Second World War, it does make Poland very nervous and reluctant to enter into any agreement with either country. Unfortunately, Poland's memories of the devastation brought on by both countries during the war will take a very long time to forget.

As for the other two approaches, the EU centric and U.S. led, Poland is in a position to be able to choose either path. Deep down, The Kaczynski government desperately wants a stronger EU and could be in favor and supportive of the EU centric approach. All of Poland's energy deals and plans with other EU and non-EU countries over the past few years would definitely confirm this suggestion. Additionally, Poland has had to drastically reform major sectors and industries just to gain acceptance in the EU, as was previously discussed in prior sections. Also, a country would not go through all of the relative pain and effort if it were not interested in the overall ideals of the union in the first place. The only problem with the EU centric approach is the EU is insistent on maintaining very strong energy ties to Russia and even seeking

¹²⁸ Cohen, 7.

additional supplies and contracts with Russia in the short-term. Even though the EU's plan is to reduce dependence on Russia later on, Poland is adamant about lessening Russian dependence now and is not willing to listen or compromise if increasing Russian supplies is even suggested. The reason for this is the Polish government has been somewhat "skeptical of the EU. (In terms of Russia, Poland) favors eventual widening (to include Ukraine and Belarus) but not necessarily the deepening of the Union."¹²⁹ This has been more than apparent in the number of vetoes Poland has issued in EU meetings concerning Russia as well as Russia's potential entry into the WTO and the agricultural dispute with Russia, all of which has also previously been discussed in depth. The skepticism is further justified because some EU governments also believe that close cooperation with Russia in energy commerce will not lead to energy security, but then these countries are the same ones that can't or won't come to agreement on a EU energy treaty or policy. In short, Poland is more than willing to support the EU so long as it does not increase dependence on Russia. Maintaining current supplies from Russia are acceptable so long as there is a plan to reduce dependence on Russia later. This reduced dependence is also a key part of the U.S. led approach, which is most likely why it could also be argued that Poland prefers this concept as well.

Despite all of the misgivings of the U.S. led approach by Russia, Germany, and perhaps even the majority of the EU, it does have some merits for Poland. First and foremost, Poland and the United States have historically close relations while relations with Germany and Russia have been strained. The United States was the predominant supporter of and probably was the primary reason Poland was even accepted into NATO, which eventually led to and made entry into the EU possible. "Poland has cooperated with the United States on such issues as democratization, nuclear proliferation, human rights, regional cooperation, and UN reform."¹³⁰ Poland has even been one of the United States

¹²⁹ Ek, 4.

¹³⁰ Ibid, 5.

primary supporters in the global war on terrorism and has contributed troops to not only Afghanistan, but also Iraq. In return, the United States has been an ally of and staunch supporter for bolstering Poland's security, which has led to the controversial U.S. plan to deploy Patriot missile batteries inside Poland. The whole Patriot missile issue could take volumes to discuss, but the issue validates Poland's concern with regards to its energy security. Poland does not trust Russia to provide energy on a consistent basis or without political attachments. At the same time, Poland may be a part of the EU, but it does not feel that the EU is willing to provide it adequate security if Russia were to become hostile. Nevertheless, the issues of U.S./NATO, missiles, and even pipelines are political hot potatoes. The only thing that is certain is that

There is division in the EU over management of the Union's growing dependence on Russian oil and gas. Several states, led by Poland, wish to engage NATO more fully in ensuring energy security in this relationship. While in the early stages of discussion, Poland is exploring a role for NATO and the United States, perhaps only diplomatically, in which U.S. leverage on Moscow could be an element for encouraging responsible Russian behavior and deflecting any Russian attempt to divide the Europeans.¹³¹

Poland argues its actions are not aimed at any one country (implying Russia). Russia on the other hand would argue that it is just another attempt by Poland to further isolate Europe from Russia, only proving that it is Europe and not Russia that is using energy as a political weapon. As for now, it is difficult to determine which approach Poland will ultimately choose, but it will remain consistent in its desire to reduce dependency upon Russia as a primary supplier of energy.

