

THE SOUTHERN ENERGY CORRIDOR
COMPETITION AND COOPERATION FOR NATURAL GAS
TRANSPORTATION IN THE BLACK SEA AND CASPIAN REGION

Master of International Business Thesis

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Abstract

The Southern Energy Corridor emerged as an idea describing the network of oil and gas pipelines bringing resources from the Caucasus through Turkey to Eastern Europe. It arose as a way for Europe to diversify its energy dependence on Russia, which supplies roughly 40% of the market. The thesis evaluates the various projects for transporting natural gas in the Caucasus and Southeast Europe and the strategic nature of each project. It also addresses the key risk variables for the projects that make up the Southern Energy Corridor and provides recommendations for key policymakers and private sector stakeholders.

I. Introduction

The Caspian and Black Sea region was a hub for energy transportation innovation since the Robert and Ludvig Nobel first began constructing oil tankers and laying pipelines at the turn of the twentieth century. The Nobel brothers were then the leading suppliers of oil products to Europe, competing primarily with John D. Rockefeller's Standard Oil Company.¹ The energy industry saw less development in the region under the centrally-planned Soviet system. However, since the mid-1990s, there has been renewed interest in producing energy commodities in the newly independent states of the Caspian region for global markets. Particularly, European countries sought commercializable projects to bring crude oil and natural gas westward while avoiding an overreliance their historical rival, Russia.

The first phase of what has become known as the Southern Energy Corridor involved the Baku-Tbilisi-Ceyhan (BTC) crude oil pipeline, completed in 2005. This work explores the next phase of this story – one that is still unfolding. Several projects have entered a bidding process to build natural gas pipelines west from the Caspian Sea, which could redefine the economies of Eurasia.

Western Europe depends on Russia for nearly 40% of its energy needs, and this has caused concerns about energy security.² Creeping authoritarianism and unreliable business practices in Russia have caused experts to argue for the

¹ Yergin, Daniel. *The Prize: The Epic Quest for Oil, Money and Power*. New York: Free Press, 1993., 42-43

² "The EU and Russia's Gas." *European Council on Foreign Relations*. November 21, 2008. < http://ecfr.eu/content/entry/commentary_the_eu_and_russias_gas > (Accessed April 6, 2012)

Southern Energy Corridor in order to create greater diversification of energy sources. Although Russia should not be seen as a “boogeyman” for Europe, energy dependency can prove a serious risk, particularly for Central and Eastern Europe, if relations do sour. Russia has demonstrated its willingness to use energy policy for geopolitical aims, such as reestablishing its clout in its “near abroad.” The most salient example involves Ukraine, which has developed closer relations with Russia and distanced itself from the EU following the natural gas disputes of 2006 and 2009.

Natural gas has been called the “fuel of the future” because of its flexibility in use, low-carbon emissions, and abundance.³ Global consumption has tripled in the past three decades.⁴ The Southern Energy Corridor for natural gas involves a planned network of pipelines for natural gas, but as more people in Eastern Europe and Eurasia move up in socioeconomic status, it has the potential to play a more vital role in a more interdependent region. It has the potential to ignite economic growth and strengthen energy security throughout the Caucasus, Turkey, the Balkans and Southeast Europe.

As the corridor comes online in the next several years, it likely will contribute to the growth of manufacturing, transportation and services in these regions. This thesis argues that the competition among Southern Energy Corridor projects moves countries in the region towards enhanced cooperation. Chapter 1 looks at how state-controlled energy companies remain dominant in this region in

³ Yergin, Daniel. *The Quest: Energy Security and the Remaking of the Modern World*. New York: Penguin Press, 2011., 341

⁴ Ibid.

the foreseeable future. However, creating regional platforms for the energy sector can enhance cooperation at the government level while maintaining a competitive environment at the business level.

The thesis also evaluates the various projects for transporting natural gas in Southeast Europe and the Caucasus and the strategic nature of each project in Chapter 2. A significant amount of news and data analysis provides insight into each individual project. The chapter looks at the commercial viability of the Southern Energy Corridor projects, including: the Trans-Caspian Pipeline (TCP), the Nabucco Pipeline, the South East Europe Pipeline (SEEP), the Trans-Anatolian Pipeline (TANAP), the alternative Nabucco West Pipeline, the Trans-Adriatic Pipeline (TAP), and the Interconnector Greece-Italy Pipeline (ITGI). The research also takes into account that in time the Southern Energy Corridor will contribute to a greater level of interconnectivity in the region.

Furthermore, Chapter 3 addresses the key risk variables for the projects. These include: a large increase in Russian-supplied, shale or liquefied natural gas (LNG) supplies, the Eurozone economic crisis, conflict in the South Caucasus, and/or conflict with Iran. After a scenario analysis, the chapter explores the most likely outcome of moderate increases in supplies, exit of Greece from the Eurozone, peace in the South Caucasus, and successful deterrence of an Iranian conflict.

Finally, key recommendations for policymakers and businessmen are provided in Chapter 4. Policymakers are advised on enhancing multilateral institutions that can secure a transparent tender process. Also, they can continue to take action to deepen energy financial markets and help rehabilitate the economies

in Southern Europe. Business leaders in turn are mainly advised to cooperate with regulators and government ministries to ensure a transparent and corrupt-free tender process as well as support the strengthening of institutions in order to prevent effects of rentierism and the resource curse.

The Black Sea and Caspian region includes disparate ethnic and religious populations, but the Southern Energy Corridor provides a fascinating case where these parties are working together for industry and economic development. This study demonstrates that many variables could derail the process. However, the incentives for energy security and supply are steering the region towards enhanced cooperation. Robust public sector diplomacy must thus work hand-in-hand with superior business knowledge and practice in the private sector to make the corridor successful.

Chapter 1: Energy and Natural Gas Competition in an Era of State Capitalism

Europeans have become worried about their growing energy dependence on an increasingly authoritarian Russia. The underlying economic rationale for diversifying natural gas sources involves understanding the recent trends of the relationship between the state and markets in the region. The 2008 financial crisis caused leaders among various states to doubt the value of a *laissez-faire*, free market approach to capitalism. Instead, a debate has taken place – especially among those countries transitioning from command economies of the former Soviet Union

– around a model of “state capitalism” that puts the state as an essential guiding force over markets. This view has particularly become dominant in Russia.

Ian Bremmer, head of the global economic research company Eurasia Group, describes how the current business environment has not evolved fully towards free markets as predicted by Francis Fuyuyama in his landmark book *The End of History*. Rather, most developed economies have “mixed” capitalist economies, where governments referee free markets. On the other hand, more authoritarian economies have invented something new: “state capitalism.”⁵

Bremmer calls state capitalism “a system in which the state plays the role of leading economic actor and uses markets primarily for political gain” – a definition similar to mercantilism of previous eras.⁶ Unlike mercantilism, where players compete in zero-sum conditions, state capitalism recognizes a link between freer trade and economic growth but also uses markets to build state power.⁷ State capitalism and free market economics hold opposite positions along a spectrum where most countries have some elements of both but generally fall somewhere closer to one end or the other.

The oil and gas industry emerges as particularly susceptible to this form of state capitalism. This has played out in the competition for natural gas pipelines. Natural gas provides a cleaner alternative to many fuels, and it has proven abundant in Russia and the Caspian region. It consists primarily of methane and other hydrocarbons, and when it is burned, it produces less carbon dioxide than oil or

⁵ Bremmer, Ian. *The End of the Free Market: Who Wins the War between States and Corporations?* New York: Portfolio, 2010, 4

⁶ Ibid., 32

⁷ Ibid., 39

other fuels. Considered an “infrastructure business,” natural gas is not easily transportable without a proper network of pipelines. Otherwise, it must be transported as liquefied natural gas (LNG) in trucks and tankers. The gas has to be cooled to nearly -260 degrees Fahrenheit in order to be liquefied.⁸ The oil and gas sector accounts for nearly 59% of energy use globally, and few studies predict its use will fall below 50% by 2030.⁹ This is largely because of rising demand in emerging markets like India and China that would likely offset any technological breakthroughs in fuel efficiency.¹⁰

Bremmer makes a point that, while international oil and gas companies may get a lot of attention, nearly three quarters of global reserves are owned by national oil companies like Saudi Aramco (Saudi Arabia), Gazprom (Russia), CNPC (China), NIOC (Iran), PDVSA (Venezuela), Petrobras (Brazil), Abu Dhabi National Oil Company, Kuwait Petroleum Corporation and Petronas (Malaysia). These state-owned companies dominate the energy scene. Bremmer cites a spike in profit opportunities created for governments of energy-producing countries that have discarded “foreign-investment-friendly policies in favor of higher taxes on foreign firms operating in the energy sector and legal mandates for a larger state role in the development of new fields.”¹¹

In the Eurasia region and among those players involved in the Southern Energy Corridor, one sees a spectrum among levels of state involvement in the

⁸ Center for Liquefied Natural Gas Website. < <http://www.lngfacts.org/About-LNG/Overview.asp>> (Accessed January 26, 2012)

⁹ Bremmer, 55

¹⁰ Ibid.

¹¹ Ibid., 56-57

energy sector as a means for controlling the economy. Russia's Gazprom is the most obvious example of a state-controlled company. Azerbaijan's state energy company SOCAR has also grown in size and prominence. Turkey's BOTAS, on the other hand, has in recent years moved towards privatization of its activities. Meanwhile, Germany's RWE and Austria's OMV act mostly independently from the state, are publicly traded and fall further towards the free markets end of the spectrum despite being prized national brands.

The Natural Gas Industry and State Power

Why should Europeans fear Gazprom for becoming the dominant natural gas supplier throughout the continent? Some policymakers saw trends in the early 2000s that suggested alternative supplies of gas would be needed in order to create price competition. The Nabucco project emerged in this context in 2002. However, the issue became imperative in the winter of 2006 when Russia decided to cut natural gas supplies to Ukraine over a price dispute. Because of Europe's lack of energy diversity, this caused many to worry about Russia's monopoly on gas supply and the possibility of future disputes.

Russia has increasingly shown its willingness to use its control of energy resources as an instrument of state power. Alexander Ghaleb of the Strategic Studies Institute argues "Russian control of the natural gas supplies and the export infrastructure systems of natural gas to Europe gives tremendous leverage to Russia

in imposing its national security policy.”¹² This largely occurs because of the inflexibility of methods for transportation and storage. As noted, natural gas is an “infrastructure business” depending for the most part on pipelines. Recent methods for transporting LNG by truck or tanker are new and expensive.

The issue has become more severe with time. Russia again decided to cut its supplies to Ukraine for 14 days in the winter of 2009, causing energy shortfalls in over 20 countries.¹³ Many considered this an effort to cut short Ukraine’s so-called Orange Revolution, led by President Viktor Yushenko. Ghaleb, citing Albert Hirschman, explains that Ukraine’s position as “the main transit country for Russian gas to Europe presents a strong argument for Russia to use unilateral economic sanctions as a means to solidify Russian control of the Ukrainian gas infrastructure.”¹⁴ Its vulnerability to gas supply disruptions therefore remains “crucial” for Russia’s “solidifying control.”¹⁵

This approach has been effective. Popular opinion has shifted in Ukraine, and Yushenko lost the 2010 election against Viktor Yanukovich, who has taken a greater pro-Russian stance.¹⁶ After becoming elected, Yanukovich signed a deal with Russia for cheaper natural gas in exchange for maintaining a naval base in Ukraine until 2042. Furthermore, the former prime minister, Yulia Tymoshenko was

¹² Ibid., ix

¹³ Ghaleb, Alexander. “Natural Gas as an Instrument of Russian State Power.” Strategic Studies Institute, U.S Army War College. October 2011., 79

¹⁴ Ibid., 81

¹⁵ Ibid.

