Euroasia, Energy Cooperation or Conflict? 3rd Part: Competiti(Impositi) on Of Projects for Oil and Gas Supply in the Light of Geopolitics

S. Kolundžić

REVIEW

We have ended the 20th century with the prevailing belief that neoliberal doctrine is the best solution. Omnipotence of open market and its mechanisms was part of this doctrine. It was considered that all the problems will be resolved if energy market, particularly oil and gas, is organized according to open market principles.

At the very beginning of the 21st century it seemed that availability of supply is not questionable. Europe, but the United States as well, expected secure supply from Russia and the Caspian region. We needn't wait for long to see that reinvigorated Russia is not satisfied anymore with its former position in energy supply. It became aware of energy dependency of the West, particularly the EU, and started taking advantage of its position as the main supplier by imposing its terms. In addition, after 2005, when it became clear that the EU and the United States tend to secure energy from the Caspian region in order to circumvent supply routes from Russia, the Russian companies took over initiative in this area. On one hand, Russia offered new supply projects for Europe, and on the other hand it took a series of activities for securing transit of Caspian oil and gas through Russian transit systems. Thus, it would control energy flows and consequently all other terms and conditions. At certain point, when market conditions were favourable, Russia acquired uncommitted overproduction in countries in the region, but then it started to pursue the same model in some North African countries with a plan to create a gas cartel.

Smaller countries like Croatia see their opportunity in transit of oil and gas from the East to the West and a possibility to take advantage from providing higher security of supply, and thus to strengthen their geopolitical position.

However, there is a real threat that, due to disorientation and poor assessment of geopolitical impacts, lack of in-depth knowledge about technical and economic background of each project and factors influencing its feasibility, the most important and irrecoverable resource is lost – the time.

Key words: geopolitics, transport, transit, evacuation

1. INTRODUCTION

Energy industry stepped into the 20th century as production of local significance, while in the middle of the century it thrived into large national energy systems. As far as oil is concerned, particularly exploration and production, it became a global industry already at the beginning of the 20th century. Natural gas industry was internationalised in the 1960s. However, on the wings of gas market liberalisation and deregulation in Europe and North America the signs of globalisation of gas industry, particularly on the demand side, became visible by the end of the 20th century.

At the same time, the process of convergence of natural gas and electricity industries appeared, and was obvious with the wave of mergers and acquisitions among gas and electricity companies, particularly in power generation. At the beginning of the 21st century this process continued with the value chain extended to power transmission and distribution.

Development of the energy industry was accompanied by growing concerns about the environment and more stringent regulations in this area (Kyoto Protocol) and rise of oil and gas prices which resulted in various effects: recovery of the Russian economy thanks to large oil and gas exports, but also its tendency toward expansionism, increase of overall energy consumption, particularly oil in the fast growing emerging countries, and these effects shattered a fragile balance between oil demand and supply. In such circumstances Russia tends to gain a dominant position in the European energy market, specifically in natural gas supply, while the EU continues to pursue its consistent energy policy as far as it is possible in the architecture of EU15 and later EU27. But in one thing the EU is really persistent: keeping the balance of diversified sources of natural gas supply.

As Europe's dependence on Russian energy supplies will only continue to grow toward 2020 and beyond, Russia will tend to increase its share in Europe's supply.

Geopolitical interests of the EU and Russia became more visible as both sides tend to use demand and supply as a weapon in their energy strategies. However, European Union is not very homogenous and this fact diminishes its bargaining power.

"In academic circles understanding of geopolitics assumes geography of international politics, particularly the link among physical environment (location, resources, territory, etc.) and conducting foreign policy." (Tuathail, Dalby, page 112)

Russian oil and gas production is not taking place only on the European part of the Russian territory but also on the Asian part. In addition there are Asian countries as significant producers, but also consumers of oil and gas. Consequently, we have a complexity of Euro-Asian relations.

When implementation of geopolitical goals is articulated by means of energy, and these goals are pursued by energy companies, then we talk about their geostrategy.

In the author's view, geopolitics is a framework consideration of strengths, weaknesses, opportunities and threats for the purpose of strengthening own position, while geostrategy represents an elaboration of tools that could be used for achieving the set strategic goal.

Geopolitics played an important role in oil and gas production in the US, Great Britain and France already on the eve of the First World War.

During the Second World War one of strategic goals set by Germany was to seize oil sources, while the Allies fought to prevent it. In 1944 strategists warned the President Roosevelt that after the 1950s the United States would not be able to meet domestic demand for oil products from indigenous production, but would growingly depend on oil imports. Few months later, F.D. Roosevelt visited Ibn Saudu, the king of Saudi Arabia, and forged deals that paved the way to long-term cooperation. Even today this cooperation ensures high level of secure supply to the US of high quality crude, at low production costs and strong participation of the US oil companies.

President Putin, during his two terms of office, became fully aware of the close link between energy and power, so he consolidated Russian oil and gas industry and started to use it as a weapon for achieving geopolitical goals.

Although geopolitics and energy have been interwoven during the entire century, the politicians in smaller countries frequently lack statesman foresight and capability to comprehend causes and consequences of geopolitical games. This is obvious in neighbouring countries, but also in Croatia, where some important energy projects, such as expansion of the Druzba-Adria oil pipeline, or the construction of LNG terminal, were suspended or unreasonably delayed. Even with the blessing of aftermath wisdom, if it comes, for some projects it is too late.

The motive for writing this article was a cacophony of various ideas about energy projects, mainly focused on transit of natural gas and/or oil across Croatia. Usually it is expected that their realization will provide at least two significant benefits, both quite unrealistic:

- huge transit fees,
- secure supply of Croatian market, but frequently advocators of strictly national projects forget that construction of a long distance transit line requires large investments and can be economically viable only with satisfactory level of economies of scale.