E. POLAND'S ROAD AHEAD

The phrase "Everything changes with time" is quite prophetic when one considers that Poland's recent elections will most likely change Poland's position

¹³¹ Gallis, 6.

on energy security in Europe. The only thing that has been consistent is that Poland's energy policy as well as domestic and foreign policies have been quite inconsistent over the past several years. Since 2001, five different people have held the position of prime minister. Controversy and scandal have been the only consistent factors associated with the position, and last prime minister was no different. Much of Poland's energy policy success can actually be attributed to what could be called very unconventional leadership from its President and Prime Minister, twin brothers, Aleksander and Jaroslaw Kwasniewski. Ironically, the full effects of the twin's plans will never be fully realized due to the unexpected defeat of the incumbent Prime Minister (Jaroslaw Kaczynski) of the Law and Justice party by Donald Tusk of the Civic Platform party during elections on October 21, 2007. This newly elected and yet to be formed coalition government will most likely have a significant impact, but until the new government comes into power on November 5, 2007 it is impossible to analyze what could be, versus what is currently happening, and then it will still take time to fully determine the impact. Nevertheless, there are some certainties that can be foreseen, which will have significant impact on Poland's energy situation.

Before the election, it would have been very easy to suggest that Poland would most likely pursue the U.S. led option. However, things have changed and Tusk's Civic Platform party is first-and-foremost a pro-European Union, pro-business and socially conservative minded party. Additionally, the first thing Tusk did was to open talks with the Polish Peasants' Party, a small but influential EU-friendly party, currently in government, in an attempt to lay the initial foundations for a coalition government. With this in mind, there is little to suggest that Tusk would be willing to pursue the U.S. led option over the EU-centric plan. Tusk campaigned on promises to "build a more harmonious relationship with the EU and to pursue the economic opportunities presented by membership in the bloc,"¹³² which Poland joined in 2004. Tusk also has plans to visit Brussels with

¹³² Reuters, The Associated Press, "New leader in Poland, Donald Tusk, looks to mend fences," October 23, 2007, <http://www.iht.com/articles/2007/10/23/news/poland.php> (accessed October 28, 2007).

other EU members, which the current government has not done in the past two years. This stance suggests that Poland will most likely “unblock” issues with the rest of the EU, which the Kaczynski brothers have blocked. Additionally, Tusk has also called for a renewed look at some of the policies of Poland’s closest ally...the United States. This suggests that Poland could withdraw what many consider as too much support for the United States with too little return.

Poland is definitely at a crossroads with regards to how it will plan for its future energy security. Unfortunately, the recent elections only made matters more complicated. The Civic Platform party wants the provisions of the EU Energy Charter to be binding for Poland. However, President Kaczynski is still in power and could be a significant roadblock to this and any other policies so long as he remains in power. The only thing that can be counted on is despite which direction Poland takes, Russia is not the solution and Poland will continue on any and all paths which supplies additional non-Russian energy.

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V. CONCLUSION

The latter part of 2007 shows a world with record high oil prices nearing \$100 a barrel, a resurgent and potentially economically viable Russia on the verge of becoming the world's premier energy supplier, and an ever-increasingly energy dependent Europe. Many of Europe's energy intensive sectors have shrunk while less intensive industries and services have emerged, but it is not enough. Europe/EU remains the world's largest energy importer and its second largest consumer. Despite all of the research into and efforts to establish energy policies, there is still confusion between energy dependence and the issue of energy security. The reality remains that trading between "Russia and Europe is determined by market principles and a need for stable, long-term contractual arrangements based on credible commitments."¹³³ In an increasingly interdependent world, "energy security will depend much on how countries manage their relations with one another, whether bilaterally or within multilateral frameworks."¹³⁴ In the end, even though politics should not matter, unfortunately they do. Russia, Germany, Poland, and the rest of Europe all use politics, which ultimately prevents real energy security from becoming a reality.

Many could argue that attitudes toward Russia and its energy policy are too harsh and one sided. However, Russia's behavior has remained consistent in other areas as well. The problem between Russia and the EU countries are much broader than energy. Russia uses other trade and economic relations "as political levers or as a means of reasserting power. It is all the rage for Moscow and it has alienated more than one EU member."¹³⁵ Since July of 2006, Lithuania has had to have its oil shipped in from Russia at a much higher cost

¹³³ Finon and Locatelli, 29.

¹³⁴ Daniel Yergin, "Ensuring Energy Security," *Foreign Affairs*, New York, March/April 2006, Vol. 85, Iss 2, 69.