¹⁶ Osipovich, Alexander. “Thousands Protest Ukraine President’s Embrace of Russia.” *Ajans-France Presse*. May 10, 2010.
<http://www.google.com/hostednews/afp/article/ALeqM5ht889a9uwCHu3y_lwR-TgX96pjw> (Accessed January 28, 2012)

arrested and sentenced to serve seven years in jail in October 2011 for “abuse of power” during a 2009 natural gas deal with Russia.¹⁷

Ghaleb also argues that Russia uses “reflexive control” – a way of attacking opponents’ strategy – in order to control its sphere of influence.¹⁸ By making bilateral arrangements with European countries, such as Germany, France and Italy, it is able to divide them politically from the Eastern and Central European countries.¹⁹ While the European powers may attain short-term economic interests through these arrangements, they could turn into long-term political loss for Europe and long-term gain for Russia.²⁰

Natural gas and resource policy plays a vital role. In his vision of “state capitalism” Vladimir Putin has suggested that the management of Russia’s natural resources is a matter of the state – for the interests of the state – and not of private entities.²¹ Hence, private actors, such as BP, have encountered serious difficulties operating there. The company is the subject of a \$3 billion lawsuit by its Russian partners because of a failed arrangement with the state-owned Rosneft to drill for oil in the Arctic Circle.²² Meanwhile, Gazprom enjoys a near monopoly on natural gas supply.

¹⁷ “Ukraine’s Tymoshenko Sent to Jail in Kharkiv.” *BBC News*. December 30, 2011. <<http://www.bbc.co.uk/news/world-europe-16363731>> (Accessed January 28, 2012)

¹⁸ Ghaleb., 102-103

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid., 104

²² “Zaks, Dimitri. “BP’s Russia Problems Mount with \$3 bln Claim.” *Ajans France Presse*. <http://www.google.com/hostednews/afp/article/ALeqM5gl-AdFB3_75Nc_5cgL3Qg0_pMc9w?docId=CNG.3d2307e4375fe7fc89b5b38d0b8bf535.8a1> (Accessed January 28, 2012)

The Nord Stream and South Stream natural gas pipeline projects have developed in order to support Russian geopolitical influence and can be viewed as prime examples of Russia's "reflexive control" policy. They enhance the level of dependence of European countries on Russia for gas supply, which has reached nearly 40%. These pipeline projects provide European Union members with natural gas bypassing those countries near Russia that would otherwise benefit from the arrangement. Thus, Russia is able to maintain its sphere of influence in its neighborhood while increasing its power over European Union member countries' energy supply.



Figure 1: Source: BBC

Nord Stream

Nord Stream commenced the first phase of Russia's plan to supply Europe with gas. With the first segment inaugurated in November 2011, Nord Stream supplies Western Europe, namely Germany, through a natural gas pipeline along the Baltic Sea bed bypassing the Baltic countries, Poland, Estonia, Latvia, and Lithuania. The first segment provides nearly 27.5 bcm while a second pipeline is planned to expand this capacity to nearly 55 bcm.

South Stream

The other component to Russia's strategy involves the South Stream pipeline. South Stream would run 900 km along the Black Sea bed, passing through Russian, Turkish and Bulgarian exclusive economic zones 2 km below sea level.²³ Gazprom with a 50% stake, along with Italian Eni SpA with a 20% stake and French EDF and German Wintershall each with 15% stakes are responsible for the project, which would have a 63 bcm per annum capacity.²⁴ Turkey allowed the South Stream project to use its territorial waters in December 2011, providing a boost to the project's prospects and creating a setback for the EU-backed Nabucco pipeline.²⁵

²³ South Stream website. < <http://south-stream.info/index.php?id=14&L=1>> (Accessed February 16, 2012)

²⁴ Ibid.

²⁵ "Russia, Turkey Reach South Stream Deal." *UPI.com*. December 30, 2011. <http://www.upi.com/Business_News/Energy-Resources/2011/12/30/Russia-

Competition between Russia and Turkey

Meanwhile, all the Southern Energy Corridor projects traverse Turkey, which has both a collaborative and competitive energy relationship with Russia. On the one hand, Turkey relies on Russia for a vast majority of its energy. On the other, it has tried to establish itself as an energy transit hub for the region, resisting Russia's dominance and promoting its own strategic location for energy projects from Azerbaijan and potentially Turkmenistan, Kazakhstan, Iraq and Iran. Its ability to compete is constrained, however, by internal demand and lack of supply, creating reliance on imported resources.

Turkey must to an extent cooperate with Russia. It had from 1986 to 2011 an arrangement with Russia to transport nearly 6 bcm of natural gas through Thrace to Turkey.²⁶ In October 2011 it said it would not renew its contract with Russia "due to Gazprom's refusal to reduce the price of natural gas to what Turkey considers a reasonable level," but Turkey has historically had little bargaining power.²⁷ A recent agreement to allow construction of the South Stream pipeline through Turkey's territorial waters can be understood in this context. Ozertem argues Turkey has

Turkey-reach-South-Stream-deal/UPI-71131325244540/> (Accessed February 16, 2012)

²⁶ Karacin, Betül Buke. "USAK Expert Özertem: Energy Diplomacy has a Critical Stance in Turkey- Russia Relations." *The Journal of Turkish Weekly*. January 17, 2012. <<http://www.turkishweekly.net/news/130089/usak-expert-hasan-selim-ozertem-energy-diplomacy-has-a-critical-stance-in-turkey-russia-relations.html>> (Accessed January 17, 2011)

²⁷ "Turkey cancels natural gas contract with Russia." *Today's Zaman*. October 2, 2011. <<http://www.todayszaman.com/news-258670-turkey-cancels-natural-gas-contract-with-russia.html>> (Accessed January 17, 2011)

been paying “huge bills to Russia as a result of accelerating exchange rates and increasing oil prices.”²⁸ Turkey – as with other European countries – has developed a high degree of energy dependence on its neighbor.

Importance of Institutions and Ownership Structure

As the idea of “state capitalism” describes the recent political and economic trends in Eurasia, observers have also worried about the potential for the “resource curse” to affect the region. According to theories declared most notably by Richard Auty, Jeffrey Sachs and Andrew Warner among others, countries rich in natural resources have been unable to use that wealth to boost their economies. Rather, they have had lower economic growth than countries without an abundance of natural resources.²⁹ If poorly-managed, the development of Caspian natural gas resources and their transportation via pipeline networks can be observed as potentially contributing to this situation.

Other scholars, however, have shifted the debate towards a discussion of the strength or weakness of state institutions, which govern resource development and thus control the potential of rentierism. In their work *Oil is Not a Curse*, Pauline Jones Luong and Erika Weinthal discuss how weaknesses of institutions and fiscal regimes can be viewed as the primary cause for conditions leading to the resource

²⁸ Ibid.

²⁹ See Auty, Richard M. *Sustaining Development in Mineral Economies: The Resource Curse Thesis*. London: Routledge, 1993; and Sachs, Jeffrey D; Warner, Andrew M “Natural resource abundance and economic growth.” February 2, 1995. NBER Working Paper 5398. <<http://ideas.repec.org/p/nbr/nberwo/5398.html>>

curse through empirical studies of the Soviet successor states. Their argument rests on three assumptions: “ownership structure is a set of social relations,” “institutions are a product of both supply and demand,” and “ownership structure does not exist in a historical vacuum.”³⁰ Luong and Weinthal’s look at the Soviet successor states can be useful in considering how the development of natural resources is ultimately influenced and determined by state power.

The argument can be extended to include the transportation of natural resources as the competition for cross-border pipelines plays out in the near future. The level of cooperation or defection among potential projects depends on the ownership structure and the strength or weakness of various institutions involved in making the funding and construction decisions. Projects and their ownership structures are often largely influenced by state power. But greater diversity among private as well as public stakeholders increases the likelihood of completing transnational transportation networks that benefits multiple actors.

The Southern Energy Corridor projects include a mix of private as well as state companies. While closer to the “state capitalism” end of the spectrum, the Russian Gazprom-backed projects also include private sector participants from Europe. However, state involvement in the energy sector by Gazprom has historically been directed by top politicians like President Putin and occasionally been linked to criminal activity. Roman Kupchinsky provides an analytical diagnosis of the deep and controversial influence Gazprom has developed throughout Europe

³⁰ Luong, Pauline Jones and Weinthal, Erika. *Oil is Not a Curse: Ownership Structure in Soviet Successor States*. Cambridge: Cambridge University Press, 2010., p. 11-16

in his monogram “Gazprom’s European Web.”³¹ He declares the company lacks transparency and is linked to corruption.

A consideration for the region as a whole going forward is how can regulatory and fiscal regimes in the Caucasus, Black Sea and Balkan countries be strengthened in order to ward off effects of the “resource curse”? How can institutions – both among participants and among state actors – find the right balance of cooperation and competition in order to provide the best system for a diverse set of populations?

Some international institutions have worked to create platforms for greater strengthening of regulatory and fiscal regimes in the Black Sea and Caspian region. These can be relied on to moderate disputes and provide important research for developing the sector. The World Bank’s IFC, European Bank for Reconstruction and Development (EBRD) and European Investment Bank (EIB) are obvious examples. Additionally, the Organization of the Black Sea Economic Cooperation (BSEC) has a working group that allows regional energy ministers to explore issues related to energy efficiency, renewable energy, oil and gas transportation, and the creation of a data bank on energy programs among other projects.³² The annual Black Sea Energy and Economic Forum (BSEEF), hosted annually by the Washington-based think tank Atlantic Council and various partners, also provides a platform for enhancement of

³¹ Kupinchsky, Roman. “Gazprom’s European Web.” *Jamestown Foundation*. (February 2009)

³² Organization of Black Sea Economic Cooperation website. < <http://www.bsec-organization.org/aoc/Energy/Pages/information.aspx> > (Accessed February 16, 2012)

cooperation in the energy sector among the disparate players in the region.³³ While these efforts contribute greatly, potential remains for further collaboration and integration of energy policies among Black Sea and Caspian actors.

International law also applies in the region through the Energy Charter Treaty (ECT). This is a legally binding treaty that aims to “strengthen the rule of law on energy issues, by creating a level playing field of rules to be observed” by participating governments. Azerbaijan, Georgia, Turkey, Russia and the European Union countries have signed the treaty, which began in 1991.³⁴ However, some – in particular Russia – have not ratified it. The ECT entered into force in 1994 following the completion of ratification by the first thirty members.³⁵ Its provisions focus on the protection of foreign investments, non-discriminatory conditions for trade of energy materials based on WTO rules, the resolution of disputes between states and with investors, and the promotion of energy efficiency.³⁶ By seeking to create open and transparent energy markets, it provides a source of legitimacy through international law for strengthening institutions related to energy production and transportation in Europe. Such efforts can help stave off rentierism and corruption in participating countries.

As energy demand is expected to grow significantly in Europe and the Black Sea region, natural gas seems poised to become a highly significant resource. The primary question remains whether the development of transportation networks for

³³ Black Sea Energy and Economic Forum website. <<http://bseef.org/>> (Accessed February 16, 2012)

³⁴ “About the Charter,” Energy Charter website. <<http://www.encharter.org/index.php?id=7&L=1%2F>> (Accessed March 30, 2012)

³⁵ Ibid.

³⁶ Ibid.

natural gas will lead to a more problematic relationship between European states and Russia, which holds the upper hand as a dominant supplier country. While the Southern Energy Corridor supposes to create an alternative to Russia's dominance, the fact remains that Russia has adopted a state-centric approach in the energy sector and developed an ability to challenge the building of the corridor with its own projects. While the building of alternative routes provides some additional security, these likely cannot replace Russian dominance, and European players likely need to continue working with Russia despite its occasionally unfavorable policies.

Chapter 2: The Southern Energy Corridor History and Development

The liberalization of former Soviet Union economies led to a rush by international energy companies to produce oil and gas in these states in cooperation with local governments. Some estimate the energy reserves in the Caspian as the world's third largest behind the Persian Gulf and Siberia.³⁷ The first phase of the Southern Energy Corridor, the construction of the Baku-Tbilisi-Ceyhan (BTC) pipeline from Azerbaijan through Georgia and Turkey to the Mediterranean Sea represented a major success in supplying crude oil from Central Asia to world markets in the 1990s. The completion of the project took a major diplomatic effort, coordinating policies among three countries and receiving much encouragement from the Clinton administration.

³⁷ Levine, Steve. *The Oil and the Glory*. New York: Random House, 2007.

As crude oil has been transmitted out of the region from tankers in Ceyhan, Turkey, foreign capital has flowed in, creating a boon for investment and economic development. Author Steve Levine recounts how oil riches “remade” Baku, Azerbaijan on the Caspian’s west side and Almaty, Khazakstan on the east side with new restaurants, casinos and buildings.³⁸ The 1990s saw a race among international energy companies to partner with the region’s governments and develop their resources, but corruption and hostilities sometimes became problematic. Risking evolution to a rentier economy, much of the value created from the BTC pipeline and other projects remained in the hands of a select few at the top of the government system while the majority remained in conditions of poverty.