When transit fees are concerned, expectations about huge income to be generated by providing transit service, are quite unrealistic. Probably some politicians still have in mind tolls that were collected on roads crossing various feuds or towns in the past, or at the time of odious Croatian feudalist Franjo Tahi in the second half of the 16th century.

It is forgotten that transport tariffs are regulated at the EU level and are set to cover operating expenses and investments, including not very high profit margin.

If a transit route would cross Croatia, it is reasonable to expect to have gas supply from this route, but respecting the principle of diversification and competitive price of supplied gas. If it is a branch pipeline of a main transit line, it must have satisfactory economies of scale to be profitable.

It is important to gather all necessary data about each project and then make analyses and benchmarking according to different criteria so as to be able to assess properly potential advantages.

2. ENERGY AND GEOPOLITICS

The dispute between Russia and Ukraine that sparked in 2006[note 1] when Russia increased natural gas prices, and later the conflict between Russia and Belarus regarding transit of Russian oil through Belarus, speeded up Russian projects for new transit routes, particularly in case of natural gas. Russian large oil and gas exporters made plans on how to avoid Ukraine and Belarus. Several new pipelines were proposed such as the North Stream and South Stream, combined with a penetration into gas transportation systems of European countries wherever possible.

The author of this article was under impression that European countries' reaction to the above conflicts was phobic, or at least exaggerated. However, when we learnt from the press (Poslovni dnevnik of 7 July 2008 page 8) about the events from July 2008 when Russia cut oil supply to Czech Republic and Poland (instead of 460,000 they delivered only 193,000 t), allegedly due to technical

1 GAS WAR: RUSSIA – UKRAINE
In early 2008, despite negotiations of on high state level, the problem of Ukrainian outstanding payment for supplied Russian gas was not resolved. At the beginning of March Gazprom reduced delivery of gas for Ukraine by 25%, few days later for another 25%. Allegedly, the debt owed by Ukraine exceeded $ 900 million.
In 2007 price of Russian gas for Ukraine was 130 $/1000 m^3. In 2008 Gazprom 2008 offered gas at 179,5 $/1000 m^3. Croatia pays the same Russian gas delivered at the state border, with transport costs included, nearly 400 $/1000 m^3.
The case with Ukraine repeats again. It puts in jeopardy gas supply to entire Europe due to unrealistic ambitions to have gas delivered at lower price as if it were part of Russia. Will the western world search for culprits only on the Russian side as in 2005/2006 or a year later during conflict with Byelorussia which appeared due to transit dispute.
When we talk about Ukraine, instead of other comment, just remainder about the news announced in 2008 about the arrest of Semyon Mogilevich, called East European mafia boss. Shortly after the arrest, Ukrainian PM Yulia Timoshenko said Mogilevich had gotten into trouble because of his involvement with a trading company RosUkrEnergo which was selling Russian gas to Ukraine, but also gas from Uzbekistan and Tajikistan. On the same occasion, the Prime Minister, Y. Timoshenko promised to the president of EC, M. Barroso more transparency in gas trading.

problems, but in effect it was an answer to these countries' participation in NATO's anti-rocket shield programme. Then, in November 2008 the Croatian media wrote about new problems in Russian – Ukraine relations and problems with natural gas payment, (Privredni vjesnik, 24 November 2008, page 10, article by D. Zivkovic entitled "Russian Bear at the Ukrainian Door Again" – the President Medvedev claimed payment of US$ 2.4 billion debt owed by Ukraine. The Ukrainian side denied the amount of debt and mentioned the sum of US$ 1.27 billion. The problem was that Gazexport increased the price of natural gas for Ukraine from US$ 179.5 to 400.0/1,000 m^3 while Ukrainians considered that fair price would be US$ 95-100 / 1,000 m^3 (Poslovni dnevnik, 24 November 2008, p.10).

In December 2008 the relations between Russia and Ukraine deteriorated again and the EU countries faced the risk of gas supply cuts. The dispute was not resolved by January 5th 2009 when the Russian supplier turned off the valve. In the midst of the winter the customers in CEE countries faced severe supply cuts. Negotiations protruded for two weeks. However, was the lesson learnt by Europeans, Russians, Ukrainians? We in Croatia should certainly draw some conclusions and learn something from this case.

In competing for dominance in natural gas supply, Gazprom has far more important role than being just a gas supplier, it has the role of Russian policy operator. Long ago it set a strategic target to reach gas end users in European countries. The implementation of this strategy began when Gazprom concluded contracts with Italian ENI for the supply of end users in Italy with 3 billion m^3 of gas and with GdF, France for 2 billion m^3 of gas.

After Gazprom contracted the construction of the North Stream pipeline with German companies E.ON and BASF (originally it was named Nord European Gas Pipeline – NEGP) with 55 billion m^3 capacity across the Baltic Sea to Germany, and after offering to construct South Stream through SEE countries as a direct competition to the European Nabucco pipeline, strategic positioning of Gazprom has gained on credibility.

Moreover, Gazprom signed 25-year gas purchase contracts with Kazakhstan and Turkmenistan and then the resale and transport of so purchased gas through Russia. Similar arrangement was concluded with Uzbekistan in September 2008. At the end of October 2008 it was announced that Russia (Gazprom) entered into agreements with Iran and Qatar with a plan to make natural gas exporting countries association. (Poslovni dnevnik, 23 October 2008, page 11, M. Dobrašin: Russia, Iran and Qatar set up a gas cartel). The fact is that these three countries together dispose with a half of world natural gas reserves! Before Christmas in 2008, the 12 gas exporting countries gathered on a forum on ministerial level – GECF – Gas Export Country Forum.

By undertaking the above described moves, which might have far fetching effects on the future energy scene, Russia strengthened its geopolitical position. After the conflict between Russia and Georgia in August 2008, the EU orientation to have diversified supply of gas and balanced sources of supply, so that imports from Russia are below monopoly position, has become ever more important. But, the question of actual implementation of such a strategy is quite uncertain.

