

# Energy Security and Geopolitics

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## The Final Countdown

According to a number of geopolitical strategists, investment bankers, geologists, and physicists, much of humankind will radically change their way of existence in the next twenty to thirty years. The reason? The supplies of cheap energy sources, which are the basis of the modern economy, will be exhausted. This event will be preceded by a number of conflicts over the control of the last locations of natural energy sources. Undoubtedly, these processes will influence the life of each of us. The events we are witnessing in international relations are being described by many people as “the last Great Game.”

Oil (as well as natural gas more recently) has been the lifeblood of the modern economy. The reduction of their production and the increase of world consumption are two factors that point toward a coming economic crisis. This process is inevitable, since all resources will be gradually depleted and finally exhausted.<sup>1</sup>

This curve represents oil production over time.<sup>2</sup>



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<sup>1</sup> Production starts from zero; goes to peak levels, which cannot be exceeded; then follows the drop of production until the total exhaustion of the natural resource.

<sup>2</sup> From [www.oilcrisis.com/campbell/cen21.htm](http://www.oilcrisis.com/campbell/cen21.htm).

Reaching the highest point of world production (which is coming soon, according to the diagram), however, will not diminish the need for this energy resource. A rising deficit in supply will inevitably lead to a huge increase in price. The production drop at that time was temporary, and caused by political reasons. However, if this becomes a permanent process as a result of the exhaustion of reserves, the high price of oil will make a number of other manufacturing processes unprofitable, and the economic crisis will inevitably turn into an economic catastrophe. Therefore, the main questions today are: When will there be a peak in oil production? How fast will energy prices rise? And what will be the scope of the economic crisis?

Different experts make different prognoses. The objective reason for this is that, due to the complex overlap of political, economic, and geological factors, remaining supplies can not be estimated with absolute reliability. Besides, the rate of world consumption increase is difficult to predict. Today, this index is the highest in the fast-growing economies in China, India, and some other countries, where oil consumption has increased by 50 percent in just the past decade (and in China by over 100 percent).

The production peak of hydrocarbon energy sources (petroleum and natural gas) is determined by the so-called “energy price” of production. If the energy needed for the research and extraction of energy resources is equal to the energy gained, any further process is meaningless. The monetary value in this case is of no significance. It is only the energy value that is taken into account. After World War II, the energy efficiency (in this respect) was 50:1, in the mid 1980s it was 8:1 (for imported oil, taking into account the energy consumed by delivery, it is 5:1). The prognosis for 2010 is a critical ratio of 1:1.<sup>3</sup> Taking into consideration all these stipulations, most experts believe that the world’s oil production peak will be reached within the next twenty years.

Regarding national resources in most countries, this is already a fact. In the last 165 years, mankind has exhausted 65 percent of the world’s oil reserves. According to a number of estimates, demand for oil in the coming years will go up by an average of 2 percent per year,<sup>4</sup> while production from existing supplies will naturally drop by 3 percent. In fact, a production increase is still possible only in OPEC nations, several countries in post-Soviet territories, and in some African and South American countries whose reserves are not large. The critical point in

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<sup>3</sup> See [www.ifolog.nm.ru/geo4.htm](http://www.ifolog.nm.ru/geo4.htm).

<sup>4</sup> The declaration “Global Energy Security,” adopted at the G-8 summit in St. Petersburg, says that demand will grow more than one and a half times by 2030.

natural gas production will come a little later, but a difference of ten to fifteen years in the arrival of an energy crisis is of no signal importance.<sup>5</sup>

The answer to the second question on the dynamics of oil prices and the scope of the crisis is even more complicated. Experts are unanimous on one point: the later mankind begins preparing for the crisis, the worse the crisis will be (implementing energy saving technologies, developing new cheap energy sources, enhancing production technologies, etc.). Two generations of specialists (as well as sufficient time to create and implement new effective technologies) are needed in order to put the world's economy on a new energy basis and to expunge its total dependency on oil and natural gas. Regardless, sooner or later, the era of alternative and renewable energy sources will come. The problem is, will the world be able to keep on controlling its use of fossil fuels during the transition to a new energy type? If not, a catastrophic "transition period" will be inevitable.

Today, governments and national oil companies are the ones in control of about 90 percent of the world's oil supplies. Even though private companies are trying to get access to these resources and control them, the fact is that oil and natural gas remain government territory. "Energy nationalism" has a remarkable broad geography. First comes Russia, where the state is in control of the production and transport corridors, defiantly rejecting any foreign participation in the energy market. Hugo Chavez put the independent firm *Petroleos de Venezuela* under the control of the state and imposed new oil production regulations, according to which Venezuela received a larger profit from oil production and sales. In Bolivia, Evo Morales nationalized the state gas industry. The Ecuadorian government put the U.S. oil company *Occidental Petroleum's* holdings under their control. These tendencies exist not only in the above-mentioned countries with authoritarian regimes; there are also examples of energy nationalism in countries like Spain, France, and the United States, where big national companies are given preference in buying energy firms.<sup>6</sup> In modern times, governments exert considerable political influence and support national economic leaders in making international deals. These tendencies and events, demonstrating the dominant position of the nation-

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<sup>5</sup> At the current production rate, verified to date oil reserves would be exhausted in forty years, and natural gas reserves in sixty-five years.