Events that transpire over the next few years will determine the trajectory of the next generation in the region. Robert Cutler, an analyst at the Institute of European, Russian and Eurasian Studies at Carleton University, argues the years 1993 through 2010 made up a “macro-phase” of energy development in Eurasia, representing the emergence of “post-Cold War patterns of organization of international energy geo-economics.”³⁹ “Some of those patterns have fallen away and others have survived,” he says. Meanwhile, “various sub-regions have evolved practical overlapping interests and intersections with one another.”⁴⁰ These “cohere in different and changing ways,” and the projects that come to fruition in the near future will lead to a “settling down” of geo-economic patterns as a new macro-

³⁸ Ibid.

³⁹ Cutler, Robert. “Azerbaijan-The Crucible for Eurasia’s Energy Brew.” *Asia Times*. December 22, 2011.

<http://www.atimes.com/atimes/Central_Asia/ML22Ag01.html> (Accessed December 22, 2011)

⁴⁰ Ibid.

phase emerges in energy development.⁴¹ The new phase has Azerbaijan as its “crucible,” says Cutler, and the key variable is whether Turkmenistan will cooperate or defect from the Azeri goal of becoming an energy bridge in the region.⁴²

The ambition to complete the Southern Energy Corridor for connecting Central Asian natural gas supplies to European markets with a new series of pipelines developed as a result of this shift. Analysts frequently cite energy security and diversification of supplies in Western Europe as reasons to construct the corridor from the European perspective. The US has also traditionally supported a role for free markets and energy security in the region in line with supporting its European allies, adding much consternation for Russia. In April 2009 Secretary of State Hillary Clinton appointed Amb. Richard Morningstar as the special envoy of the US for Eurasian Energy in order to support the development, production and transit of energy resources in Eurasia.⁴³

As the BTC crude oil pipeline did, the building of the Southern Energy Corridor would also provide economic gains throughout the transit countries in the Caucasus, Turkey and the Balkans. It also has the potential to provide Western Europe with the energy diversification it seeks. However, policymakers and businessmen need to focus on multilateral cooperation, institutional structures and good governance practices in order to avoid the trappings of the resource curse.

⁴¹ Ibid.

⁴² Ibid.

⁴³ “Office of the Special Envoy for Eurasian Energy.” Department of State. Press Statement. PRN: 2009/350. April 20, 2009.

<<http://www.state.gov/r/pa/prs/ps/2009/04/121930.htm>>

Shah Deniz

The second phase of the Southern Energy Corridor starts with the Shah Deniz natural gas field. Discovered in 1999, it represents one of the world's largest gas-condensate fields, with over one trillion cubic meters of gas.⁴⁴ It is located on the deep-water shelf of the Caspian Sea, 70 km southeast of Baku, in depths ranging from 50 to 500 m.⁴⁵ British Petroleum (BP) operates Shah Deniz on behalf of its partners in the Shah Deniz Production Sharing Agreement (PSA).⁴⁶ BP owns 25.5%, and other consortium members are: Norway's Statoil, 25.5%; Azerbaijan's SOCAR, 10%; the Italian-Russian joint venture LukAgip, 10%; Iran's NICO, 10%; France's Total, 10%; and Turkey's TPAO, 9%.⁴⁷ The Shah Deniz I project is currently online, and there are plans to develop the larger field, Shah Deniz II, in the near future.⁴⁸ This field will determine the future of the natural gas pipeline network to be built to Europe. In total, the fields are estimated at nearly \$20 billion in value.⁴⁹

Azeri gas from Shah Deniz has been the major driver for gas pipeline developments in Southeast Europe, and a competitive bidding process was opened

⁴⁴ Cutler, Robert. "BP Slips in Shah Deniz Bid." *Asia Times*. October 6, 2011. <http://www.atimes.com/atimes/Central_Asia/MJ06Ag01.html> (Accessed January 21, 2012)

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ "Shah Deniz Stage 1." BP website.

<<http://www.bp.com/sectiongenericarticle.do?categoryId=9006668&contentId=7015092>> (Accessed October 22, 2011)

⁴⁹ Torello, Allesandro. "Which Pipelines are Pipe Dreams?" *Real Time Brussels Weblog; Wall Street Journal*. December 21, 2011.

<<http://blogs.wsj.com/brussels/2011/12/21/which-pipelines-are-pipedreams/>> (Accessed December 21, 2011).

for gas delivery from the Shah Deniz II field to markets in Europe. While the incentives from Europe are clear, the logistics have been slow to develop. The consortium accepted tenders on October 1, 2011 from the Nabucco, TAP and ITGI pipelines, as well as the SEEP Pipeline, which announced its bid just a few weeks before the deadline.⁵⁰ The Shah Deniz consortium expects to carry out the tender process and announce its decision by mid-2013.⁵¹

While natural gas from Azerbaijan represents a large potential, reserves located in Turkmenistan are estimated to be even larger. The Nabucco pipeline, as it was originally conceived, depended on the ability to complete the initial-stage Trans-Caspian Pipeline (TCP) under the seabed of the Caspian Sea from Turkmenistan to Azerbaijan. Otherwise, natural gas from other sources, such as Iraq or Iran, must be connected to the project for it to be realized in its original form.

The Tengiz field in Kazakhstan also could be a possibility for the corridor if the Trans-Caspian pipeline reaches completion. In September 2011 the European Union Foreign Affairs Council allowed for negotiations with Azerbaijan and Turkmenistan, where the Southern Yoloten-Osman, Minara and Yashlar fields are estimated as the second largest in the world.⁵² If such negotiations come to a

⁵⁰ Ibid.

⁵¹ "OMV expects decision on Nabucco pipeline by mid-2013." *Reuters*. February 22, 2012. < <http://www.reuters.com/article/2012/02/22/omv-nabucco-idUSWEA290520120222> > (Accessed March 31, 2012)

⁵² Chaffin, Joshua. "EU set to act on Caspian pipeline plan." *Financial Times*. September 11, 2011; and "Independent auditor calls natural gas field in Turkmenistan the second largest in the world." *Turkmenistan.ru*. October 11, 2011. <<http://www.turkmenistan.ru/en/articles/15473.html>> (Accessed October 22, 2011)

successful conclusion, this development has the potential for igniting a process for higher export of gas to Europe and other markets than previously anticipated.

Other developments in late 2011 and early 2012 have signaled progress for the Southern Energy Corridor network. On October 25, Turkey and Azerbaijan came to an agreement over transit fees, a contentious issue in the negotiations between these states.⁵³ Although the details of the arrangement, signed in the western Turkish city of Izmir, have not been made public, the deal overcomes one of the Southern Energy Corridor's greater obstacles and enhances the possibility for one of the pipelines to route gas from Shah Deniz II through Turkey to Europe.

Europe has heavily supported the Southern Energy Corridor process. The European Commission said it would welcome any decision made by the Shah Deniz consortium, according to EU Commissioner for Energy Gunther Oettinger.⁵⁴ With the sovereign debt crisis in the Eurozone and uncertainty in the industry regarding developments unconventional shale gas, each project provides a unique opportunity for the region.

⁵³ Pannier, Bruce. "Azerbaijani-Turkish Gas Deal Opens Southern Corridor." *Radio Free Europe/Radio Liberty*. October 26, 2011. <http://www.rferl.org/content/turkey_azerbaijan_natural_gas_agreement_nabucco/24371892.html> (Accessed October 29, 2011)

⁵⁴ "EU to Welcome Any Decision by Shah Deniz Consortium." *Journal of Turkish Weekly*. December 20, 2011. <<http://www.turkishweekly.net/news/128464/eu-to-welcome-any-decision-by-shah-deniz-consortium.html>> (Accessed December 21, 2011).

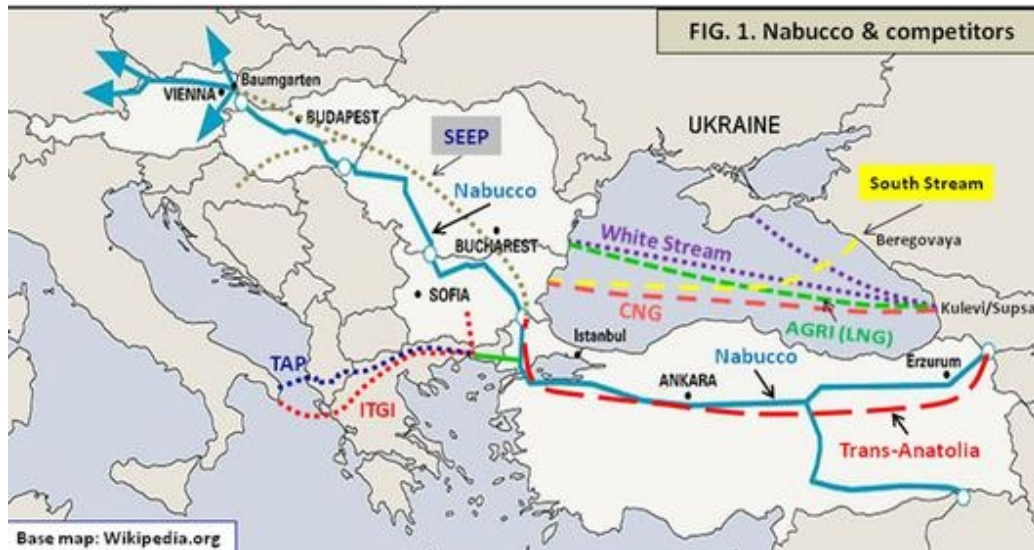


Figure 2: Southern Energy Corridor Projects Source: News.Az

Southern Energy Corridor Projects		
<u>Name</u>	<u>Countries Traversed</u>	<u>Status</u>
<u>Through Caucasus</u>		
Trans-Caspian Pipeline (TCP)	Turkmenistan, Azerbaijan	Planning stage
South Caucasus Pipeline	Azerbaijan, Georgia, Turkey	Completed
<u>Northern Routes to Austria</u>		
Nabucco Pipeline (original)	Turkey, Bulgaria, Romania, Hungary, Austria	Restructured as Nabucco West
Nabucco West	Bulgaria, Romania, Hungary, Austria	Submitted tender for Shah Deniz
South East Europe Pipeline	Bulgaria, Romania, Hungary, Austria	Submitted tender for Shah Deniz
Trans-Anatolian Pipeline (TANAP)	Turkey	Planning stage
<u>Western Routes to Italy</u>		
Trans-Adriatic Pipeline (TAP)	Turkey, Greece, Italy	Submitted tender for Shah Deniz
Interconnector Turkey-Greece-Italy (ITGI)	Turkey, Greece, Italy	Tender for Shah Deniz not accepted

Table 1: Own Representation

(i) *Trans-Caspian Pipeline*

The Trans-Caspian Pipeline would bring natural gas across the seabed of the Black Sea from Turkmenistan to Azerbaijan. In September 2011, the Council of the EU mandated the European Commission to negotiate a legally binding treaty between the EU, Azerbaijan and Turkmenistan to build the pipeline, which would stretch from Turkmenbashi to Baku bypassing both Russia and Iran. Azerbaijan and Turkmenistan have been negotiating a draft agreement as of February 2012.⁵⁵ The idea was first posed in the late 1990s and then came back onto the agenda after the Russia-Ukraine gas pricing dispute in 2006.⁵⁶ However, the funding and construction is contentious due to Russian and Iranian opposition. The pipeline is planned for carrying 30 bcm across the Caspian at a cost of \$5 billion for construction.⁵⁷

⁵⁵ "Azerbaijan and EU prepared a draft agreement on Trans-Caspian gas pipeline," February 28, 2012. Azerbaijan Business Center.

<<http://abc.az/eng/news/main/62812.html>> (Accessed February 29, 2012)

⁵⁶ Socor, Vladimir. "Interest Rebounds in Trans-Caspian Pipeline for Turkment Gas." *Eurasia Daily Monitor*. January 24, 2006.