During the 20th century and at the beginning of the 21st century, we have seen how closely geopolitics and oil industry have been interwoven. More recently we are witnessing strong links between geopolitics and natural gas industry, more precisely, how natural gas supply is used as a weapon for achieving geostrategic goals. The fight over control of Caspian oil and gas sources, as well as the fight over transport routes for evacuation of this gas, should be observed in the light of the above described geopolitical moves.[note 2]

The term geopolitics was first used by the Swede, Rudolf Kjellen[47] in 1899. Later it was adopted by Karl Haushofer who initiated publication of the magazine entitled Geopolitics in 1924. As he was later related to the National Socialism and Hitler's Nazi party, the term was not in use until the beginning of the Cold War.

In the world geopolitics, the Euro-Atlantic alliance plays a very important role. The relations between the USA and Great Britain have a central place in this alliance. In the first half of the 20th century Europe and the USA had a common enemy – Germany, while in the second half of the century, during the Cold War, it was the Soviet Union. After ideological bipolarity vanished and many changes took place, in the 1990s it seemed that the connecting points faded away and some rivalry appeared among the Euro-Atlantic alliance partners, which was particularly visible at the beginning of the Iraq invasion. However, in the light of the most recent developments and moves undertaken by reinvigorated Russia, it is likely that the Alliance partners will join forces once again.

Although geopolitics has been used to describe political games and competition among imperial powers, with globalisation we have seen also good sides of geopolitics. In the 1970s we saw arising of global awareness about the need to undertake joint actions to eradicate poverty and diseases, improve human rights or preserve the environment. Fortunately, the world leaders recognized also that nuclear and biological weapons must be put under global control. Terrorism cannot be eradicated without global cooperation. However, globalisation has its back side in case of abuse of some global movements. The events of the 11th September were not the direct consequence of the war in Afghanistan or in Iraq, but were related to "the interpretation of the situation by the Bush Administration".[73] The United States have effective means of control over different centres of power around the globe, including also the control of energy sources, technology innovations and of course military forces.

Imperialistic policies were pursued by different powers from 1870 to 1945. Then, after 1945 we have bipolar structure of global powers and the rivalry among the two predominant political systems: capitalist and communist. The key players among the first group were: Great Britain, Germany, France and the USA. One of the founding fathers of geopolitics in Great Britain was

2 Comment regarding Croatian version of the word evacuation.

Halford Mackinder. In Germany it was afore mentioned Karl Haushofer. Back in 1905 President Teodor Roosevelt had his adviser for geopolitics, Dr Isaiah Bowman.

"Mackinder's ideas stemmed from the British Empire culture"[47] but he failed to predict important things that changed the course of events like the role of aviation in the war or the role of the USA as superpower.

P.M. Defarges[6] in his analyses of development of geopolitics mentioned that modern geopolitics developed in parallel with neoliberal doctrine and he quoted: "Why tend to establish domination by force over a nation and make everybody exasperated, when seduction by trade can be beneficial for all?" Further on, this author wrote: "Military threat and alliances lost on their importance as international trade spreads peaceful influence" or "The war will be replaced by trade competition"…."In war the luck of one side creates misfortune to the opposite side. Contrary, trade brings luck to both sides."

The influence of globalisation is felt in all these developments and Defarges said: "The term Globalisation appeared in the last quarter of the 20th century when the general mobility of people, goods and ideas was enabled by communication networks" (Defarges, P.M. (2006), Geopolitical Dictionary, Croatian Centre for Politological Research, Zagreb, page 70).

The most recent rows between the USA and EU on one side and Russia on the other side, stem mainly from their different energy interests, with geopolitics in the background. These tensions among superpowers give rise to some interpretations about new "cold war". Such views might be exaggerated; nevertheless, the energy supply of Europe will remain an open issue and possible source of conflicts between Russia and the EU, including USA. Behind everything us a reality that can be quantified:

- 85% of world oil reserves are located in 10 countries;
- 80% of world gas reserves are located in 10 countries;
- 90% of natural gas imports to EU come from 3 countries: Russia, Norway and Algeria.

The author A. Milardović[42] considers that the age of "old geopolitics" ended with the fall of Berlin Wall in 1989. However, despite globalisation and neo-liberalism followed by deterritorialization, the territory issue remains an important component of geopolitics. After disappearance of bipolar world, more centres of power emerged, represented by seven to eight most developed countries. There are number of those who believe that S. Huntigton, with his theory laid out in "Clash of Civilizations and the Remaking of World Order" set the foundations of new geopolitics. Engdahl, Deffeyes and Klare, the authors who talk about geopolitics in their works, reduced it to a battle for domination over oil sources. The authors of the book "A Century of Oil"[10] are not far from such an approach.

After the collapse of the Soviet Union in 1991, the five central Asian Republics: Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan and Kyrgyzstan became sovereign states. The three of them; Uzbekistan, Tajikistan and Kyrgyzstan accepted US military bases in their territory. Kazakhstan accepted the role of a buffer-state. In the half-moon shaped area extending from the Mediterranean to the Pacific Ocean the countries like Russia, USA, China but also Turkey and Iran are competing for dominance.

In the background of these countries' competition are reach reserves and estimates according to which the Caspian region could reach 5% share in world oil production. Not less important goal is the control of transit corridors for transport of oil and gas, i.e. evacuation to the consuming countries. The goal pursued by the USA and EU is to weaken Russian influence and strengthen their own, while Russia has opposite agenda: strengthening of Russian influence. China's intention is to ensure energy supply from the Caspian region for meeting its growing demand.