<sup>6</sup> In Spain, the German corporation *E.ON* was refused permission to purchase *Endesa*, in favor of the Spanish corporation, *Gaz Natural*. The offer of the Italian oil-gas concern *Enel SpA* for the purchase of the French group *Suez* was declined in favor of *Gaz de France*. U.S. politicians have become involved in two big transnational deals. First, they frustrated the sale of *Unocal* to the Chinese conglomerate *CNOOC* (*China National Offshore Oil Corp.*), so it went to *Chevron*. Second, they prevented the purchase of the British company *P&Q* by the Arab company *Dubai Ports World* (as a result, the Arab company would have received control over six U.S. oil portals); the assets were ultimately acquired by a U.S. company.

state in the energy sector, are a signal for a critical change on the global energy market. The unprecedented boost in demand along with diminishing resources is shifting the balance of power from consumers to producers. Besides, it turns out at the end that resource supplies depend not on private companies, but rather on state-producers, which radically changes the essence of geopolitical relations.

A new trend on the geopolitical stage is the increasing role of so-called “transit states.” They intervene in traditional relations between producers and consumers and are creating a new configuration in the global network of energy supplies. They have control over the security of oil and gas pipelines, which is a huge and long-term investment. Therefore, “transit states” today are a subject of political flattery by both producers and consumers. On the other hand, intermediaries are trying more and more to act independently, striving to earn dividends on both sides of the energy market (an example in this context in the past few years has been Ukrainian foreign policy). We should not forget that the dependency of Europe and Asia on oil and gas imported through third countries will likely increase in near future. All new projects for the commercialization of oil and gas in the Caspian region and Central Asia critically depend on their route to the end user, which causes new geopolitical problems directly related to transit.

Complex geopolitical problems arise from the fact that more than 60 percent of the world’s oil reserves, as well as the lowest-cost oil production facilities, are in the politically unstable region of the Middle East. According to data from 2006, in billion barrels, reserves in this region are estimated at 742.7; in Europe and Eurasia, reserves stand at 144.4; in Africa, 117.2; in South and Central America, 103.5; in North America, 59.9; and in the Asia-Pacific region, 40.5.<sup>7</sup>

The looming prospect of the depletion of the natural energy resources on which the modern economy has traditionally depended exacerbates the struggle for their ownership. In their attempt to avoid serious economic, political, natural, and social crises, both prominent consumer nations and exporting nations are being active on the global energy market. The aim is *energy security*. Today, this notion has a different and broader meaning, including not only security of export and deliveries, but also security in the political sphere, in critical infrastructure, and in environmental protection (from the point of view of climate change, which threatens stable development). In the global era, the principle of mutual connection and interdependence is crucial for energy security. None of the parties on the energy market could ensure its security and realize its interests unless it considers the interests and security of the other parties involved in the market. It is not possible to use energy at the same volume as was the case in the past, following the existing model, without causing serious global consequences. Further aggravation of the

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<sup>7</sup> Figures provided at <http://www.bp.com/sectiongenericarticle.do?categoryId=9017902&contentId=7033474>.

difference between “rich” and “poor” nations (from the viewpoint of being able to buy the needed quantity of resources) will eventually result in instability in the political, economic, ecological, and social spheres in individual countries, as well as on a global scale. New dynamics in the energy market call for shifting our attention from the traditional opposition between producer states and consumer states toward a global picture of energy security. Unfortunately, these are still mere findings of scientists and experts, which are rarely implemented in the realm of actual politics.

## **The Energy of Geopolitics**

The geopolitical character of energy resources became visible as early as World War II, when the offensives of German troops were often impeded by a lack of fuel for tanks and automobiles. The emergence of energy resources as an essential geopolitical factor, however, is a product of the oil embargo imposed by OPEC countries in the early 1970s in the wake of the Yom Kippur War against Israel. As a result, the West was on the edge of economic collapse.

Today, the geopolitics of space, whose principle was the occupation and expansion of territories, has been replaced by the hard geopolitics of resources, whose main goal is not occupation of territories, but rather control over the sources of necessary commodities, mostly of energy resources. Today, more than ever, energy resources are the main driving force not only in the world economy, but also in international politics. Experts and politicians are unanimous that energy resources have already become the most important geopolitical factor in our current historical moment. In our world, they are the common denominator and the basic factor for most geopolitical problems, and they will preserve their key role well into the twenty-first century. All this gave birth to the concept of the “energy of geopolitics”—the geopolitics of energy has been replaced today by the energy of geopolitics.

Over the last fifteen years, the main region of oil production has changed its geography significantly. Considerable quantities of oil are still being produced in Iran, Iraq, Brazil, Venezuela, Mexico, as well as in some countries in West Africa. The new energy axis that will define the energy of geopolitics, however, is the so-called Saudi-Caspian-Siberian-Canadian axis.<sup>8</sup> Besides the key OPEC country Saudi Arabia, this axis passes through the Caspian region, Siberia, all the way to

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<sup>8</sup> Joseph Stanislaw, “Energy in Flux: The 21<sup>st</sup> Century’s Greatest Challenge,” Deloitte & Touche (2006), 9; available at: [www.deloitte.com/dtt/offices/0,2328,sid%253D2289,00.html](http://www.deloitte.com/dtt/offices/0,2328,sid%253D2289,00.html).

the Western Hemisphere, to Canada.<sup>9</sup> This, in fact, is the corridor with the most considerable amounts of reserves and production capacity of natural gas, which is gradually replacing oil as a basic energy resource.

Who are the main players, and how are control and influence over the production and routes of oil and gas distributed along this new energy axis? Due to the fact that energy resources are becoming a basic dimension of power, today Russia is considered by others as well as by itself to be an “energy superpower.” The more natural gas replaces oil as a basic energy resource, the more the economic and political importance of Russia will grow.