<[http://www.jamestown.org/single/?no_cache=1&tx_ttnews\[tt_news\]=31316](http://www.jamestown.org/single/?no_cache=1&tx_ttnews[tt_news]=31316)> (Accessed January 20, 2012)

⁵⁷ Socor, Vladimir. "Azerbaijan Spearheading Initiative on Trans-Caspian Gas Pipeline." *Eurasia Daily Monitor*. March 30, 2006

<[http://www.jamestown.org/single/?no_cache=1&tx_ttnews\[tt_news\]=31531](http://www.jamestown.org/single/?no_cache=1&tx_ttnews[tt_news]=31531)> (Accessed January 20, 2012)



Figure 3: Source: eurasiaenergyanalysis.blogspot.com

If built, the Trans-Caspian Pipeline could transit gas both from Turkmenistan or potentially Kazakhstan through the other proposed pipelines of the Southern Energy Corridor. The construction of this pipeline is a key ingredient for realizing the larger Nabucco project, which many argue cannot be realized with Azeri gas alone. Several feasibility studies have so far been conducted, including by the state oil company of Azerbaijan, SOCAR, and KMG-Transcaspian, a subsidiary of Kazmunaigaz, the state energy company of Kazakhstan.⁵⁸

Turkmenistan could eventually become a large potential supplier to the Trans-Caspian Pipeline. It produces nearly 70 bcm of natural gas per year, nearly two-thirds of which goes to Russia's Gazprom.⁵⁹ Estimates place Turkmenistan's

⁵⁸ "SOCAR, KMG Move on Trans-Caspian Pipeline." July 13, 2009. *United Press International*. < http://www.upi.com/Business_News/Energy-Resources/2009/07/13/SOCAR-KMG-move-on-Trans-Caspian-pipeline/UPI-38141247496493/ > (Accessed January 20, 2012)

⁵⁹ "Turkmenistan Country Profile." *BBC*. <http://news.bbc.co.uk/2/hi/south_asia/country_profiles/1298497.stm#facts> (Accessed January 20, 2012)

total proven natural gas reserves at nearly 7.5 trillion cubic meters, fourth in the world after Russia, Iran and Qatar.⁶⁰ However, so far it has not been convinced to provide natural gas for the Southern Energy Corridor projects.

Azerbaijan has largely supported the corridor. A trans-Caspian seabed pipeline "would ensure Europe's energy security and protect it from Russian monopolism," Natig Aliyev, the country's Minister for Industry and Energy remarked in 2006.⁶¹ While Turkmenistan has been more ambivalent because of its relationship with Russia, its president, Gurbanguly Berdymukhamedov, also spoke in favor of the project in November 2011, saying studies were being conducted to support building the pipeline.⁶²

Russia and Iran both oppose the construction of the Trans-Caspian Pipeline. In May 2007, an agreement was signed between Russia, Kazakhstan and Turkmenistan to bring Central Asian gas to Europe through a reconstructed and expanded western branch of the Central Asia-Center gas pipeline system, and this was seen as a setback. However, Turkmen President Berdymukhamedov said that the Trans-Caspian Pipeline project would not be canceled.⁶³ Iran announced its opposition in September 2008.

⁶⁰ CIA World Factbook. (Accessed January 20, 2012)

⁶¹ Socor, Vladimir. "Azerbaijan Spearheading Initiative on Trans-Caspian Gas Pipeline."

⁶² Fitzpatrick, Catherine. "Turkmenistan: Berdymukhamedov Pledges Support for Trans-Caspian Pipeline." *Eurasianet*. November 7, 2012.
<<http://www.eurasianet.org/node/64465>> (Accessed January 20, 2012)

⁶³ Konyrova, Kulpasha. "Putin Torpedoes Trans-Caspian Gas Pipeline Plans." *New Europe*.
<http://web.archive.org/web/20070927225724/http://www.neurope.eu/view_news.php?id=73862> (Accessed January 20, 2012)

A few months later two Nabucco project shareholders, RWE and OMV, announced they would plan a joint venture for building a pipeline across the Caspian.⁶⁴ The Caspian Energy Company (CEC) would be a 50-50 joint venture with headquarters in London. It would “examine the technical and legal possibilities of building a gas pipeline under the Caspian Sea” and “seek comprehensive solutions for a gas transport infrastructure from the Caspian basin to Europe,” according to reports.⁶⁵

With other potential partners, CEC would “advance the construction of a west-bound trans-Caspian system and then operate that transport system as owner.”⁶⁶ CEC identified BP as a potential partner because of its involvement in the development of the Shah Deniz fields and the South Caucasus Pipeline from Azerbaijan to Turkey. However, by early 2012, with RWE considering abandoning the original Nabucco project, the potential for this consortium to complete the project remains uncertain.

China represents another risk variable for the Trans-Caspian Pipeline. A pipeline from Turkmenistan to China began transporting gas in 2010. The Central Asia-China Pipeline crosses Uzbekistan and Kazakhstan, traveling 1,833 km to western China, carrying 30 bcm per annum of natural gas from Turkmenistan and another 10 km from Kazakhstan. The deal caused tension by undercutting Russian

⁶⁴ Socor, Vladimir. “Increased Western Involvement in Caspian Sea Energy Transport.” *Eurasia Daily Monitor*. January 6, 2009
<[http://www.jamestown.org/single/?no_cache=1&tx_ttnews\[tt_news\]=34309](http://www.jamestown.org/single/?no_cache=1&tx_ttnews[tt_news]=34309)>
(Accessed January 20, 2012)

⁶⁵ Ibid.

⁶⁶ Ibid.

efforts to supply China with natural gas.⁶⁷ Furthermore, it created an incentive for China to oppose the Trans-Caspian Pipeline because "China does not want Turkmenistan to use European prices to bargain for an increase in prices to China."⁶⁸ With Turkmenistan already supplying Russia and China with large amounts of gas, it will consider carefully supplying the Southern Energy Corridor routes as well because of the threatening stance of Russia.⁶⁹

Another major issue for the Trans-Caspian Pipeline involves the legal argument of whether the Caspian is a sea or a lake. While Azerbaijan has argued for a "sectoral division" of rights to develop the Caspian based on historical agreements with the Soviet Union, Russia has argued the sea "lacks a natural link to the world's oceans and seas and is thus a land-locked body of water."⁷⁰ Under this view, the norms of international maritime law do not apply, and utilization of the Caspian must therefore be "subject to concerted action on the part of all states bordering [it]."⁷¹ This potentially creates another obstacle for completion of the Trans-Caspian

⁶⁷ Balmforth, Tom. "Turkmenistan: China Export Deal Undercuts Gazprom's Leverage." *Eurasianet*. November 30, 2011.

<<http://www.eurasianet.org/node/64609>> (Accessed January 20, 2012)

⁶⁸ Fitzpatrick, Catherine. "Turkmenistan: Chinese Deal Helps Stall Trans-Caspian Pipeline, Deter Caspian Conflict." *Eurasianet*. November 30, 2011.

<<http://www.eurasianet.org/node/64610>> (Accessed January 20, 2012)

⁶⁹ Fitzpatrick, Catherine. "Will Turkmenistan Overcome Hurdles to Open Pipeline Route to Europe?" *Eurasianet*. October 24, 2011.

<<http://www.eurasianet.org/node/64369>> (Accessed January 20, 2012)

⁷⁰ Mammadov, Ildar. "Geopolitics of Energy in the Caspian Sea Region." April 2009. Masters thesis. The Fletcher School of Law and Diplomacy.

⁷¹ Ibid.

Pipeline. Some Russian analysts have even suggested the possibility of war over the issue.⁷²

With regional powers Russia and Iran opposed, completion of the Trans-Caspian Pipeline through a tripartite agreement, as mandated by the Council of the EU, will not be easy to negotiate. According to Alexandros Peterson, a scholar at the European Energy Security Initiative of the Woodrow Wilson International Center for Scholars:

There is a lot of potential for a Trans-Caspian option, but Ashgabat and Baku have to be committed to coming to a settlement and cooperating on export and transit. Turkmen gas is not essential for a Southern Energy Corridor project to begin construction. The Trans Adriatic Pipeline (TAP), Interconnector Greece-Italy (IGI) and BP's new South East Europe Pipeline (SEEP) are all designed to move forward with only Shah Deniz II gas from Azerbaijan. However, if the Southern Energy Corridor is going to be a game changer for European energy security, then Turkmen gas should be connected to the route, together with future Azerbaijani supplies from fields other than Shah Deniz. This should and will likely occur in a second phase, once the

⁷² Kucera, Joshua. "Would Russia Go to War over the Trans-Caspian Pipeline?" *Eurasianet*. November 22, 2012. < <http://www.eurasianet.org/node/64568> > (Accessed January 20, 2012)

initial capacity is there to ship imminently available Azerbaijani supplies.⁷³

Despite significant obstacles, potential for construction of the Trans-Caspian Pipeline remains. According to Petersen, "there is little Moscow can do other than make loud, but rather empty pronouncements," and Iran is not likely to use force. The completion would furthermore secure the possibility for the other Southern Energy Corridor projects.

(ii) South Caucasus Pipeline

The South Caucasus Pipeline, sometimes called the Baku-Tbilisi-Erzurum gas pipeline, began operation at the end of 2006. It passes from Azerbaijan through Georgia to Erzurum, Turkey along the same route as the BTC crude oil pipeline. Gas is delivered to two commercial clients of the Shah Deniz consortium. BOTAS buys gas for Turkey, and BTC Co. buys gas for the compressor stations of the Baku-Tbilisi-Ceyhan oil pipeline.⁷⁴

Gas is also delivered to Georgia from the pipeline as a transit payment, i.e. 5% of the volume transported to Turkey.⁷⁵ The initial capacity for the pipeline was 8.8 bcm, but this will be expanded to 20 bcm in 2012 to accommodate the

⁷³ Fitzpatrick, Catherine. "Turkmenistan: Berdymukhamedov Pledges Support for Trans-Caspian Pipeline."

⁷⁴ "In 2012 capital costs for south Caucasian pipeline to rise by 70.5% up to \$15 million." *Turan Information Agency*. March 5, 2012.

⁷⁵ Ibid.

downstream Southern Energy Corridor projects. Shareholders of the South Caucasus Pipeline include BP and Statoil with 25.5% each, SOCAR, NICO, LUKoil and Total with 10% each and TPAO with 9%.⁷⁶ The pipeline makes up a vital component of the Southern Energy Corridor by transporting gas from Azerbaijan to Turkey.

Northern Routes to Austria

(iii) Nabucco Pipeline

The Nabucco Pipeline has received much attention as the biggest and most highly political project. It proposes a route from Erzurum, Turkey across the Balkans to Baumgarten an der March, Austria. The project explicitly aims to lessen Europe's dependence on natural gas from Russia and competes with Gazprom's South Stream pipeline. However, the project has come under scrutiny for its potential cost and the viability of its natural gas supplies. At 31 bcm of natural gas capacity, the project would depend on supplies from Iraq, Turkmenistan, Egypt or Kazakhstan as well as Azerbaijan. A recent restructuring of the bid has also created the potential for a scaled-down version of the project: Nabucco West.

Support for the project has risen and fallen over time. Plans for Nabucco were begun in 2002. The governments of Turkey, Bulgaria, Romania, Hungary and Austria signed an intergovernmental agreement for the project in 2009 when support for the project was high. However, as the European sovereign debt crisis

⁷⁶ Ibid.

grew worse in 2010-2012, analysts' expectations for the likelihood of completion have diminished greatly.

The scale of Nabucco was considerably large when conceived. A majority 2,581 km of the 3,900 km total length of the pipeline would pass through Turkey. Another 412 km would pass through Bulgaria, 469 km through Romania, 384 km through Hungary, and 47 km through Austria. Since a large portion of the pipeline runs through Turkey, it has a significant interest in completing the project. However, success also depends on securing supplies, and without commitments from supplier countries beyond Azerbaijan, smaller alternative routes have an advantage.

Part of the difficulty with realizing Nabucco includes the diverse array of players involved. Six shareholders each would own 16.67% of the project. These include the German utility RWE, Austrian private company OMV, Hungarian MOL, Romanian Transgaz, Bulgarian Bulgargaz, and the Turkish state company BOTAS. In addition, supplier countries would include Azerbaijan as well as potentially Turkmenistan or Kazakhstan, depending on completion of the Trans-Caspian Pipeline, as well as Iraq, Iran or Egypt. Coordination of all these players could be challenging due to cultural differences and the array of interests involved.