¹³⁵ *Stratfor*, "Global Market Brief: Russia's Tattered Ties to the EU," November 15, 2007, www.stratfor.com (accessed November 15, 2007).

than it used to get through the Druzhba pipeline. The reason for this is that a portion of the pipeline accidentally, and conveniently to some, ruptured during a dispute between the two countries. Russia has repeatedly attempted to take over Lithuania's Mazeikie Nafta refinery, which it wants to sell to anyone but Russia, therefore Russia has refused to fix the 324,000 barrels per day pipeline. Russia is also bullying Finland and Sweden. "Russia sees Finnish and Swedish paper and pulp processing industries as the largest rivals to its own aspirations to expand its timber industry domestically."¹³⁶ Consequently, Russia raised tariffs on timber exports, from \$7 per cubic meter to \$75, a move that will probably close many of the plants in both Finland and Sweden. Finally, even though Germany has strengthened energy ties to Russia, Russia is not satisfied. Russia demanded that Germany move "Lufthansa's air-freight hub to Southeast Asia from Kazakhstan to Russia."¹³⁷ When Lufthansa refused, their flights were banned from Moscow and resulted in Germany doing the same to Aeroflot's cargo flights. Unfortunately, Germany backed down and conceded to Russia's demands after Russia called Germany's actions blackmail. Even though Russia never publicly threatened to turn off energy supplies to Germany over the issue, in my opinion it had to have been a factor in Germany's capitulation. Russia's actions are not that of a reliable supplier, in fact they are borderline child-like.

Nevertheless, the final analysis of Germany and Poland, unequivocally and clearly shows that Europe has to establish a common energy policy. There are too many variables that can cause significant problems if Russia is permitted to deal with them individually.

Energy security requires a larger perspective. Whatever may be said about energy independence, the truth is that there is only one global oil market (as well as gas and other energy resources). Moreover, energy markets like the rest of trade and finance, are ever more internationally entwined. Energy security does not reside in a realm of its own, but is part of the larger pattern of

¹³⁶ *Stratfor*, "Global."

¹³⁷ *Ibid.*

relations among nations. How those relations go will do much to determine how secure we are when it comes to energy.¹³⁸

Russia has proven time and again it cannot be trusted to provide energy on a consistent basis. Russia has also proved that it is more than willing to dictate terms and to use energy as a political weapon as a tool for negotiations during disputes or conflicts. Apparently, the disputes between Ukraine and Russia, and even Belarus and Russia, have been forgotten. Despite Russia's past history and the latest event between Russia and Germany this past August, the Europeans don't seem too concerned with allying themselves with Russia. Ironically, the volatility of the global energy market has prompted closer cooperation with Russia. The Commission of European Communities issued a Green Paper last year to address its energy security challenges and opportunities. One section of the paper specifically addressed "efforts to establish and strengthen energy partnerships with Russia."¹³⁹ It will definitely be interesting to see how the latest issue between Germany and Russia influences European policy; although, for the time being there does not seem to be any planned changes. Another area of interest, and one that was only mentioned due to lack of data is the Arctic seabed. It will be extremely interesting to see how this region will impact the energy market in years to come and is a topic worthy of exploration at a later date.

The real problem is that it is unclear whether the EU could have played a role in managing any of the crises mentioned or could play a role in the future. Without a common policy it is almost a forgone conclusion that the answer should be no, but there is some hope on the horizon. There has been progress in establishing some guidelines, but the latest directives on security of supply in 2004, "is a relatively weak instrument leaving most of the responsibilities with

¹³⁸ Yergin, A12

¹³⁹ Gawdat Bahgat, "Europe's Energy Security: Challenges and Opportunities," *International Affairs*, London, September 2006, vol. 82, Iss 5, 961.

national authorities.”¹⁴⁰ This forces national authorities to rectify any dispute with Russia on an individual basis, but unfortunately places too much power and control of the energy market in Russian hands. Even though this situation is less than ideal it is of greater concern to many of the newer EU states that are more susceptible to disruptions in their energy supplies. The larger and older states are less vulnerable because they have large trans-European companies that currently dominate European markets and can provide a counterbalance to Russian companies.