In order to turn energy supplies into geopolitical potential, there are two requirements: total and unconditional subordination of energy corporations to the state, and the dependency of the consumer nations’ economies on an external energy monopolist (in this case, Russia). The main “energy weapon” in Moscow’s hands is natural gas (and, to a lesser extent, oil). According to one study, Russia holds the eighth position in confirmed oil reserves, even though, with daily production of 9.5 million barrels (out of which roughly 7 million are exported), it is the second oil exporter after Saudi Arabia.<sup>10</sup> The key role of natural gas in the transition to new energy sources is what places Russia at the center of “the energy of geopolitics” in the coming century. In terms of reserves, production, and export of natural gas, Russia holds first place in the world, and is in fact a monopolist in blue fuel supplies for the countries in Eastern and Central Europe. Western European countries are less dependent, but the portion of Russian gas in their economies is considerable.

Figures for 2005 in the table below are a good illustration.<sup>11</sup>

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<sup>9</sup> Canada’s leading position is due to its wealth of so-called “oil sands” (a mixture of sand, clay, water and resin-like substance, which is essentially super heavy oil). Due to the high cost and complexity of extracting oil from them, until recently these reserves were not included in the world balance. Today, however, realities have changed. If all these sands are utilized, the produced oil would meet the energy demands of North America for several generations to come. In proven reserves, Canada takes second place (180 bil. barrels), overtaking Iraq (112 bil. barrels), behind only Saudi Arabia (264 bil. barrels). Today, the largest global oil companies are making serious investments in projects to extract oil from oil sands, including Exxon Mobil, Chevron Texaco, and Royal Dutch/Shell. Chinese corporations are also investing in extraction projects, as well as in building oil pipelines to a Canadian port on the Pacific, where they expect supertankers would set off for Asia. Since 2006, India has been in the game too, investing almost USD 1 billion in “Canadian sands.”

<sup>10</sup> It is preceded by Saudi Arabia, Canada, Iraq, Kuwait, the UAE, Iran, and Venezuela. Libya and Nigeria round out the top ten.

<sup>11</sup> From [http://news.bbc.co.uk/1/hi/russian/business/newsid\\_4580000/4580630.stm](http://news.bbc.co.uk/1/hi/russian/business/newsid_4580000/4580630.stm) (in Russian).

Country	Consumption of gas in m <sup>3</sup>	Total imports	Imports from Russia	In %
<b>Austria</b>	9 billion	8.4 billion	6.7 billion	74%
<b>Germany</b>	100.2 billion	90.8 billion	39.1 billion	39%
<b>Ukraine</b>	76.5 billion	56.5 billion <sup>12</sup>	16.5 billion	26%
<b>Italy</b>	79.7 billion	67.9 billion	23.6 billion	30%
<b>Turkey</b>	22.4 billion	21.7 billion	14.1 billion	63%
<b>France</b>	44.7 billion	37 billion	11.5 billion	26%
<b>Slovakia</b>	6.7 billion	6.9 billion	6.9 billion	103%
<b>Finland</b>	4.9 billion	4.9 billion	4.9 billion	100%
<b>Bulgaria</b>	3.1 billion	2.9 billion	2.9 billion	94%
<b>Lithuania</b>	3.1 billion	2.6 billion	2.6 billion	84%
<b>Greece</b>	2.7 billion	2.6 billion	2.2 billion	81%

Today, the percentage of Russian natural gas on the European market is 25 percent, and the prognosis for is that it will reach 60 percent by 2030.

Since the end of the 1990s, Russian geopolitics has been focused on the formation of an East-West axis. This strategy allows Russia to sign oil and gas delivery contracts with South Korea, China, and India, while at the same time playing an active role on the European energy market. The gas from the gigantic deposit near Shtokmanovsk will be directed toward European consumers along the North European pipeline.<sup>13</sup>

The Russian state gas network, the so-called “united system for gas transportation,” involves a huge system of pipelines and compressor stations over 150,000 km in length, running throughout the vast territory of the country. According to national legislation, only the state-owned firm Gazprom can use this network, which along with oil and gas is assessed as the most essential element of Russia’s national wealth.<sup>14</sup> The policy of utilizing this energy transportation system is the

<sup>12</sup> Ukraine imports 40 billion cubic meters of gas from Turkmenistan along a Russian pipeline.

<sup>13</sup> Building started in 2005. The value of the project is approximately EUR 4.7 billion, developed by a Russian-German consortium chaired by former Chancellor Gerhard Schroeder. Gazprom holds a 51 percent stake in the pipeline’s stock, while German firms BASF and E.ON hold 24.5 percent each.

<sup>14</sup> The world’s largest gas company.

essence of the new Russian approach to geopolitics (based on natural gas) and the core of the conflict with Western oil and gas companies, as well as with the EU.

Russia's exceptional position on the European energy market is a temptation to gain real political dividends, moreover because right now Russia has no other effective instruments to influence and counteract the ongoing process of NATO's enlargement to the east and the approach of EU territories to its borders. Natural gas and oil are Moscow's main "weapons" in consolidating its position in the global economic and political arena.

The European Union is the second largest energy consumer in the world, and the "gas war" between Russia and Ukraine starting in the winter of 2005–06 sharply brought forward the issue of the security of its energy supplies. Energy security today is the most crucial problem of European security. Its implementation strategy is being elaborated by EU member countries through a common EU energy policy, whose basic priorities are energy efficiency, increasing the role of alternative energies, diversification of suppliers, and building energy supply routes that circumvent Russia.