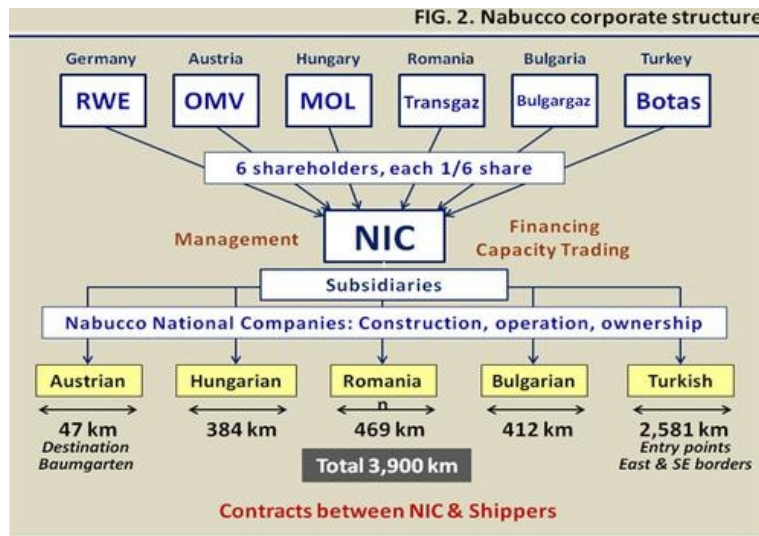


Figure 4: Source: News.Az

The downstream arrangement for Nabucco would include 50% of the capacity reserved for the consortium members to buy through open bid and the other 50% would be reserved for third parties to buy through open bid.

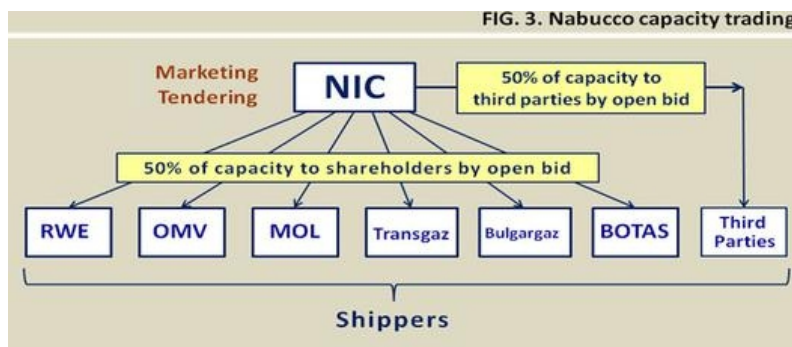


Figure 5: Source: News.Az

In September 2010, Bloomberg news reported that Nabucco could receive nearly \$5.2 billion from the European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB) and World Bank's International Finance

Corporation (IFC).⁷⁷ Nevertheless, the project was delayed due to problems with securing supply. Nabucco Managing Director Reinhard Mitschek said at the time construction would start in 2012 and operation would start in 2015 – moving these timetables out by one year.⁷⁸ The project was later delayed again to begin in 2013 and start operation in 2017.⁷⁹ Thomas Barrett, director at the EIB described the problem with complexity:

When you get so many parties, we're talking about at least eight countries, we're talking about 13 major companies, about x, y, z number of banks, bringing them all together to a common script, is something that can never be predicted on a timetable with precision. The fact that one misses a precise calendar date when a project has a 50-year or 100-year life as the case may be, in the context of the project one cannot say one should be complacent, it just doesn't matter to that degree.

The cost of Nabucco has also risen over the life of the project. According to the consortium's website, the total investment is estimated at 7.9 billion euros

⁷⁷ Bodoni, Stephanie and Schneeweiss, Zoe. "Nabucco Pipeline May Get \$5 Billion from EIB, EBRD, World Bank." *Bloomberg*. September 6, 2010. <<http://www.bloomberg.com/news/2010-09-06/nabucco-gas-pipeline-to-get-up-to-5-2-billion-from-eib-ebrd-world-bank.html>> (Accessed January 21, 2012)

⁷⁸ Ibid.

⁷⁹ Dempsey, Judy. "Europe's Nabucco Pipeline Delayed Again." *New York Times*. May 9, 2011. <<http://www.nytimes.com/2011/05/10/business/global/10nabucco.html>> (Accessed January 21, 2012)

(nearly \$12 billion). About 70% of this would be financed through loans from financial institutions.⁸⁰

According to the financing structure, the EIB would contribute nearly 2 billion euros.⁸¹ The EBRD's package would constitute as much as 1.2 billion euros, and the IFC would pay about 800 million euros.⁸² Half of the EBRD and the IFC's contributions would be syndicated to commercial banks.⁸³ The project's six shareholders plan to provide the remaining 30% of the financing, and the European Union also pledged 200 million euros for the pipeline.⁸⁴

The shareholders have varying plans for raising funds. For example, OMV said it would use its "normal way" of financing through cash flow or use of bonds, and Transgaz said it would seek government guarantees. Other information for how shareholders seek to finance the investment has not been made readily available.

Nabucco Financing	(Euros, millions)	% of total
European Investment Bank	2000	25%
European Bank for Reconstruction and Development (EBRD)	600	8%
Syndicated to Commercial Banks by EBRD	600	8%
International Finance Corporation (IFC)	400	5%
Syndicated to Commercial Banks by IFC	400	5%
European Union	200	3%
<i>Financing yet to be secured</i>	1330	17%
Shareholders	2370	30%
Total Investment	7900	100%

Table 2: Source: Bloomberg, "Nabucco Pipeline May Get \$5 Billion from EIB, EBRD, World Bank"

⁸⁰ "Overview," Nabucco website.

⁸¹ Bodoni, Stephanie and Schneeweiss, Zoe. "Nabucco Pipeline May Get \$5 Billion from EIB, EBRD, World Bank."

⁸² Ibid.

⁸³ Ibid.

⁸⁴ Ibid.

With the European debt crisis having severely deteriorated the economies of the Eurozone countries, particularly among the southern countries of Greece and Italy, the chances for completion of the Nabucco pipeline as it was originally conceived appear dim as of early 2012. Rising cost estimates for the project have damaged its reputation among investors. With other smaller projects competing for transit routes from the same natural gas fields, the outlook has become uncertain.

Reports suggested major stakeholder RWE was considering dropping out of the Nabucco consortium. Juergen Grossmann, the chief executive officer, said in an interview with the *Wall Street Journal* that, while the company remained interested in importing Caspian gas to Europe, it now favors options "that keep our own financial exposure limited," and that RWE could instead support other pipelines that compete with Nabucco.⁸⁵ This would be a major blow to the prospect's chances.

Even the U.S. envoy for Eurasian Energy, Richard Morningstar, expressed doubt. "It became clear that it is more difficult to implement the project from the financial and temporal points of view," he said at an event in January 2012.⁸⁶ With the economic uncertainty in Europe, problems securing upstream supplies, and the addition of new alternatives, Nabucco has a lot to contend with in its original form. However, a scaled-down version of the pipeline in partnership with the Trans-

⁸⁵ "RWE May Ditch Nabucco Gas Pipeline Project." *Reuters*. January 18, 2012. <<http://af.reuters.com/article/energyOilNews/idAFL6E8CI47E20120118>> (Accessed January 19, 2012)

⁸⁶ "U.S. Examines Cost of Nabucco." *United Press International*. January 20, 2012. <http://www.upi.com/Business_News/Energy-Resources/2012/01/20/US-examines-cost-of-Nabucco/UPI-62541327065332/> (Accessed January 21, 2012)

Anatolian Pipeline (TANAP), otherwise known as Nabucco West, might also contend for the bid.

(iv) *Nabucco West Pipeline*

The failure to secure gas from suppliers besides Azerbaijan and sovereign debt crisis in Europe led the Nabucco project to change its strategy. In February 2012 a scaled-down Nabucco project and TANAP pipeline combination was discussed by Turkish Energy Minister Taner Yildiz.⁸⁷ Then, in March a new plan was announced called Nabucco West.⁸⁸ According to Al Cook, the BP vice-president overseeing the Shah Deniz consortium, the revised project was "a big step forward."⁸⁹ Nabucco West would start at the Turkish-Bulgarian border, using the existing infrastructure through Turkey and continue to the Baumgarten an der March station in Austria.⁹⁰

(v) *Trans-Anatolian Pipeline (TANAP)*

TANAP essentially involves the improvement in scale and expansion of Turkey's existing pipeline network and would link natural gas to the South East

⁸⁷ "TANAP, Nabucco Pipeline Merger to be Discussed-Turkish Energy Min," *Reuters*. February 28, 2012. <<http://www.reuters.com/article/2012/02/28/turkey-nabucco-tanap-idUSL5E8DS27820120228>> (Accessed February 29, 2012)

⁸⁸ Chaffin, Joshua. "Nabucco Pipeline Plans Scaled Down." *Financial Times*. March 16, 2012. p. 6

⁸⁹ Ibid.

⁹⁰ Ibid.

Europe Pipeline (SEEP) or the scaled-down Nabucco. Like the SEEP Pipeline, the Trans-Anatolian Pipeline would make up a network that would compete with the original conception of Nabucco, essentially servicing Turkish energy needs across Anatolia and transmitting the remaining gas to European markets.

Turkey and Azeri officials came to terms for TANAP in December 2011, finishing the agreement in January.⁹¹ “Any company that has gas” can join the venture to build a pipe from Turkey’s eastern border to the west, said Rovnaq Abdullayev, president of SOCAR.⁹²

TANAP, would cost nearly \$9.2 billion and have a capacity of 16 billion cubic meters a year.⁹³ It would be completed by 2017 when the Shah Deniz II starts producing gas, the Turkish state-owned Anatolia News Agency said in November, citing SOCAR Vice President Vaqif Aliyev.⁹⁴ It would cross nearly 2,000 km. Aliyev said the project seems more “doable” than the European Union-backed Nabucco as it was originally conceived.⁹⁵

(vi) South East Europe Pipeline (SEEP)

In late September 2011, just before the final bids were collected from the Shah Deniz consortium, BP and SOCAR announced a joint initiative called the South

⁹¹ “Turkish-Azerbaijani Gas Pipeline Deal Expected in January, Socar Says,” *Bloomberg Businessweek* <<http://www.businessweek.com/news/2011-12-20/turkish-azeri-gas-pipeline-deal-expected-in-january-socar-says.html>> (Accessed December 21, 2011)

⁹² Ibid.

⁹³ Ibid.

⁹⁴ Ibid.

⁹⁵ Ibid.

East Europe Pipeline (SEEP). This project competes with Nabucco, essentially connecting Turkey's existing pipeline structure along the same route through Bulgaria, Romania and Hungary to the Baumgarten an der March hub in Austria. It would traverse nearly 1,300 km.⁹⁶

Its announcement came as a surprise. It originally provided a "utilitarian" alternative to the larger Nabucco, providing the greatest benefit for the greatest number of actors.⁹⁷ Other analysts have gone so far as to say the project "drives a stake through the heart" of the Brussels-backed project.⁹⁸ Elnur Soltanov, the director of the Caspian Center for Energy and the Environment (CCEE) at the Azerbaijan Diplomatic Academy in Baku argues:

SEEP is preferable to [the original plan for] Nabucco insofar as it would not only be much smaller (and thus cheaper), but also it would mainly use existing pipelines on its route, thus lowering the cost and increasing the potential profit margin. This, of course, is what ITGI/TAP would also do. But unlike ITGI/TAP, the SEEP would reach more reliable markets than Greece and Italy. SEEP would pass through Bulgaria, Romania, Hungary and Croatia, i.e. twice as many markets as ITGI/TAP.

⁹⁶ Cutler, Robert. "BP Slips in Shah Deniz Bid."

⁹⁷ Soltanov, Elnur. "The South East Europe Pipeline: Greater Benefit for the Greater Number of Actors." Instituto Affari Internazionali. IAI Working Papers 12/02. January 2012.

⁹⁸ Hulbert, Matthew. "BP Drives a Stake through the Southern Corridor." *European Energy Review*. October 6, 2011.