Yet the Europeans have to be very careful. The EU is expected to present detailed proposals, in its Brussels Plan, for an overhaul of its current energy market regulations by the end of September 2007 and the proposals are considered by some countries to be very radical. The concern lies in that the smaller nations are fearful the larger energy corporations will drive out their smaller competitors and reduce competition, a situation that could be solved if the larger companies were unbundled. In an attempt to invoke more dynamism into the market, the EU energy commissioner “is expected to suggest that member states break up the integrated energy groups, forcing them to sell their electricity grids and pipeline networks.”¹⁴¹ Conversely, many of the older and larger states, like France, are directly at odds with the Brussels Plan.

France remains implacably opposed to any proposal for unbundling. It is an ideological view. We have a strategic view. It is a better balance between European interests and competition rules.¹⁴²

Further arguments state that bundled companies ensure lower prices and better security of supply. This only confuses the situation even more which means the chances of developing a common energy policy in the short term is very unlikely.

¹⁴⁰ “European Union: EU to Address Security of Gas Supply,” OxResearch (January 6, 2006), 1.

¹⁴¹ Andrew Bounds, Tobias Buck and Sarah Laitner, “French Energy Deal a Vision for EU,” *Financial Times*, September 8, 2007, 2.

¹⁴² *Ibid.*

This only leaves one real, but very expensive, option left to Europe if they truly desire energy security and independence. Europe needs to follow Poland's example and seek out other suppliers of energy in addition to Russia. Germany is sort of proceeding down this line of thought with the plan to build a North Sea pipeline with Russia, but not really. Germany is only spending large amounts of money on this new pipeline, in order to garner more supplies of energy from Russia. The bottom line is that this approach is cheaper than seeking out new sources of reserves or partners. However, this new pipeline will still not solve the problem. Russia has a limited amount of oil and natural gas it can produce each year and it is unwilling to allow direct foreign investment into its energy industry to help develop infrastructure as well as explore for new untapped reserves. Also, Russia can only use energy as a political tool as long as there is a limited supply. Therefore, it is not in Russia's interest to change its policies nor does it look like a change is in store for the immediate future.

Again, the solution lies with Poland's example. It should come as no surprise that Poland is simply following the Russian's way of doing business after all. "Though they would never admit to it, Poland is taking a page from the Russian manual in valuing political strategy far above economic practicality."¹⁴³ Even though it would be less expensive to continue receiving energy from Russia, Poland feels that the financial burden associated with new projects are worth the risk. If Europe chose the Polish route, it would also need to develop additional pipelines and infrastructure to support the exchange of supplies between members if there is a disruption in supply to any country. Even though this would generate even greater costs, it could provide the basis for an energy grid similar to the one found in the United States. The problem is how to transport gas, oil, and electricity efficiently across Europe given its varied and dispersed markets.

The engineering challenge is far more tractable than big companies' collective will to undertake it. Interconnections between

¹⁴³ Stratfor, "Global."

national electricity grids do not have enough capacity to allow prices to equalize across the continent. The EU has prescribed that interconnections should be able to carry at least 10% of national consumption, but few states have that great a capacity.¹⁴⁴

Though difficult, it is not impossible and a solution to do it must be found and then the work must actually be accomplished. Only when Europe can establish a transportation and electrical grid capable of diverting power and supplies to those who need it most, will it truly take the first real steps toward energy independence and security.

Germany, Poland, and Russia, not to forget the rest of Europe and for that matter the world, is in the middle of what could become the next serious conflict in the 21st century; the battle for resources and energy security. Russia, which has energy security in both supply and demand, has often and quite recently shown its willingness to use energy as a political weapon. Since Europe is not likely to come together and establish a common energy policy, it must work together to at least establish alternative sources of energy or they will become Russian puppets with pipelines as strings. Also, as long as nuclear power and coal remain environmental “hot potatoes” and renewable sources remain underdeveloped the only real resources left are oil and gas. Without diversification on both sides of the supply and demand curves, the most powerful of countries can quickly become vulnerable to those who do. To quote Daniel Yergin, one last time, “Diversification will remain the fundamental starting principle of energy security.”¹⁴⁵ Consequently, it is not hard to answer the original question of this thesis. In my opinion, even though the economics have yet to prove it, Germany, Poland, and the rest of Europe cannot have true energy security as long as Russia is the predominant supplier. However, Russia still needs to be a part of the equation, just not the limiting factor of the equation.

¹⁴⁴ *The Economist*.

¹⁴⁵ Yergin, “Ensuring Energy Security.”

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