So far, the EU is not able to claim any particular achievements, since practically no such common policy is functioning, and its implementation, involving twenty-seven member countries, often with different interests, will encounter many obstacles. Besides, energy policies that are formulated in this manner have no significant potential to quickly achieve energy security. First, "old Europe's" economies are amongst the most energy-efficient ones in the world, and increasing this index would not be easy. Second, in March 2007, the European Council adopted an action plan for energy efficiency and countering climate change, planning that by 2020 the amount of energy produced from renewable energy sources in the community will be 20 percent. Its implementation, however, will not be smooth, because the additional expenses involved in achieving this goal will come to amounts between EUR 10 and 18 billion annually, depending on individual nations' plans. Third, the problem of diversification of suppliers is closely connected to the problem of transit. For the past ten years, the European Union has been unsuccessfully trying to bring Russia under the sway of the European Energy Charter.<sup>15</sup> The reason for disagreement is the Charter's appendix, the Transit Protocol. According to this protocol, Russia shall ensure the European countries free access to its pipeline transport network, which would allow them to transport oil and gas from Central Asia. Of course, this is in conflict with the geopolitical interests of the new energy superpower.

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<sup>15</sup> The Energy Charter was signed in 1996 by thirty nations, including Russia. The State Duma, however, has not yet ratified this treaty, due to its obvious reluctance to open Russia's energy sector to foreign companies.

Searching for a solution, the EU is expanding the geography of its energy interests. Lately, it has been actively trying to gain positions in Central Asia, particularly in Kazakhstan, Uzbekistan, and Turkmenistan. Giving promises for economic and technical assistance, loosening visa regimes, and providing support within the framework of the OSCE, the EU is aiming at contracting supplies using the future new transport line that runs to the south of Russia, through Azerbaijan (the Trans-Caspian pipeline).

Today, practically all gas flows from Central Asia have been closed by Russia, which leads the regional market and is establishing its own “gas OPEC.” We should not forget that in 2004 Gazprom signed a contract with Turkmenistan (the second for natural gas supplies with a country in the former Soviet territories) for twenty-five years of gas deliveries to Russia and its transportation to the European market.

A milestone in taking protective measures against unilateral investments by Russian companies in EU countries will be the adoption of the Draft Directive of EU Energy Market Reform, proposed by the European Commission in September 2007. The core of this document is the establishment of an agency for the cooperation of energy regulators (ACER); this will be a transnational body that will work out a unified rate, regulatory, and competitive policy for national regulators in EU countries and will manage all energy flows within Europe. Aside from this effort, reforms include anti-monopoly rules for the electric energy and natural gas markets, as well as amendments in the regulations for work in trans-border networks and gas pipelines. New regulations ban the control of production and transportation of electric energy by the same company, as well as natural gas production and its transportation through pipelines. What is most important, however, is the provision that, if a company from a non-EU country is willing to purchase assets from an EU member-country company, in order to be sanctioned by ACER and the European Commission, the same rules must apply regarding its activities on its own territory. Only companies whose home countries have signed the respective inter-state agreements with the EU shall have access to EU energy and gas networks. In other words, in order to be present on the EU energy market, Gazprom will have to split itself into a production company and a transportation company,<sup>16</sup> and Russia will have to sign an agreement on cooperation with the EU,<sup>17</sup> where the most serious demand, of course, will be to open the gas transportation system.

All EU member countries agree that such a reform of the European energy market is necessary, but it is very difficult for them to reach consensus on the

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<sup>16</sup> If this happens, Gazprom will have to sell its share in the North European gas pipeline.

<sup>17</sup> Gazprom will have to sell gas at the EU border, and further commercialization will be taken on by European companies.

deadline for splitting their national energy concerns (Gaz de France, Électricité de France, E.ON, RWE, Endesa, etc.) into producing and transporting firms. At the EU Council meeting in June 2007 the discussion was postponed due to disagreements on this issue of timing.

In any case, European countries understand that, due to geographic and economic factors, it will not be easy to get rid of their dependence on Russian energy. The EU actions to this point have not contributed effectively to energy security guarantees. For this reason, countries like Germany and Italy have chosen the safe route: individual rescue. In contrast with the common European energy policy, they signed bilateral long-term contracts with Gazprom for energy supplies.<sup>18</sup> Furthermore, in both countries, the Russian gas giant got direct access to local consumers.

The success achieved by Russia in the geopolitical game by taking advantage of the “energy card” has inevitably had an impact on its relations with the United States. From the era of “strategic partnership,” which was the doctrine of bilateral relations between the U.S. and Russia at the beginning of the war on terrorism in the wake of 9/11, the United States is now viewing its former Cold War adversary more in the context of the later USSR doctrine, known as “strategic patience.” The main issue is to wait patiently for changes in the country (coming presidential elections), to look for cooperation (when feasible), to offer resistance (when needed), all while avoiding serious conflicts.

The United States is the largest consumer of hydrocarbon energy resources in the world, and the most powerful player on the global energy market. The domestic oil production peak in the U.S. was at the beginning of the 1970s. The U.S., however, has a strategic oil reserve of 640 million barrels, which is approximately half of all world strategic oil reserves.<sup>19</sup>

Officially, U.S. energy strategy is built on the basis of the “National Energy Policy,” adopted in 2001.<sup>20</sup> It states that the percentage of oil used by the U.S. that is imported is expected to reach 70 percent by 2025, a considerable part of which will come from the Persian Gulf region. The percentage of natural gas imported from outside the Western Hemisphere will also increase, even though sources sufficient to meet the country’s demands are located there. The basic aspects of U.S. national energy policy include: 1) balancing the volume of production with effi-

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<sup>18</sup> As compensation, they receive clearance for Russian energy projects. We have already mentioned Russian-German cooperation in building the North European gas pipeline. Italy, through its company Eni (where the biggest shareholder is the Italian state, with a 30.3 percent stake), which signed an agreement for strategic partnership with Gazprom. This deal will allow the Italian company to participate in joint investment projects in Russia.

<sup>19</sup> See <http://usinfo.state.gov/journals/ites/0504/ijee/abraham.htm>.