<<http://www.europeanenergyreview.eu/site/pagina.php?id=3264>> (Accessed January 21, 2012)

A particularly salient aspect of the SEEP bid is that BP is also a stakeholder in the Shah Deniz II consortium providing the tender.⁹⁹ This might give the project an advantage. Soltanov furthermore argued SEEP may be a “face-saving move” for the EU as well as Russia, given its own challenges in the gas supply chain.¹⁰⁰ It presents a smaller alternative that could potentially be scaled up in the future. On the other hand, choosing SEEP could signify the EU would not push as hard for the Trans-Caspian Pipeline and original Nabucco projects.¹⁰¹

Western Routes to Italy

(i) Trans Adriatic Pipeline (TAP)

The Trans Adriatic Pipeline connects Turkey’s existing natural gas network with Greece and passes through Albania over the Adriatic Sea to Italy. It aims to provide 10 bcm of natural gas per year from the Shah Deniz II field.¹⁰² While Turkey, Italy and Greece would benefit from this project, it presents a smaller and arguably more manageable alternative to the larger EU-backed Nabucco. The Trans-Adriatic

⁹⁹ Cutler, Robert. “BP Slips in Shah Deniz Bid.”

¹⁰⁰ Soltanov, Elnur. “The South East Europe Pipeline: Greater Benefit for the Greater Number of Actors.”

¹⁰¹ Ibid.

¹⁰² “TAP Submits Bid to Shah Deniz Consortium,” Trans-Adriatic Pipeline website. <<http://www.trans-adriatic-pipeline.com/news/news/detail-view/article/196/>> (Accessed October 22, 2011)

Pipeline has much in common, however, with its other competitor, Interconnector-Greece-Turkey-Italy (ITGI).

Like the South East Europe Pipeline and Nabucco West, the Trans-Adriatic Pipeline would have less scalability in the case that supplies from Turkmenistan or the Middle East are also eventually guaranteed to route through Turkey to Europe. Furthermore, the final destination would be Italy, not Austria, which is on the path to becoming a natural gas hub in Europe.



Figure 6: Trans-Adriatic Pipeline map. Source: www.trans-adriatic-pipeline.com

The shareholder structure of the Trans Adriatic Pipeline consortium comprises of Swiss EGL (42.5%), Norwegian Statoil (42.5%) and German E.ON Ruhrgas (15%).¹⁰³ However, after the Interconnector Greece Italy (IGI) pipeline was knocked out of the running, TAP Greece Country Manager Rikard Scoufias said

¹⁰³ TAP website. < <http://www.trans-adriatic-pipeline.com/about-us/tap-ag-company/> > (Accessed October 29, 2011)

Greek and Italian partners would be welcome to join the consortium.¹⁰⁴ Speaking to promote the project at the South Eastern Europe Gas Forum in Brussels in October 2011, TAP Managing Director Kjetil Tunland said:

Many countries in Southeastern Europe are keen to secure supplies of gas into the region from the Shah Deniz Phase II development and other potential Caspian sources. TAP is the only pipeline, which can fulfill this vision in a cost-effective, technically reliable and commercial way. In order to turn this vision into reality, it is important that the Shah Deniz consortium makes the appropriate decision soon. Once TAP is realized, then the connections to the South Eastern European markets - through the Ionian Adriatic Pipeline and other systems - can be implemented quickly.

Tunland places an emphasis on cost-effectiveness and commerciality, as TAP has chosen a strategy of lower scale and less risk in comparison to Nabucco before the latter's scaling down. It assumes only Azeri gas would pose a commercially viable option and that demand in European markets would not dramatically increase.

The Ionian Adriatic Pipeline, would stretch along the Adriatic coast into the lesser developed countries of the former Yugoslavia: Albania, Montenegro, Bosnia-

¹⁰⁴ Tugwell, Paul. "TAP Venture Open to Greek, Italian Partners, Scoufias Says." *Bloomberg*. March 30, 2012. < <http://www.businessweek.com/news/2012-03-30/tap-venture-open-to-greek-italian-partners-scoufias-says>> (Accessed April 1, 2012)

Herzegovina and Croatia. Its completion would present a further opportunity for regional integration of these states and their economies.

(ii) *Interconnector Turkey Greece Italy Pipeline (ITGI)*

The Interconnector Turkey-Greece-Italy gas pipeline (ITGI) project provided another viable alternative for European gas networks. It would have connected to an upgraded Turkish grid and included two sections: Interconnector Turkey-Greece (ITG) and Interconnector Greece-Italy (IGI). The ITG section of the project has been completed, bringing a capacity of 7 bcm of natural gas from Turkey to Greece. However, in February 2012 the Shah Deniz consortium announced it would no longer consider the IGI stage to supply gas to Italy.¹⁰⁵ The project expected to use existing and proposed gas networks – including the South Caucasus Gas Pipeline and Turkey’s natural gas system – to bring Caspian and potentially Middle East natural gas. Like the Trans-Adriatic Pipeline, ITGI would have reached a capacity of nearly 10 bcm per year.¹⁰⁶

¹⁰⁵ “Greek Crisis Kills ITGI Project,” *EurActiv.com*. February 21, 2012. <<http://www.euractiv.com/energy/greek-crisis-kills-itgi-pipeline-project-news-510994>> (Accessed March 31, 2012)

¹⁰⁶ Edison website < <http://www.edison.it/en/company/gas-infrastructures/itgi.shtml>> (Accessed February 13, 2012)



Figure 7: Source: Edison website.

The project shareholders for ITGI include the Greek company DEPA and Italy's Edison, and the total estimated project cost was originally estimated at 1.5 to 2 billion euros.¹⁰⁷ After the Eurozone crisis and the announcement regarding the second stage of ITGI, however, speculation has surfaced that DEPA would be sold, potentially to Russia's Gazprom.¹⁰⁸

The first section of the project, Interconnector Turkey-Greece (ITG) has been in operation since November 2007. Its transport capacity began at 7 bcm and was expected to expand to about 11.5 bcm of natural gas a year during 2012.¹⁰⁹ This has been a success so far in bringing natural gas from Karacabey, Turkey to Komotini, Greece. The length of the Turkish section is 210 km, of which 17 km are under the Marmara Sea, and the length of the Greek section is 86 km.

The second section – ruled out by the Shah Deniz consortium in February

¹⁰⁷ "ITGI to Avoid Greece's Gas Disruptions." February 7, 2012. *Azernews.az*. <http://www.azernews.az/en/Oil_and_Gas/41081-ITGI_to_avoid_Greece%60s_gas_disruptions> (Accessed February 13, 2012)

¹⁰⁸ "Gazprom's Possible Bid for Depa Ruffles EU feathers," *New Europe Online*. March 23, 2012. <<http://www.neurope.eu/article/gazprom-s-possible-bid-depa-ruffles-eu-feathers>> (Accessed March 31, 2012)

¹⁰⁹ *Ibid*.

2012 – included Interconnector Greece-Italy (IGI), a project with a transport capacity of about 9 bcm of natural gas a year.¹¹⁰ The IGI pipeline would have been 800 kilometers long and would have included IGI Onshore, a 600 km onshore pipeline in the Greek territory developed by the Greek Transmission System Operator Defsa, and IGI Poseidon, a 200 km offshore pipeline across the Ionian Sea developed by IGI Poseidon SA.¹¹¹

The ITGI project also would have included a pipeline between Greece and Bulgaria through Interconnector Greece-Bulgaria (IBG), with a transport capacity of 3 to 5 bcm per year.¹¹² The pipeline would have connected Komotini, Greece to Stara Zagora, Bulgaria and would have been about 170 kilometers long. IGI Poseidon SA and Bulgarian Energy Holding would have co-sponsored the project.¹¹³ Nearly 1 bcm of natural gas from ITGI would have been transported to Bulgaria annually, 1 bcm to Greece, and the remaining 8 bcm would have gone to Italy.¹¹⁴

As Greece is currently the only European country without a connection to the European grid, it risks being isolated and vulnerable to situations of disruption of supply.¹¹⁵ The ITGI project would have guaranteed security of supply and effective interconnection of gas networks among European countries, but its bid was not competitive, and the TAP project now remains the only “western” route option to transit Shah Deniz natural gas to Italy.¹¹⁶

¹¹⁰ Ibid.

¹¹¹ Ibid.

¹¹² Edison website.

¹¹³ Ibid.

¹¹⁴ “ITGI to Avoid Greece’s Gas Disruptions.”

¹¹⁵ Ibid.

¹¹⁶ Ibid.

Chapter 3: Scenario Analysis - Alternatives and Threats

There are several variables that might affect the Southern Energy Corridor and should be factored into the decision-making process for the governments and consortia involved in the projects. These include factors causing lack of demand in Europe, factors causing lack of supply from Central Asia and potential conflicts among states in the region. Possible scenarios might play out in the near term that can affect the pipelines of the Southern Energy Corridor adversely or favorably.

Given the Shah Deniz natural gas supply and demand in Europe, the Southern Energy Corridor has strong potential. Nevertheless, some factors cause uncertainty. The construction of Russian-backed alternative pipeline routes, such as South Stream, may cause an overabundance of supply in Europe. Also, the prospective development of unconventional shale gas in Germany and Poland and additional importation of LNG deserve consideration as factors causing significant increase in supply.

The fiscal sustainability of Europe has emerged from 2010-2012 as a major issue. As the Eurozone members try to decide what to do regarding Greece's sovereign debt, the effects of the crisis cannot be understated and have already clearly affected the decision-making process for the Southern Energy Corridor. It remains highly possible that Greece might exit the Eurozone in order to devalue its currency. This would especially affect the decision between either routing the natural gas from Shah Deniz II through the Balkans (Nabucco, SEEP) or through Greece to Italy (TAP, ITGI).

Another source of uncertainty for the Southern Energy Corridor includes the risk of regional conflict. Planners and financiers must attach a risk premium to such risks. The 2008 Russia-Georgia war over the provinces of South Ossetia and Abkhazia raised significant concern for the Baku-Tiblisi-Ceyhan (BTC) pipeline, and Russian bombs allegedly exploded near the pipeline on either side. Analysts have debated whether the Russian military intended to hit and disable the pipeline or whether it wanted to simply demonstrate that it had the capability.

The following variable matrix shows the potential issues that may impact development of the Southern Energy Corridor and the potential outcomes according to an extreme adverse, middle and extreme favorable outcome for each variable.

Variable Matrix			
<i>Variables:</i>	<i>Potential Outcomes:</i>		
	<i>Ex. Adverse</i>	<i>Middle</i>	<i>Ex. Favorable</i>
Russian/Shale gas comes online	Heavy Russian and shale increase	Moderate increase of alternatives come online	Light marginal increase
Eurozone breaks up	Greece and other PIIGSs exit and devalue	Greece exits and devalues	No countries exit and EU political and fiscal unity increases
Conflict involving Iran	Israel and US at war with Iran	Limited conflict between Israel and Iran	No conflict
Conflict in South Caucasus	Regional conflict involving Russia and Turkey	Flash conflict between Armenia and Azerbaijan	No conflict

Table 3: Own Representation

(i) *Russian, LNG or Shale Gas increases*

A large increase in natural gas supply for Europe can impact decisions for the Southern Energy Corridor by changing the market dynamics. Russia's Gazprom identifies the Southern Energy Corridor as a threat to its natural gas exporting operations and has responded with the South Stream Pipeline. The construction of South Stream would have a significant impact on the Southern Energy Corridor.

Although Turkey and Russia came to an agreement over the rights to construct the pipeline through the Black Sea, many still argue South Stream is mainly a political project that may still have trouble finding the natural gas to meet its 63 bcm capacity, twice the size of the original Nabucco plan. However, a decision to go forward with the South Stream project can deepen Western Europe's dependence on Russia and allow it to keep its prices high. One can see Russian natural gas prices, after a spike during the 2008 financial crisis, have again steadily risen over 2010-2011 to nearly \$440 per trillion cubic meters.