The war in Iraq, without any doubt, enabled the control of 15% of oil reserves and production, with significant influence on demand and supply. The supply is more or less controlled, but global demand for oil is strongly impacted by fast growing economies in highly populated countries, particularly China. This situation created mechanisms for steep rise of oil prices.

However, geostrategists attribute other effects to the war in Iraq: on one side it is to discourage militant pan-Islamism and Muslim fundamentalism (fundamentals of Al Quaide's activities), but it is also a time bomb for China's fast development, which reached the level of liberalized market, but not the level of superpower.

P. Gigante[27] said that fundamentalism sprouted on frustration with poverty while the West "got rich from their oil, and in the recent times the Muslim world is particularly stricken by globalisation, the foundations of which have strong influence on Islamic people customs and convictions".

2.1. Attempt of forming a gas cartel and its influence on security of supply

By the end of 2006 various media reported (Financial Times, and from this source coverage in the Croatian daily paper Vjesnik of 16 November 2006, page 11) on Russian initiative to establish a "gas cartel" similar to OPEC, with gas exporting countries: Algeria, Qatar, Libya and the central Asian countries like Iran, Turkmenistan and Kazakhstan. The formal reasons for such association were "improved energy security and interdependence of gas producers and consumers".

Until now cartelization was practiced among oil producers for the purpose of oil market control, i.e. oil prices control. It is considered that the first oil cartel was established in 1928 by the large oil producers such as Texaco, Standard Oil, Exxon, Mobil Oil and Gulf Oil from the USA, and BP and Royal Dutch Shell from Europe. As this association operated silently, its functioning was not well known in the public.

The other oil cartel, OPEC, is far better known. It was established in 1960 and included large oil producers, mainly developing countries that were also members of the then strong Movement of Non-Aligned countries. However, foreign companies had large participation and

Fig. 3-1 Algerian President Abdelaziz Bouteflika met with Russian President Vladimir Putin. The two states are the largest gas suppliers of Europe and they plan to found a cartel of gas exporting countries • *REUTERS*
Sl. 3-1 Alžirski predsjednik Abdelaziz Bouteflika susreo se s ruskim predsjednikom Vladimirom Putinom. Te dvije države najveći su opskrbljivači Europe plinom i planiraju formirati kartel izvoznika plina

rights in oil exploration and exploitation in those countries.

Among the first OPEC members were Saudi Arabia, Algeria, Iraq, Iran, Kuwait, Qatar, Abu Dhabi, Libya, Nigeria, Venezuela, Indonesia, Ecuador, Gabon and United Arabian Emirates.

In the period from 1973 (and this year was also marked by the first "oil shock" after the war that broke out between Israel and Egypt) till 1979/80 (after the Iranian revolution which caused the second oil shock) world oil prices went up from US$ 2 to US$ 80/bbl.

With this state of events in mind, gas cartelization is observed as a threat, and the initiatives put forward by the President Vladimir Putin and Gazprom as a leading entity, were not well accepted. Understandably, if we take into account that Russia has 24-25% share in the world gas supply, about 50% share in Europe's supply, and it is no wonder that this issue was discussed at the NATO meetings.

Several articles in the press (the news released by Reuters and published in Croatian daily papers Jutarnji list of 20 February 2008, p. 16) covered the meeting between the Algerian President and President Putin in Moscow, confirming that founding of the gas cartel is a real threat, not just an idea.

At the beginning of May 2008 it was announced that gas exporting countries organized a Forum with participation of Algeria, Bolivia, Brunei, Venezuela, Egypt, Indonesia, Iran, Qatar, Libya, Malaysia, United Arab Emirates, Oman, Russia, Trinidad and Tobago, Equatorial Guinea. Turkmenistan, as a potential member participated at the meeting, while Norway was there in the role of an observer. (Poslovni dnevnik, 2/3 May 2008, p. 9).

On 23rd October 2008 it was announced that the three large gas producers: Russia, Iran and Qatar reached an agreement on association of the exporting countries. Is this the first step in gas cartel development?

Some experts consider that gas cartel could hardly be efficient in controlling gas prices because of long-term contracts with indexed prices. However, it is to be noted that Gazprom has already introduced shorter contract terms up to five years!

Moreover, after forging the deals for purchase of Caspian countries' gas, in summer 2008 Alexei Miller led negotiations with NOC Libya for acquiring licences on the three discovered gas fields with estimated reserves of 30 billion m^3 and oil reserves of 110 million tonnes (according to Global LNG Markets, 1 June 2008, p. 1-2).

Gas pipeline supply from Russia to Europe can hardly be replaced with other source. Qatar is important for LNG supply. Iran has potential for pipeline supply, but due to political and other reasons, it has not been exploited yet. In addition to the quoted gas exporting countries, Algeria is also very important. Gazprom and Sonatrach (Algeria) together meet 36% of Europe's gas demand (according to 2006 data).

In regard to relations with Russia, in the EU there are three prevailing views: the first advocates establishment of partnership relations with Russia; the second proposes opposition to Russian ambitions for domination; and the third which considers that the Russians have already taken lead in energy projects. (Uroš Dujšin: "Horns in the European Sack", Privredni vjesnik, www.privredni.hr. The division among the EU countries weakens their bargain power. The advocators of partnership relations with Russia, consider that the strength of the EU market is its attractiveness stemming from its strong purchase power, and that it should act as a counterbalance because Russia needs such a market.

Gazprom endeavours to gain ownership over European gas transport systems, which is strongly opposed by the EU. The recent drop in international oil and gas prices might diminish these efforts.