<sup>20</sup> See <http://old.iamik.ru/15956.html> (in Russian).

cient and environmentally sound consumption; 2) international cooperation with producer nations and consumers of energy resources to extend access to energy resources; and 3) diversification of energy sources.

The Persian Gulf region is the main exporter of oil to the United States (up to 25 percent of total U.S. import volume). This is a region featuring a high level of political instability, characterized by periodic high-intensity conflicts. In order to regulate and control the political and economic situation (continuity of supplies), the U.S. is seeking to maintain a permanent economic, political, and military presence there.

However, it might be wise for the United States to place a greater priority on Central Asia and the Caspian region in their energy geopolitics. Some reasons for this include the impossibility of achieving stability in the Persian Gulf (including the uncertain outcome of the war in Iraq), the tenuous political situations in Nigeria and Venezuela, and Russian resource nationalism.<sup>21</sup>

Experts estimate the energy potential of this region as relatively high. Reserves of hydrocarbon sources are concentrated predominantly in the Caspian region. Azerbaijan occupies a particularly critical position in the region. Azerbaijan owns considerable oil and gas resources, and is a key factor in any non-Russian energy transit route from Central Asia to the West. Most of the oil and gas reserves in Central Asia are located in Kazakhstan, Uzbekistan, and Turkmenistan. Tajikistan and Kyrgyzstan have limited oil and gas reserves, which are still not attractive to foreign investors. Of particular interest in the region is the fact that there are oil and gas reserves yet to be studied, and that can be exploited in the future, and that national governments in the region are relying on foreign investors to help carry out these costly projects.

Most of all, however, the region is extremely important from a geopolitical and geoeconomic perspective. So far, Russia has been in control of most energy export routes from Central Asia and the Caspian basin. Nevertheless, previous routes (e.g., the Baku–Ceyhan pipeline) and the current efforts of other players in the region have contributed to the existence of a number of non-Russian variants of export routes.<sup>22</sup> Besides Russia and the United States, active efforts in the region have been carried out by China, India, Iran, Germany, France, Italy, and Great Britain, as well as the EU. As early as 2005, Henry Kissinger stated that the global

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<sup>21</sup> A study was carried out on the effect of a potential oil embargo on exports from Venezuela to the U.S. It predicts that such an embargo would cause a rise in world oil prices of USD 11 per barrel, leading to a decrease of the U.S. gross national product by USD 23 billion. It is alarming to realize that the U.S. government does not have enough options in case of a long-lasting embargo. Venezuela is only the eighth-largest exporter of oil in the world.

<sup>22</sup> For example, China has purchased the oil company PetroKazakhstan and signed several important contracts for pipeline building.

competition for control over energy resources in this region could become the contemporary analogue of the “Great Game” in the nineteenth century. Competition for routes and locations of pipelines instinctively parallels the competition of former colonial states over a century ago.

One of the main goals of U.S. geopolitics in the region is the successful establishment of a “southern corridor” for the transportation of energy resources. This involves active U.S. participation in several projects, aiming at the establishment of a new gas pipeline infrastructure to Europe as an alternative to the Gazprom network that exists and is being extended to the north. The “southern corridor” will change the strategic map of Eurasia, and give Europe and Central Asia a chance to escape from the growing dependency on Russia as a single supplier of resources and a single operator of the transit network.

The center of these geostrategic efforts will be Turkey. The first part of the new route has been in place since 2006—the oil pipeline that runs from Baku in Azerbaijan, through Tbilisi in Georgia, to the Turkish port of Ceyhan, on the Mediterranean. A parallel gas pipeline on the route from Baku-Tbilisi-Erzurum (in eastern Turkey) will be in operation soon to transport Azerbaijani natural gas to the West. Another project is related to the oil pipeline from Samsun to Ceyhan, which will circumvent the Bosphorus and will carry oil from the Turkish Black Sea coast to the Mediterranean port of Ceyhan. In addition, intensive talks are being held with Kazakhstan regarding the use of tankers traveling via the Caspian Sea to feed the Baku–Ceyhan pipeline. Azerbaijan will be expected to boost its natural gas extraction until 2014 in order to use the full capacity of the future gas pipeline planned to run from Turkey via Greece to Italy, and eventually the Nabucco gas pipeline (planned to run from Erzurum to Austria, via Bulgaria, Romania, and Hungary). The Trans-Caspian gas pipeline from Kazakhstan to Turkmenistan is expected to link with the Baku–Tbilisi–Erzurum pipeline as well.<sup>23</sup> If implemented, all these large-scale projects will become part of the “southern energy corridor,” which will represent a genuine rival to Gazprom transport network.

Other big players in the geopolitical game for access to energy resources and control over transport corridors are OPEC, China, and India. According to data from British Petroleum, OPEC member countries today control over three-fourths of the world’s confirmed oil reserves, and carry out 41.7 percent of the world’s extraction of oil. OPEC’s policy is clear: to maintain oil prices at a level that are high enough to allow exporters to earn large profits, but are not so high that they will encourage importers to use other, cheaper energy resources. The cartel sustains price stability through decreasing or increasing the supply of oil. Each coun-

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<sup>23</sup> As mentioned before, this project is not feasible because of the contract signed between Russia, Kazakhstan, and Turkmenistan to build a Caspian gas pipeline.

try has a specific share in a joint export total. This share is established according to each nation's volume of proven reserves.

According to experts, this mechanism could represent a ticking time bomb, which could suddenly and totally destroy the stability of the world energy market. When oil prices start falling, production is decreased, and then the only and most convenient way of boosting profit is for nations to declare larger volumes of proven reserves. Periodically, the world press shows figures indicating that the actual reserves in Kuwait and Saudi Arabia are only half the size of the declared volumes. Of course, these statements can not be proven, since precise data on the reserves in the cartel nations is not publicly accessible. It could turn out, eventually, that "The Final Countdown" to the exhaustion of oil resources has started from the wrong numbers.