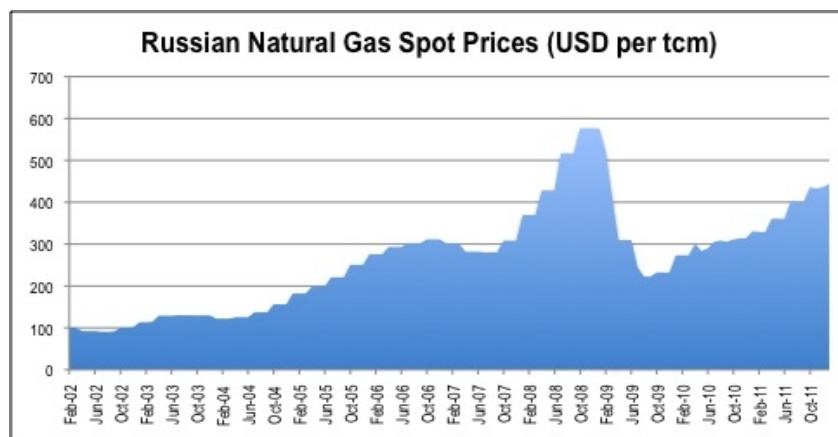


Figure 8: Source: Index Mundi

Hydraulic fracturing, or “fracking,” also has the potential to upset the dynamics of the natural gas markets in Europe. The method was first developed in the 1940s but has only recently been applied to extracting natural gas from shale rock.¹¹⁷ It injects “large amounts of water, under high pressure, combined with sand and small amounts of chemicals, into the shale formation.”¹¹⁸ This breaks the rock, creating paths for trapped natural gas to flow out.¹¹⁹ The method has gained success in the U.S., but has also been accompanied by environmental controversy because of chemicals used in the process and dangers for water aquifers. There are allegedly large amounts of unconventional gas in shale rock located in Poland, Germany and France that could be captured through hydraulic fracturing.

Natural gas markets in Europe may also be disrupted by LNG. The industry relies heavily on pipeline infrastructure, and natural gas is incredibly difficult to store. However, the production of LNG, which can be shipped in tankers and stored in terminals, has significance for the makeup of the industry. According to energy scholar Daniel Yergin, LNG “sold on a spot basis, can take some market share away from pipeline gas, whose price is, according to twenty-year contracts, indexed to more expensive oil.”¹²⁰ This creates competition for gas suppliers and pushes down prices.

Large increases in LNG, unconventional shale gas, or other Russian sources can disrupt the market, pushing down natural gas prices in Europe. While this

¹¹⁷ Yergin, Daniel. *The Quest*, 327

¹¹⁸ Ibid.

¹¹⁹ Ibid.

¹²⁰ Ibid., 333

would be good for energy diversification, it would make the Southern Energy Corridor less viable. If the South Stream project comes online concurrently, this could flood the market for natural gas in Europe. Policymakers and leaders of the Shah Deniz consortium and pipeline consortiums should consider these variables as potential risks.

(ii) Eurozone breakup

The Southern Energy Corridor faces risks because of the ongoing fiscal crisis in Europe. The Eurozone adopted a common currency area with the Maastricht treaty in 1992. However, the sovereign debt crisis in the Eurozone from 2010-2012 has reset the political and economic dynamics of the region. While the countries maintained their fiscal autonomy with the Maastricht treaty, they gave up their monetary policymaking authority to the European Central Bank.

However, without fiscal cooperation, the continuation of the Eurozone under current conditions has become increasingly suspect. Greece, which qualified to join the Eurozone in 2000 and was admitted the following year, has been the most egregious case. The sustainability of other PIIGS countries, Portugal, Ireland, Italy and Spain, has been called into question although Greece remains the most immediate concern for European policymakers with a current public debt to GDP level above 200%. European leaders have been negotiating a fiscal treaty to impose greater fiscal discipline in early 2012.

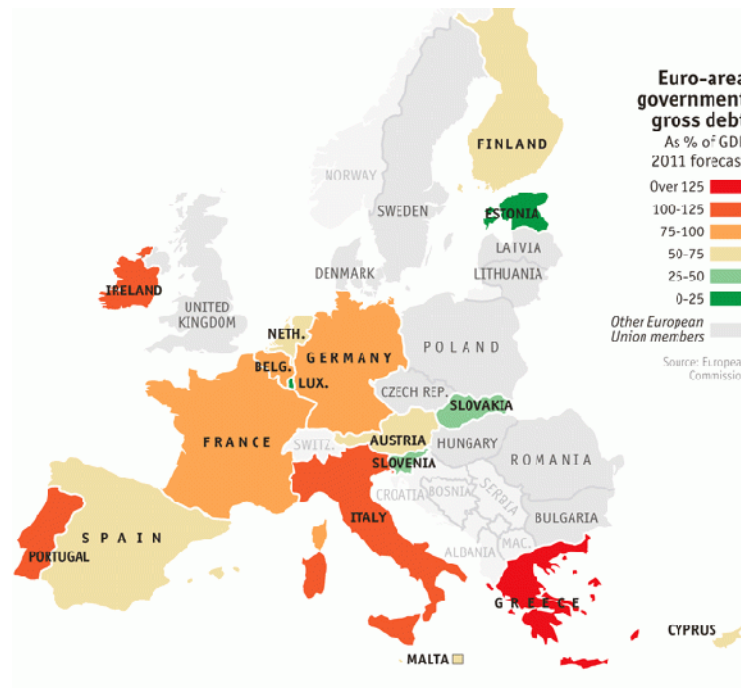


Figure 9: Source: The Economist

Despite EU efforts at creating greater fiscal discipline, the likelihood that Greece will remain part of the Eurozone has been quickly diminishing. Its debt levels are simply too high to sustain. Greece avoided a technical default in February 2012 due to an agreement for a second financial aid package from other EU members of 130 billion euros and greater losses for private creditors.¹²¹ However, the likelihood that it will exit the Eurozone and devalue its currency by the end of the year remains highly conceivable.

The possible variables thus include no countries exiting the Eurozone, Greece exiting, or Greece plus some other PIIGS country or countries leaving the currency.

¹²¹ Castle, Steven. "Europe Agrees on New Bailout to Help Greece Avoid Default." *New York Times*. February 20, 2012.
<<http://www.nytimes.com/2012/02/21/world/europe/agreement-close-on-a-bailout-for-greece-european-finance-ministers-say.html?pagewanted=all>>
(Accessed March 2, 2012)

Planning for the Southern Energy Corridor would be impacted by these variables in that the “western” oriented projects to Greece might have less likelihood of being accepted. Although the move would significantly help its markets, the supply countries and consortiums might worry about Greece’s ability to pay for the natural gas. Both TAP and ITGI pass through Greece to Italy, and this variable would give an edge to the “northern” routes of Nabucco West and the South East Europe Pipeline that provide gas to Austria.

(iii) Regional conflict in the South Caucasus

Regional planners cannot also ignore the possibility of conflict between other regional rivals, most notably Armenia and Azerbaijan. These two countries fought the Nagorno-Karabakh War from 1988 to 1994. The disputed territory from which the war takes its name is still contested. Armenia took control after the war, and Azerbaijan claims it should be returned. The Minsk Group, a project of the Organization for Security and Cooperation in Europe (OSCE), has been responsible for negotiating a resolution since 1992, and its co-chairs include Russia, France and the United States. Meanwhile, skirmishes allegedly kill nearly 30 people per year.¹²²

Tensions remain high between the two countries. In February 2011, the International Crisis Group issued a report saying, “An arms race, escalating front-line clashes, vitriolic war rhetoric and a virtual breakdown in peace talks are increasing the chance Armenia and Azerbaijan will go back to war over Nagorno-

¹²² “Armenia and Azerbaijan: Preventing War.” *International Crisis Group*. Europe Briefing No. 60. February 8, 2011., 1

Karabakh.”¹²³ More worryingly, regional alliances could potentially pull Russia, Turkey or Iran into the conflict. While the situation remains stable for now, this “frozen conflict” would have serious implications for the Southern Energy Corridor plans.

When Turkey made its “zero-problems with neighbors” policy a priority, it decided to pursue protocols in late 2009 with Armenia to open the border, which has been closed because of the Nagorno-Karabakh dispute. However, these protocols have remained dormant and likely will not be revived in the near future. They originally enraged Azerbaijan, causing a rift with Turkey that had spillover effects for energy cooperation. Azerbaijan threatened to raise prices or cut off future inflows of natural gas.¹²⁴

A revival of the Nagorno-Karabakh conflict could derail the Southern Energy Corridor both if the conflict is limited between Armenia and Azerbaijan and if it brings in regional powers. Both the Baku-Tbilisi-Ceyhan pipeline and South Caucasus Pipeline running through Azerbaijan are strategic assets that could potentially be attacked by Armenia or its partner Russia. In the 2008 conflict between Russia and Georgia, the Russian military bombed near the BTC pipeline without hitting it. Although the Minsk Group has sought a peaceful solution to the dispute through negotiations, so far the sides have not demonstrated the political will to agree on a settlement. While the situation appears under control for the time being, this variable remains feasible as a potential scenario.

¹²³ Ibid.

¹²⁴ “Azerbaijan Diversifies its Energy Routes.” *Journal of Turkish Weekly*. February 12, 2010. <<http://www.turkishweekly.net/op-ed/2635/azerbaijan-diversifies-its-energy-routes.html>> (Accessed March 2, 2012)

(iv) *Regional or global conflict with Iran and Israel/US*

For the past several years, observers have worried that Iran has been pursuing nuclear weapons. This raises the possibility of an armed conflict, particularly with Israel, which sees Iran's obtaining nuclear capability as a serious threat. Israeli Prime Minister Benjamin Netanyahu and Defense Minister Ehud Barak have taken hawkish positions on Iran.

Meanwhile, the US shares close relations with Israel, and Israeli leaders have pressured the US to become involved. Barbara Slavin, who leads the Iran Task Force at the research organization Atlantic Council, said that "Chances for a US or Israeli strike on Iran are minimal before US presidential elections [in November 2012] but increase early next year [2013], according to an adviser to the US government."¹²⁵ The US prefers a diplomatic solution to the issue of Iran's nuclear program. However, Israel may attack Iran unilaterally, and a Pentagon simulation suggested this could also draw the US military into the conflict.¹²⁶ This outcome also heavily depends on who wins the US 2012 presidential election, as the Republican candidates have taken a more hawkish stance than President Obama.

An armed conflict with Iran could cause risk for the Southern Energy Corridor projects because of the projects' proximity with Iran and the increase of regional instability. *Foreign Policy* magazine cited US officials as saying that Israel

¹²⁵ Slavin, Barbara. "Time Frame Shifts on Iran War Threat." Atlantic Council of the United States. March 23, 2012. < http://www.acus.org/new_atlanticist/time-frame-shifts-iran-war-threat > (Accessed March 28, 2012)

¹²⁶ Ibid.

and Azerbaijan have developed very close relations and that Israel could be planning to use Azerbaijan's airbases for its jets in case of an Iran conflict.¹²⁷ If a conflict is contained within the country, then the infrastructure projects might not be affected. However, a war could envelop key Southern Energy Corridor actors like Azerbaijan. In case of a conflict, the project sponsors could delay construction due to the increased instability, and the negotiations on the Trans-Caspian Pipeline would likely not move forward because of its proximity to Iran on the Caspian Sea.

If the conflict becomes a regional one, however, including powers such as Saudi Arabia, Turkey, Russia and the US, then projects such as the Trans-Caspian Pipeline, Nabucco Pipeline, and the Trans-Anatolian Pipeline would face severe operational risks. As the situation in Syria worsens as of late 2012, the situation in Iran needs to be monitored by project leaders. This variable has less probability of affecting the outcome of the Southern Energy Corridor projects overall but still must be taken seriously.

(v) Multiple scenario analysis

Plausible Scenarios:					
<i>No.</i>	<i>Variables:</i>				<i>Plausibility:</i>
	<u>Russian/Shale Gas</u>	<u>Eurozone</u>	<u>Iran</u>	<u>South Caucasus</u>	
1	Moderate increase	Greece exits	No conflict	No conflict	Likely
2	Moderate increase	Greece exits	No conflict	No conflict	Plausible
3	Heavy increase/Mix	Greece exits	Limited conflict	No conflict	Plausible
4	Heavy increase/Mix	Greece exits	No conflict	Limited Conflict	Plausible

Table 4: Own Representation

¹²⁷ Perry, Mark. "Israel's Secret Staging Ground." *Foreign Policy Magazine*. March 28, 2012.

<http://www.foreignpolicy.com/articles/2012/03/28/israel_s_secret_staging_ground?page=full> (Accessed March 30, 2012)

Of the four variables, the most significant are the first two, which have greater effect on downstream activities: the increase in supply of natural gas through shale, LNG, and pipelines from Russia and the sovereign debt crisis in the Eurozone. The potential for conflict in the South Caucasus as well as Iran would have greater effect on upstream activities, but these risks are less likely to materialize.