Russia's interest to gain dominance over transportation routes is rooted in commercial benefits. When gas prices were low, in 1994 when oil prices were at the level of about US$ 10/bbl and gas prices in the US market were low, the shares in gas transportation costs varied. However, construction of new transport routes and their linking with Europe's gas systems could lead to increase of transport margins. Consequently, in addition to its impact on gas prices, the goal of cartelization is also to gain dominance over transit and transport pipelines in

Table 3-1. Comparison of cost structure of gas in the USA and in France (%)

USA		France	
distribution	43.1	distribution	43.1
transport	20.0	transport	10.2
wellhead price of gas	40.0	wellhead price of gas	46.7

According to: Natural Gas Transportation, IEA, 1994

Europe in order to strengthen market position, but also to benefit from transportation revenues.

According to estimates, gas producers have 45% share in gas price, traders about 8%.

About ten years ago, before liberalization of the gas market in Europe, the share of transportation costs at end user were slightly different.

The data from the Table reveal that transport can be a lucrative business.

2.2 Distribution of oil and gas reserves from geopolitical perspective

In considerations about security of supply it is generally believed that gas reserves are better distributed than oil reserves. According to BP Statistical Review of World Energy, June 2008, the distribution of reserves on continents/regions is as presented in Table 3-2:

Table 3-2. Distribution of reserves on continents in 2007 (%)

Continent/region	Oil	Gas
1. Middle East	61.0	41.3
2. Europe + Euro-Asia	11.6	33.5
3. Africa	9.5	8.2
The first 3 together	82.1	83.0
4. South & Central America	9.0	4.4
5. North America	5.6	4.5
6. Asia – Pacific	3.3	8.2

According to: BP Statistical Review of World Energy, June 2008

For more complete picture of distribution of reserves in the world, it is necessary to take into account information about distribution per country. The table below presents the list of countries with oil and gas reserves exceeding 1% of world reserves, with indication of their export potentials and tendency toward hydrocarbons nationalism which hinders free trade (Table 3-3).

Out of 23 countries having oil and/or gas reserves higher than 1% of world reserves, there are 17 countries with oil reserves and 21 countries with gas reserves. Among them, 14 countries are oil exporters and 18 are gas exporters. So, there are fewer countries with oil export potential than those with gas export possibilities.

2.3 Military conflict between Russia and Georgia has geopolitical background

Among oil exporting countries there are some like Venezuela, Russian Federation, Iran, Algeria and Libya that demonstrate their formal or informal participation in cartel prone organizations and use of their resources as a political weapon.

The thesis about wider distribution of gas reserves and consequently higher potential for security of supply, does not have such importance as is attributed to such thesis.

Until 2007, the share of OPEC members in daily world oil production was 42% of total world production, while their share in total world export was 50%.30 In addition to threats of some revolutionary regimes, primarily in South America, and Islamic fundamentalism in some Middle East countries, using oil supply as a mean for blackmailing, fills consuming countries with anxiety.

Table 3-3. Distribution of oil and gas reserves (% of world reserves)

Country	Oil (% w. reserves)	Gas (% w. reserves)	E-export potential Eo-export of oil Eg-export of gas
USA	2.4	3.4	-
Canada	2.2	-	Eo
Brazil	1.0	-	Recent oil discoveries could increase current share of 1%
Venezuela	7.0	2.9	Eo + Eg
Kazakhstan	3.2	1.1	Eo + Eg
Norwey	0.7	1.7	Eo + Eg
Russian Federation	6.4	25.2	Eo + Eg
Turkmenistan	-	1.5	Eg
Uzbekistan	-	1.0	Eg
Iran	11.2	15.7	Eo + Eg
Iraq	9.3	1.8	Eo + Eg
Kuwait	8.2	1.0	Eo
Qatar	2.2	14.4	Eo + Eg
Saudi Arabia	21.3	4.0	Eo + Eg
UAE	7.9	3.4	Eo + Eg
Algeria	1.0	2.5	Eo + Eg
Libya	3.3	0.8	Eo + Eg
Nigeria	2.9	3.0	Eo + Eg
Egypt	1.3	1.2	Eo + Eg
China	-	1.1	Eg
Australia	-	1.4	Eg
Indonesia	-	1.7	Eg
Malaysia	-	1.4	Eg

According to: BP Statistical Review of World Energy, June 2008

The EU and the USA have been revising their energy strategies by decreasing dependency on fossil fuels and increasing the share of renewable energy, construction of more LNG receiving terminals and new wave of interest for nuclear power plants.

The EU tends to increase energy security by stronger connectedness between producers and consumers. The Croatian magazine Plin (Gas) wrote about the new trends in EU energy policy, transferring the article from Oil & Gas Journal, the issue from 10 October, 2005), quoting the structure of energy consumption in Europe in 2000:

oil	41%
natural gas	22%
coal	16%
nuclear	15%
renewables	6%

From 2000 to 2005 the EU countries decreased the share of oil consumption to 35.1% and increased the share of gas to 26.6%.

According to projections, in 2030 the EU will have only 10% of indigenously produced oil and 20% of gas. In order to respond to this high dependence on energy imports, the two important documents were designed in the early 1990s: Energy Charter and Energy Charter Treaty. The aim was to set a framework for cooperation between energy hungry Europe and energy rich Asia, particularly Russia, which at that time needed capital for development of energy projects. Energy Charter was signed in 1994 but it has never been ratified by Russia.

Europe is also interested for the supply of Caspian oil and gas (Azerbaijan, Kazakhstan and Turkmenistan) whose reserves are estimated at 2.5 to 5.1 billion m^3 of oil (16.9 – 32.2 billion bbl) and 4 728.9 billion m^3 of natural gas (167 Tcf). In 1995 the EU concluded agreement with the Caspian region countries within the scope of the INOGATE programme – Interstate Oil and Gas Transport to Europe to support cooperation between the parties. This program protects European investments in the Caspian region and Central Asia. After that the INOGATE Umbrella Agreement was signed which stipulated main provisions for implementation of transportation projects and providing of funds for investment. However, it was too late.