The factor that will have the most significant impact on the energy market in the twenty-first century is likely to be the unprecedented rate of energy consumption in China and India, particularly since their oil and gas reserves are still scarce.<sup>24</sup> Both countries have clearly stated their firm intention to look for suppliers that are capable of guaranteeing sufficient volumes of energy resources necessary to maintain their breakneck pace of economic growth. The geography of contracts signed by India and China in the sphere of energy supplies extends from Kazakhstan and Azerbaijan to Russia, the Middle East, Sudan, Burma, Angola, West Africa, Latin America, and Canada. In 2004, China negotiated with Hugo Chavez, the president of Venezuela, for oil exports, extraction from local reserves, and investments in new refineries in Venezuela.

It is remarkable that Beijing and New Delhi have an agreement and a signed protocol to jointly search for partners for oil and gas deliveries. This is a highly strategic approach, since countries in the developed world in one way or another control most of the world's energy reserves and transit routes. As a result, the new, dynamic economies of China and India are not welcomed as competitors on the energy market.

This section has outlined the main actors that play a significant role and exert substantial influence on the production and transportation of oil and gas along the main energy axis. The following section will offer a case study of how one nation receives and secures its supply of natural gas.

### **Case Study: Bulgaria's Gas Supply**

The new alignments within the global energy market—and particularly the increasing importance of transit states—are creating new opportunities for Bulgaria

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<sup>24</sup> The two countries own 1.3 percent, extract 5.6 percent, and consume 11.5 percent of the world's oil reserves. Their natural gas reserves are 1.9 percent of the world's total, while they extract 2.9 percent and consume 3 percent.

in the arena of energy policy. Natural gas consumption in the country is roughly 3 billion cubic meters annually (3.2 billion in 2006); the rate of growth in the past three years is an average of 3–4 percent. Bulgaria is among the nations in Europe that are strongly dependent on a single supplier: Russia. Historically, this dependency has been virtually complete. Currently, it is at approximately 90 percent, which will continue for the next three to four years due to the exploitation of the Galata gas deposit, which was opened three years ago. In the near future, then, once the Galata deposit is exhausted, imports from a single source (Russia) will again be essentially equal to the total amount of national consumption.

The security of supplies, contracting terms, prices, and the quality of services and products are defined to a considerable extent by the presence or absence of competition in the market, along with the technical security of equipment. When the acquisition of supplies involves fixed infrastructure (e.g., gas pipelines), owned and/or managed by a monopolist, the terms of the market are defined by the presence or absence of different sources (suppliers) of the product. In Bulgaria, there is no diversification of suppliers: there is a single source of natural gas (Gazprom), one public supplier (Bulgargas, which is entirely state-owned), and only two private suppliers (Overgas and WIEE, both of which are majority-owned by Gazprom).

The monopolistic position of Gazprom in the Bulgarian gas market allows it to dictate market conditions. For instance, at the end of 2005, the Russian firm unilaterally demanded an amendment of its contract with Bulgaria, which was valid until 2010, and implemented a price increase for its natural gas supplies. This was hardly a minor issue, since it involved raising the price of 40 percent of all the volume of natural gas provided by Gazprom to Bulgaria, including Russian gas destined for transit to Turkey, Greece, and Macedonia. This service is provided by Bulgartransgas, the Bulgarian transit operator, which is also completely state-owned. In December 2006, a new contract was signed, valid till 2030; however, its terms were not publicly discussed, nor announced, except for some vague ideas of an agreement that will lead to increasing the prices of natural gas paid by end consumers.

The price for the remaining 60 percent of gas supplied to Bulgaria by Gazprom is set in U.S. dollars, and is determined by an unknown formula based on the current stock exchange prices of crude oil derivatives for certain European markets. According to the Russian press, it is about USD 260, and is paid directly by the Bulgarian public supplier Bulgargas. The sale price of gas in Bulgaria is set as an average of both prices, plus a surcharge for Bulgartransgas, which transports natural gas to consumers throughout the nation's territory. This price is lower than

market prices by 30 to 60 percent, a subsidy rate that is typical of EU nations.<sup>25</sup> The result is crossed subsidization, which, at least in the next few years, will continue to provide some comfort to consumers that rely on having access to affordable natural gas. Every state regulatory subsidy, however, provides the greatest benefit to the biggest consumers of the subsidized product (who are, at least in theory, the wealthiest consumers), thus creating conditions for market and social deformation, which are ironically encouraged by the state through its subsidy scheme. In addition, due to objective tendencies on the world energy market, the price picture for natural gas consumers is likely to become dramatically less appealing over the next few years, having a negative effect on their market positions. Thus, since October 2007, the wholesale price of natural gas for in-country consumers in Bulgaria has gone up by almost 10 percent. This process will accelerate.

A new, significant factor for energy security in Bulgaria is the rise of infrastructure projects for the transportation of natural gas in South Eastern Europe. They could dramatically change the makeup of Bulgaria's natural gas supplies, and could allow the country to adopt a more active policy as a transit state. Figure 1 below shows the projects that could most significantly influence the natural gas market in the region.

#### *Supplies from Turkey*

Bulgaria could in the short term diversify its supply of energy through gas supplies from Turkey, which travel through the operating transit pipeline from Russia through Ukraine, Romania, and Bulgaria to Turkey. This could be realized through a swap (if the Treaty for Gas Supply from the Russian Federation, dated December 2006, does not ban third-party access to the transit infrastructure on Bulgarian territory). In any case, though, energy infrastructures on EU territories must be able to be accessed by third parties, a requirement that applies to Bulgaria as well.