Of *plausible scenarios*, there could be either a moderate increase or a heavy increase of alternative natural gas supplies for Europe, the potential for Greece to exit the Eurozone, and possible conflict in either the South Caucasus or Iran. Of these, the *most likely scenario* involves a moderate increase of alternatives, a Greek exit of the currency and no conflict in either the South Caucasus or Iran.

The moderate increase of natural gas supply alternatives (as opposed to a heavy increase) is the most likely variable because Europe is interested in developing shale gas and LNG terminals. However, European countries do not want to increase supplies of natural gas from Russia above a threshold of about 40%. While the Nord Stream project will continue to be developed, serious doubts about the potential for South Stream remain since the project is mainly seen as a political one, and the source of natural gas supplies to fill the pipeline remains uncertain.

The macroeconomic situation in Greece remains severe, and the chances are that it will exit the Eurozone by the end of 2012 or early 2013. According to research organization IHS Global Insight, "Following contraction of 6.9% in 2011,

the economy is expected to remain in dire straits in 2012.”¹²⁸ It adds, “private consumption will remain under intense pressure as a result of record-high unemployment, weaker wage growth, and significantly tighter fiscal policy.”¹²⁹ Greece will suffer from reduced availability of credit, and “concerns about the economic outlook will not only deter households from consuming but will also weigh down on investment expenditure.”¹³⁰ These conditions will likely push Greece to eventually leave the currency zone in order to depreciate its currency.

The US remains committed to a diplomatic solution in Iran. Thus, the most likely scenario does not foresee a conflict. Iranian hardliner President Mahmoud Amahdinijad has come under increasing pressure by domestic forces to take a softer stance. This variable, however, depends largely on the goals of Supreme Leader Kahmenei and his willingness to engage in negotiations. Some suspect he “may have backed himself into a corner by constantly stressing Iran’s right to nuclear energy.”¹³¹ However, a lack of US willingness to engage in another Middle East war and the likelihood that Israel would not attack Iran without US support suggests a diplomatic solution will be the most likely outcome.

Finally, the most likely scenario assumes the Nagorno-Karabakh conflict between Armenia and Azerbaijan will not break out into violence posing risks for the Southern Energy Corridor projects. The OSCE Minsk Group mediates the dispute, and the other powers in the region, notably Turkey and Russia would not want to

¹²⁸ “Country Intelligence Report: Greece,” March 28, 2012. IHS Global Insight. (Accessed March 28, 2012)

¹²⁹ Ibid.

¹³⁰ Ibid.

¹³¹ Slavin, “Time Frame Shifts on Iran War Threat.”

reignite the conflict. These parties would most likely try to prevent a conflict before it occurs. A continued stalemate for the foreseeable future will most likely result.

Chapter 4: Recommendations for Realizing the Corridor

Considering these scenarios and threats to the Southern Energy Corridor, policymakers and businesses must work for the most optimal outcome for the potential projects. Europe faces an uncertain future in terms of its relationship with Russia and its energy security. Other factors, such as stability in the South Caucasus, are vital for economic growth and prosperity in the region. This chapter thus provides recommendations for relevant stakeholders in the corridor.

(i) Recommendations for policymakers

- *Work to quickly rehabilitate the economies of southern Europe and emphasize energy policy as an important aspect of reform.*
 - The sovereign debt crisis of Greece and other PIIGS countries has spurred Europe to pursue greater integration on fiscal policy in early 2012. However, doubt about the competitiveness of Europe's southern economies persists. It remains highly likely that Greece may exit the Eurozone in order to devalue its currency and restore its local economy. European leaders need to make sure energy policy remains as a high priority in this context. The TAP project would support the

domestic economies of Greece and Italy, and policymakers from these countries should emphasize the importance of energy supply to their economic restoration. Additionally, they must prove their ability to pay for increases of energy imports through generating stronger balance of payments.

- *Support the energy futures market with the transit destination of Baumgarten an der March, Austria as an energy commodities trading hub.*

➤ The market for trading of energy futures in Europe is thin, allowing for greater volatility and uncertainty in price. The same way that the Henry Hub in Louisiana has become a central point for the United States natural gas market, Baumgarten can become an energy trading center for Europe. The Central European Gas Hub (CEGH) would increase its relevance and provide more predictability to natural gas markets in Europe through the Southern Energy Corridor. European leaders should also support Russia's participation in the natural gas exchange in order to greater allow market forces to dictate natural gas prices in Europe.

- *Enhance multilateral platforms to generate ideas, promote cooperation and create a more transparent tender process.*

➤ The Energy Charter Treaty (ECT) provides a platform for protection of foreign investments, dispute resolution, nondiscriminatory conditions for trade in energy markets, and environmental efficiency. It ought to be utilized fully in the context of the Southern Energy Corridor

projects. All participating states are party to the treaty. Russia signed the treaty but failed to ratify. It participates in the ECT on matters of dispute resolution and investment protection but fails to cooperate over the Energy Charter Transit Protocol, a draft protocol to strengthen provisions on energy transit issues. EU leaders should pressure Russia to participate in the ECT on transit-related issues. Neither Iraq nor Iran has acceded to the treaty, and efforts should be explored to incorporating them into its framework as well.

- The Black Sea Energy and Economic Forum (BSEEF) occurs annually, bringing together world leaders in the energy sector to discuss energy-related issues in the region. In past years, it has devoted its activities to moving forward the Southern Energy Corridor through its panels and working groups. High-level ministers from all Black Sea regional countries ought to be encouraged to attend and participate, including those from Russia.
- *Encourage the strengthening of regulatory and fiscal institutions in the Black Sea region to avoid effects of the resource curse.*
 - Greater technical training in energy markets and energy finance can help policymakers in Central Asia, the Caucasus and the Balkans stem corruption. Supply countries in particular must encourage diversification and growth of new industries, such as in the

agriculture, manufacturing and services sectors, in order to prevent rentierism among the government and social elites.¹³²

- *Support a resolution of the Nagorno-Karabakh dispute through the OSCE Minsk Group and other Track II diplomacy efforts.*
 - France, the US and Russia co-chair the Minsk Group, an OSCE project to come to a peaceful settlement of the Nagorno-Karabakh dispute. The potential of conflict between Armenia and Azerbaijan poses a significant risk to the Southern Energy Corridor. Armenia, which remains economically underdeveloped and landlocked, has been essentially frozen out of participation in the Southern Energy Corridor, which takes a route through Georgia. European and Minsk Group leaders should also pursue other Track II diplomacy efforts to normalize relations.
- *Support the P5+1 negotiation process to find a peaceful solution to the Iran nuclear weapons dispute.*
 - France, Germany and the UK along with Russia, China and the US make up the P5+1 members of the UN Security Council seeking to find a diplomatic solution to ending Iran's nuclear weapons program. European leaders should incorporate the possibility of conflict with Iran, particularly regarding Israel's relationship with Azerbaijan, into its risk assessment for the Southern Energy Corridor.

¹³² See Tuzcu, Mustafa. "Has a New Political Era Changed the Iraqi Economy? Challenges for a Late Rentier State." August 1, 2011. Masters Thesis. Tufts University, The Fletcher School of Law and Diplomacy.

- *Pressure the Russian administration to not use energy supplies as a political tool against its neighboring countries.*
 - Natural gas crises between Russia and Ukraine in 2006 and 2009 have signaled that Russia is not afraid to use energy resources as a political tool. European and US policy officials should continue to discourage such moves and pressure Russia to participate in the Energy Charter Treaty protocols for energy transit as well as other multilateral efforts to create a more transparent energy market free from corruption.
- *Encourage the building of the Trans-Caspian Pipeline and participation in the Southern Energy Corridor from Turkmenistan and Iraq.*
 - The current projects assume only 10 bcm of natural gas per year from Azerbaijan would fill the Southern Energy Corridor. However, the final project could scale up to transit more depending on the participation of other supply countries like Turkmenistan and Iraq. The Trans-Caspian Pipeline, although opposed by Russia and Iran, should be encouraged as an opportunity to transit Turkmen gas to the Southern Energy Corridor, and Iraq should be encouraged to export gas from its fields as well. Iran could potentially supply, given that it changes its domestic policies and stance on nuclear enrichment.

(ii) *Recommendations for private sector stakeholders*

- *The Shah Deniz consortium should conduct the tender process in a transparent way that considers the significant risk factors.*
 - The winner of the bid will be reportedly announced in mid-2013 despite several delays. Afterwards, the consortium should provide strong reasons for deciding on which project it chooses. The key risks should be weighed appropriately throughout the process.
- *Project consortiums should collaborate with energy ministries of participating countries and participate in multilateral efforts to strengthen institutions.*
 - The projects themselves have the responsibility to obey domestic laws and collaborate with energy ministries to ensure the tender process takes place according to international best practices. If a project suspects corruption or bad practices of another bid, it should report this and seek an investigation that can be monitored by all the relevant stakeholders. Projects also have a duty to participate in multilateral efforts to strengthen regional institutions, such as via the Energy Charter Treaty and others.

Conclusion

Much concern has been given to how the industrial world can continue to find sources of extractable fuels to maintain adequate levels of production and economic growth. However, ingenuity has allowed those in the energy industry to find new sources of power over time. Energy scholar Daniel Yergin insists on thinking of the future of energy use not in terms of “peak” supply but rather as a “plateau,” which will prelude a gradual decline in energy use not from lack of supply, but rather from greater energy efficiency.¹³³

Although oil and gas are finite resources, new methods of finding and extracting them have caused projections of supply to greatly increase since the time of the first major advocate and scholar of the “peak oil” argument, M. King Hubbert.¹³⁴ Renewable sources of energy may supplant much of the supply provided by non-renewable sources, but in the near future oil and natural gas are expected to supply a majority of energy generation, and there is a shifting emphasis from crude oil towards more use of natural gas. The advantages of natural gas include its lower carbon dioxide emissions and abundance – although its disadvantages include its need for a developed infrastructure for transportation.

The Southern Energy Corridor presents a good opportunity for Southern Europe to develop such infrastructure. This study has explored the Southern Energy Corridor as a set of projects where competition and cooperation are simultaneously

¹³³ Yergin, Daniel. “There Will Be Oil.” *Wall Street Journal*. Sept. 17-18, 2011. Page C1.

¹³⁴ Ibid.

at play in both the public and private sectors. With the theoretical framework of state capitalism as a backdrop, it has looked at the role of energy resource exploitation for rentier economies. It has argued that multilateral platforms and strong domestic institutions are increasingly needed as a way to stem rentierism and the resource curse. Analyzing each Southern Energy Corridor project in detail, it has established the story of the corridor and its potential for completion from various angles. Furthermore, the study has evaluated significant key variables and threats and developed a theory for a most likely outcome. Lastly, it provides a series of recommendations for completing the corridor and ensuring a transparent, corrupt-free process.

However, if the goal of the corridor is to break Europe's dependence on Russia for energy, the effort proves too little. With a likely scale of only 10 bcm and an annual consumption of natural gas in the European Union of 522 bcm, the Southern Energy Corridor would only constitute a small part of Europe's need to diversify supplies.¹³⁵ The corridor must be complemented by other efforts to secure energy, such as the development of unconventional shale gas and the building of LNG terminals to import from the US and elsewhere.

Concurrently, a dialogue with Russia to promote democracy, the rule of law, and transparent corrupt-free energy markets needs to occur. Russia may never be fully incorporated into European systems, but the more it operates like Europe – with free and fair elections and free markets – the more secure the region will be.

¹³⁵ Index Mundi Database.

<http://www.indexmundi.com/european_union/natural_gas_consumption.html>
(Accessed April 4, 2012)

Vladimir Putin's return to a third term as president of Russia in an election that many have considered fraudulent, after serving four years as prime minister, suggests these goals will be very difficult.¹³⁶

The Southern Energy Corridor nevertheless provides a terrific example of where international diplomacy and international business come together with positive aims. The Black Sea and Caspian region has remained underdeveloped and fraught with conflicts. The corridor represents the first time the diverse actors from Central Asia to Europe have worked in close collaboration in more than a century. Thus, when the Shah Deniz consortium announces the winner of its tender in 2013, and the pipeline breaks ground shortly thereafter, the process should be looked upon as a great accomplishment for the region.

¹³⁶ "Vladimir Putin Elected Russian President." *BBC*. March 4, 2012.
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