The EU Green Paper, a European Strategy for Sustainable, Competitive and Secure Energy, indicates the following parameters:

- Energy infrastructure investments of around $ 20 000 billion will be needed over the next 20 years
- EU's energy dependency could rise by 70% over the next 20-30 years
- Reserves are concentrated in few countries – today imports are sourced from three countries: Russia, Norway and Algeria, but in 25 years gas imports will rise to 80%.
- Global energy demand – and CO_2 emissions, is predicted to increase by 60% by 2030.
- Global consumption of oil increased by 20% from 1994 onwards, or an annual average rate of 1.6%.
- Crude oil prices are rising – in the last two years they doubled. The good aspect of rising prices is stimulus for energy efficiency.
- If global warming is not curbed, by the end of the century temperatures could increase by 1.4 to 5.8 °C, and in the end
- All Europeans should have free access to energy! Security of supply must be met. **These issues should be resolved on the Community level, separate policy cannot provide right solutions.**

The history of international interests in the Caspian region began in the 19th century. Shipping and trading in the Caspian Sea intensified during that century when ships of the Russian And Persian empires claimed shipping rights for transport of food and other goods. At that time there was no need for regulation of mineral resources exploitation. In 1921 the Soviet Union and Persia signed the Friendship Treaty according to which both countries were given full and equal shipping rights in the Caspian Sea. In 1940 the Treaty of Commerce and Navigation was signed. These treaties denied the shipping right to third parties. So, historically, Russia and Persia had shared joint control over the Caspian Sea, with the exception of 10-mile coastal zone where ships had right to fish. However, at that time the borders at sea have not been defined. Neither were defined the rights concerning mineral resources extraction.

In spite of undefined borders and some conflicts among the countries, exploration and production of oil and gas intensified in the 1990s and continue without major international disputes.

In addition to the existing pipeline to Novorossiysk at the Black Sea, new pipelines were constructed to Ceyhan in Turkey on the Mediterranean coast and in 1999 to the port of Supsa, on the Black Sea coast.

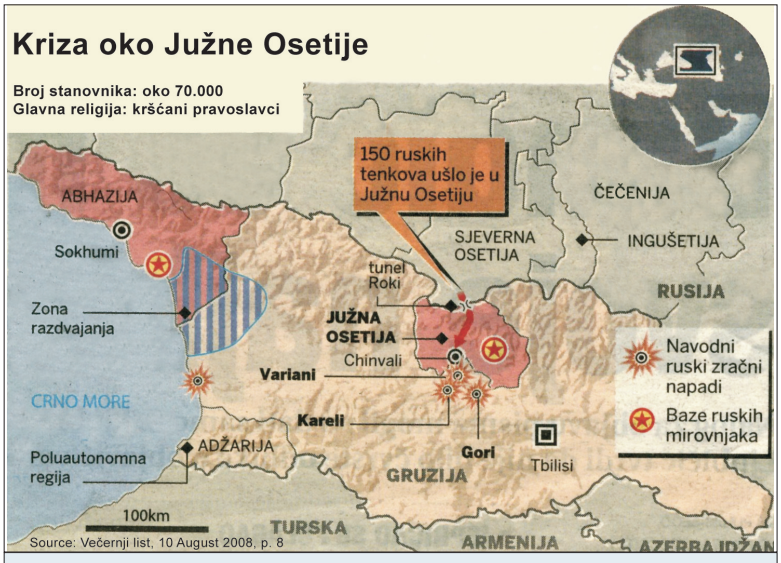

Fig. 3-2. Georgia, an area of new conflicts
Sl. 3-2 Gruzija, područje sukoba

Recent events in Georgia indicate that Zbigniew Brzezinski was right in his predictions about the Caucasus region potentially becoming an area of new conflicts between the West and the East, as described in his book «The Grand Chess Board» published by the end of the 1980s.

Incautious military action undertaken by Georgian forces during August 2008 with the aim of preventing separation of South Ossetia and putting it under Russian control, caused strong military response by Russian forces.

Mikheil Saalikashvili, the president of Georgia, despite clear signals (postponement of NATO accession in spring 2008) made wrong assessment of the West reactions. In his wish to resolve the problem of run away South Ossetia, Abhazia and even Adzaria, he instigated the confrontation of Russia with severe consequences.

There are several reasons for the strong military reaction by Russia: sending a signal that Russia is back in a superpower position, along with the USA, and a warning that Caucasus is Russian interest zone; in addition, Russia demonstrated their military strength and showed that previous failure in Chechnya would not repeat.[43]

Georgia has become an important corridor for transit of oil and gas from the Caspian region to Europe.

By 1990 South Ossetia had been an autonomous province in Georgia, while North Ossetia was aoutonomous in Russia. South Ossetia wanted to join North Ossetia within Russia, because of Georgian nationalism which intensified during the last 5 years as M. Saakashvili took presidency.

South Ossetian attempts of separation took place in 1990/1991, and then again in 1992 and 1994, but Georgia's military intervention was successful and conflicts ended by ceasefire and foregin missions monitoring. In order to end tensions with Abhazia, in 2005 Georgia signed with them an agreement on avoiding military action, provided Abhazia allowed return of 200,000 Georgians back to Abhazia. This agreement was violated in 2006. The United States provide military aid to Georgia in the form of training and equipment. Israel is also present in Georgia and providess military support. Apart from defending Western interests for secure transport of crude oil from Azerbaijan through Georgia to Ceyhan in Turkey, Israel would like to ensure a pipeline route to be constructed toward the Red Sea tanker loading port Eilat, seeking support by Turkey, Georgia, Turkmenistan and Azerbaijan.