Generally, gas sources from Turkey could fall into both categories, feeding the terminal for liquefied natural gas on the Sea of Marmara, as well as gas from Azerbaijan, which has recently begun to be delivered to Turkey via the South Caucasian gas pipeline from Azerbaijan via Georgia. Turkey receives only limited supplies of gas from Iran.

#### *Supplies from Greece*

Another option for the diversification of Bulgaria's gas supply is through the nation's southern border, from Greece. The Turkey–Greece pipeline in East Thracia,

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<sup>25</sup> For instance, the price approved by the State Commission for Energy and Water Regulation for the first quarter of 2007 is 321.11 leva per 1000 cu m (standard cubic meters natural gas). (1.95 leva = 1 Euro.)

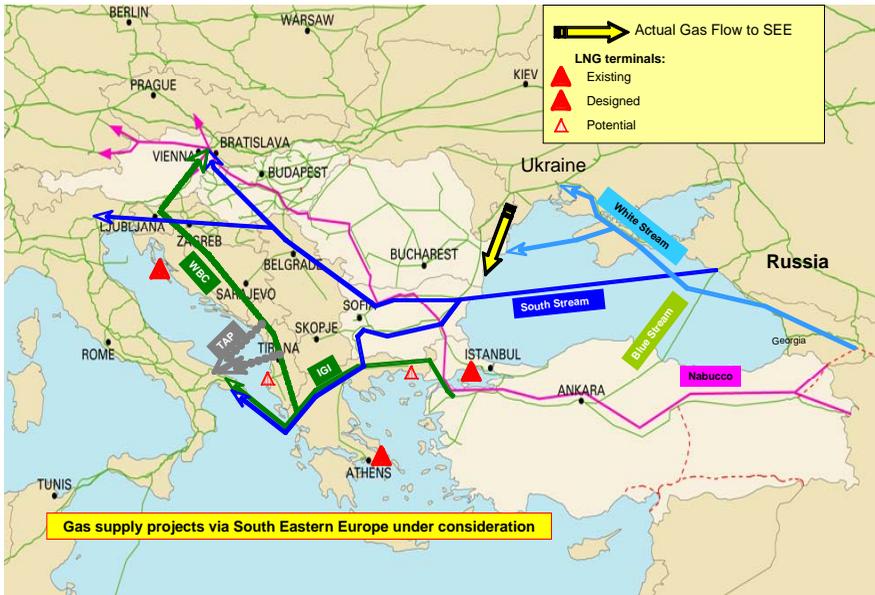


Figure 1: Gas Transit Projects in the “Southern Corridor”

to start operation soon, will initially supply limited volumes of gas to the town of Komotini in northern Greece, and later will grow into a gas pipeline extending to southern Italy (it is known as the IGI Project, or Poseidon). The establishment of an inter-systematic link between Bulgaria and Greece could bring these supplies of gas into the Bulgarian market.

Recently, there has been a public debate about starting a joint Bulgarian-Greek study to build a terminal for liquefied natural gas in the vicinity of the town of Alexandroupoulos in northern Greece. This represents a serious expansion of the opportunities to establish relations with Greece in the context of diversification of Bulgaria’s energy supply, and possibly through Bulgaria to Macedonia, Serbia, and Romania. In addition, the already operating transit gas pipeline from Bulgaria to Greece could be used to transport supplies from sources in Turkey.

*Nabucco*

The purpose of this huge pipeline project is to provide a direct supply of natural gas from the Caspian region and the Middle East to Europe, passing through Turkey, Bulgaria, Romania, and Hungary, reaching the Central European Gas Center in Baumgarten an der March, Austria. This project could ensure the unlimited diversification of gas supplies in Bulgaria, providing resources from Azerbaijan, Iraq, Egypt, and—after the completion of the Trans-Caspian corridor—from

Turkmenistan and Kazakhstan. In the long term, supplies from Iran could be included as well, once its political situation is resolved.

The Nabucco gas pipeline would ensure the European energy market access to the largest gas reserves in the world. It would be the fourth energy corridor to meet the growing market demands in EU countries, to complement the three existing ones running to Europe from Russia, the North Sea, and North Africa. How and to what extent Bulgaria becomes involved in this infrastructure project depends mainly on the country's politics.

### *Additional Supply Routes*

There are some additional potential supply routes that could serve to bring natural gas to the Bulgarian market, although they are smaller in scope than those discussed above. As has been mentioned previously, the IGI Project, which runs through Greece to Italy, would use the same gas sources as the Nabucco pipeline.

Another potential supply route runs through the West Balkan Corridor (WBC). This proposed pipeline, negotiated by countries in the Western Balkans in 2003, involves the implementation of the IGI Project in a northwesterly direction. Bulgaria could receive indirect supplies through this project if it established an inter-systematic link with Serbia, an idea that has been discussed for more than a quarter of a century and has inevitably been listed among the priorities of a dozen Bulgarian governments.

The TAP Project pertains to the transit of gas supplies from the Balkans to Italy. This project in its different versions would not directly benefit Bulgaria, but its indirect positive effect on the political climate in the Balkans is by itself quite significant.

The Georgia–Ukraine route, known as the White Stream,<sup>26</sup> is a relatively new idea that has been embraced in high-level political circles in both countries. The various sources of the gas to be carried are the same as in the Nabucco project. Bulgaria could directly benefit from such a project, receiving a supply of natural gas from Ukraine or Romania through existing infrastructures or through establishing a new inter-systematic link between Romania and Bulgaria. Similarly, the joint project of leading European and South Eastern European companies to build a liquefied natural gas terminal in Croatia could help provide Bulgaria with independent gas supplies, either directly or by a swap via Serbia.

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<sup>26</sup> White Stream, a project to transport Caspian gas via Georgia and the seabed of the Black Sea to Europe, was presented during the summit-level Energy Security Conference in Vilnius on 10–11 October 2007. This pipeline project could encourage investments in Caspian gas field development by diversifying export options and transport routes directly to European Union territory. The availability of more routes and capacity could advance the timeline for Caspian gas resources coming on stream.

Recently, the idea of a new energy corridor—known as the “South Flow”—from Russia to Europe through Bulgaria and Serbia fed by gas sources both in Russia and in Central Asian countries has surprised the wider public. The structure of the ownership of the investment company for the portion of the project on Bulgarian territory has not yet been negotiated. This project would represent about one thousand kilometers of high-capacity gas pipelines, and would require joint investments of no less than EUR 1.5 billion. The Bulgarian government has declared that it would not allow majority ownership to remain in Russian hands. At the same time, the inter-governmental agreement between the Russian Federation and Bulgaria is actually a copy of the agreement governing the Burgas–Alexandropoulos oil pipeline, which raises serious concerns about the realization of these intentions.<sup>27</sup>

Maintaining ownership and control over the investments in new energy infrastructure on Bulgarian territory is of critical importance to Bulgarian national security. Although this issue seems to be clear, it may turn out to be a serious test for Bulgarian political circles, a test that may underscore the need for a clearly defined national energy strategy and policy in Bulgaria.

What are the conclusions that can be drawn about how to develop a successful national energy policy that will lead to energy security for Bulgaria? The most general steps are stated in the Bulgarian Roadmap, with reference to the development of the country’s gas market, which was announced to the European institutions at the end of 2006: “The diversification of sources, the enhancement of standards in relation to gas storage, increasing the number of gas import sources, increasing the number of suppliers from different sources, establishing physical links with infrastructures in neighbor countries, etc., including market management in a situation of short-term and long-term crises.” What is alarming in the Roadmap is the lack of any specific projects, timelines, and indicators for the accomplishment of goals in the implementation plan.

There is a general impression of a lack of a functional strategy regarding the development of the natural gas wholesale market in Bulgaria. As has already been mentioned, the terms of the new contract for gas supplies from a single source—the Russian Federation—have not been publicly announced. It is assumed that access of third parties to the transit network of the Bulgarian gas pipeline operator is

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<sup>27</sup> We should remind ourselves that the Russian share in the Burgas–Alexandropoulos is 51 percent, while Bulgarian and Greek investors hold 24.5 percent each. Negotiated but not included in the inter-governmental agreement is the provision that Russia provides 100 percent of the oil to be carried along the pipeline. Recently, Russia has claimed that Bulgaria and Greece should provide oil volumes for transportation corresponding to their shares. Otherwise, it could be expected that these partners would considerably reduce or totally eliminate their investment influence.

free of any restrictions, since this is a basic principle in European Union legislation. We should keep in mind, however, that Bulgaria's 1998 treaty with Russia (in effect, its treaty with Gazprom) banned the utilization of free volume in the existing Bulgarian transit infrastructure by any sources other than Gazprom.

The feasibility of the penetration of new gas sources into the country (diversification of supplies) and their respective sale, however, depends not only on the competitive price of new supplies, but also on the thresholds negotiated in the "take or pay" provision in Bulgaria's 2006 treaty with Russia/Gazprom.<sup>28</sup> Unless these volumes from other sources are close to the real level of gas consumption in the country, or there is an intent to increase them along with the eventual future increase of gas consumption in Bulgaria over the years, the prospects for the inclusion of new supplies in the Bulgarian gas market is limited, and Russia's monopoly position is guaranteed.

The average-term feasibility of the diversification of supplies is relatively high. One of the most promising projects is the Nabucco pipeline. With the help of effective Bulgarian policy, it will be implemented in five to six years. Waiting to diversify supply routes until the sources of gas can also be diversified would be thoughtless.

In relation to short-term policy, Bulgaria has an opportunity to diversify its sources of gas supply from Turkey and Greece. In this way, a self-developing and sustainable gas market could be established, creating the opportunity for real access to the markets of different sources. Simultaneously, the current domestic gas dealer—Bulgargas—could be promoted from being an administrator for natural gas, coming from only one source, to being a real gas dealer, selling gas from a variety of sources.

Public interest in natural gas and the development of the gas market in Bulgaria should be considerable. It should not differ from the level of interest in developed nations, since this market, directly or indirectly, concerns the interests of each and every citizen. Contrary to logic, however, the topic of natural gas seems to have been largely ignored by the general public in Bulgaria in the recent past. On the other hand, there is an impression that the policy of diversification of gas supplies has not been transparent enough, and that Bulgarian politicians are improvising, rather than pursuing a clearly articulated energy strategy.

## Conclusion

Undoubtedly, the processes of increasing competence and inter-state cooperation in the energy sphere will have a long-term impact on the world's energy markets and the status of global and regional energy security. The crucial issue in such co-

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<sup>28</sup> Annual volumes which, even if not used, are paid for either in part or in full.

operation is to achieve a balance of the interests of the main players in the energy sector: producer nations, consumers, and states with energy transit routes.

In order not to have simply “losers” and “winners,” in order to enable all nations involved to guarantee their energy security, and to ensure mankind a smooth transition to an economy based on new energy sources, the global economy needs a new set of geopolitical rules. Energy resources must once again become a typical commodity, whose movement follows common rules, are regulated by the international community, and are used with optimum benefit both by consumers and producers. Otherwise, the global political and economic arena could witness the emergence of a new geopolitical drama fueled by conflict over energy resources. Unfortunately, the conduct of the main players in the energy market today does not give us many reasons for optimism.

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