M. Žužul, former foreign minister in the Croatian government, who was also a mediator in the peace-keeping mission in Georgia, did not share the view that at the bottom of the conflict were economic and energy transit issues, or more precisely, the control of transit route from the Caspian region to Europe (Croatian magazine Nacional, December 2008).[83] Just as a remainder, the following oil and gas pipelines go through Georgia toward the West:

- Oil pipeline Baku-Tibilisi-Ceyhan (marked by no. 2 on the Figure 3-3), put into operation in 2006 by the investors BP, Chevron and Conoco Phillips- capacity about 50 million t per year

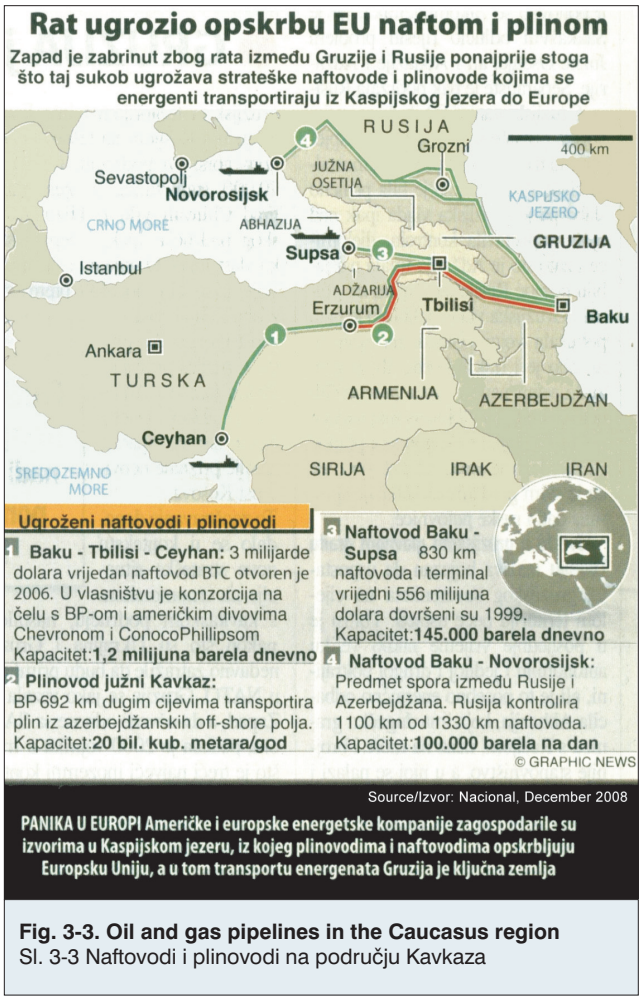

Fig. 3-3. Oil and gas pipelines in the Caucasus region
Sl. 3-3 Naftovodi i plinovodi na području Kavkaza

- Oil pipeline Baku-Supsa (marked by no. 3) with terminal in Supsa from which crude is loaded on tankers – capacity about 8 million t per year
- Gas pipeline South Caucasus (marked by no. 2) owned by BP, - capacity about 20 billion m^3 of gas per year
- Oil pipeline Baku – Novorossiysk, which does not go through Georgia, transporting up to 6 million tonnes of oil per year.

According to Miomir Žužul, transit routes are not the cause because "generally, wars belong to irrational category, regardless how convincing some rational causes might be, wars do not break out for rational and pragmatic reason". This is quite unexpected logic, and further in the text there is no argument that would support this thesis. Moreover, some inaccurate data were presented which minimise the role of Georgia in oil and gas transit, claiming that «its territory can be easily avoided», and neglecting high scale geopolitical games and serious estimates (including the ones provided by Z. Brzezinski about Caucasus region and its geopolitical role).[75]

Georgia's position after the wrong assessment of the president Mikheil Saalikashvili about the timing and military measures chosen for suppressing separation of South Ossetia and Abhazia, was also discussed by the Globus magazine journalist, Ines Sabalić (article entitled

Georgia in Europe's waste basket for lost cases, Globus, 15 August 2008, p.109). The article writes about M. Saakashvili's wrong perception about NATO's and the West's response to the conflict, asking readers if they would send their troops under NATO umbrella to Georgia by putting the question "What are we to Georgia, what is Georgia to us?". But, this is more about statesman capabilities of the President and his government, than about Western response.

When Karl Haushofer wrote for his German readers that «statesmen should get well acquainted with those aspectos of politics that can be scientifically determined, before leading their state and nation into unknown future», as if he had in mind Georgia's president.

When Gazprom started to buy natural gas from the Caspian states, with this additional supply it further strengthened the position of its South Stream gas pipeline. This project is direct competition to the European Nabucco pipeline. Regardless the fact that there are still some doubts about the profitability of the South Stream project, considering long-term and complex operation of laying underwater pipeline in the Black Sea, on some places very deep, Gazprom concluded a longterm contract with Turkmenistan for the supply of their gas, even increasing the price by 30%.

As Nabucco can count only on Azerbaijan gas, with many uncertainties about Iran, there remains only hope that Turkmenistan could offer about 10 billion m^3 of gas for the Nabucco project. But, Russia is certainly not in favour of diversification of Turkmenistan's market, nor other Caspian states, considering them Russia's interest zone. Moreover, as China, and not only China, tend to buy Caspian oil and transport it through new piepelines to be constructed. Such projects weaken Russia's position in competition for transit of this same oil. This is not an economic issue. This is about control of energy flows. This is a geopolitical issue.

For the above and similar reasons, there is a strong competition among different transit projects that should bring Caspian oil and gas to Europe on the one side and Far East countries on the other side.

3. OIL TRANSIT PROJECTS

At the beginning of the 1990s Russia's main concern was how to organize export of Russian crude oil to consumers, while western investors were keen to find the way how to transport Caspian oil to their markets. It seemed that there was no competition among these projects.

3.1 Russian interests and oil export options

Russia exports a large share of produced oil, as indicated on Figure 3-4.

The largest part of export volumes go through the Black Sea port Novorossiysk - 32%. The other important routes are pipelines through Germany (14%) and Poland (14%).

The figure below presentes other routes and their percentage in the overall remaining 40% of other export directions.

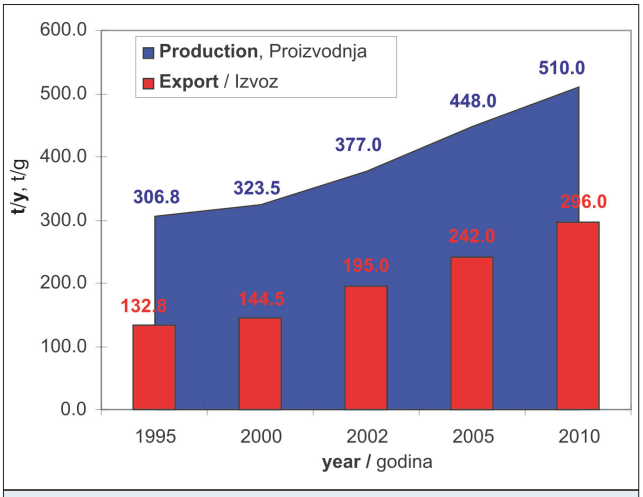

Figure 3-4 Russia's oil production and export 1995 – 2010 (t/y)[84]
Sl. 3-4 Proizvodnja nafte u Rusiji i izvoz 1995. - 2010. godina (t/g)[84]

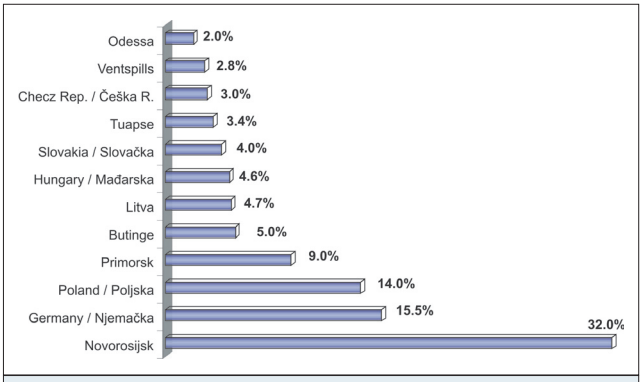

Fig. 3-5: Routes for evacuation of Russian oil[84]
Sl. 3-5 Pravci evakuacije ruske nafte[84]

Soon after discovery and exploitation of oil and gas in the Caspian region at the beginning of the 1990s, the investors faced the problem of evacuation of produced volumes toward export markets.

Russia had some transportation network in place, but it was sufficient for smaller quantities in early stage, and there was always a risk of transport monopoly. It is particularly a complex problem when transit goes through several countries. Some of them might be exposed to political and other pressures. The conflicts between Russia and Ukraine in 2005 and 2006, between Russia and Belarus in 2007 showed how risky a transit route can be, and proved that fears over security of transit corridor are justified. In addition, the existing export routes for Russian oil are not sufficient and cause bottlenecks even for Russian exports.

In order to improve export possibilities and resolve congestion in export ports and particularly to avoid bottlenecks in the Bosporus Strait, new pipeline projects were designed.

Fig. 3-6 BTC pipeline route
Sl. 3-6 Trasa BTC naftovoda

Early interest for transit of Russian oil through Adriatic pipeline - Janaf was expressed in 1994/1995. The managing director of INA at that time (dr.sc.Franjo Gregurić) initiated preparation of a feasibility study for making the pipeline reversible for transport of oil between the Druzba pipeline and the Adriatic terminal (the project was called Druzba – Adria) for 5 to 10 million tonnes/year. The feasibility study indicated not very promissing economics because the installed capacity would decline to 12 million tonnes/year, and it could hardly be expected that potential losses incurred as a result of «lost» capacity be compensated by someone who required reversibility.

Apart from the Druzba Adria project backed by Russian companeis, there were some others supported by western interest and capital.

Some international oil transit projects were discussed already in the mid 1990s, but they avoided former Yugoslavia due to war operations in the region. Current Paneuropean oil pipeline project (PEOP) was among the first such projects. Through the period of ten years it changed names: CPOT – Constanza-Pančevo-Omišalj-Trieste ; SEEL – Suth East European Line), but the idea is basically the same: crude oil would be transported by pipeline to the Black Sea port of Supsa, then by tanker to Costanza and then by newly built pipeline up to Janaf (Adria) pipeline route in Serbia.

Originally planned volumes for transport of crude produced in Azerbaijan, Kazakhstana and Uzbekistan grew from 1.0 million bbl/day in 1992 to1.8 million bbl/day in 2001. According to projections, in 2010 the Caspian region including Kazakhstan, Russia, Turkmenistan and total production could be 6.0 million bbl/d.

The PEOP pipeline in its planned length of 1 360 km should transport crude oil from Kazakhstan and other Caspian sources. Since expansion of the pipeline and terminal operations in the Adriatic stirred environmental concerns, another solution was proposed – to construct a connecting line to the existing pipeline Trieste – Ingolstad. Thus loading of oil on tankers in the Omišalj terminal would be avoided and environmental risks diminished. Slovenia has not agreed yet to the route going through its territory, but it can be avoided by laying the pipeline from Istria to Trieste.

One of the most important oil pipeliens that enabled circumventing of the Black Sea and the Bosporus Strait bottleneck, is the BTC - Baku-Tbilisi-Ceyhan pipeline – Figure 3-6. It was put into operation on 25 May 2005; its length is 1,760 km, capacity 50 million t/y, investment value $ 3 billion. This pipeline can transport crude oil from Azerbaijan and Kazakhstan, recently it started transport of oil from the Azeri, Chirag and Gunashi fields in Azerbaijan (abbreviation for the three fields is -ACG).

This is the first pipeline that avoided Russia and Bosporus. The operator is BP. As part of production volumes from the Azeri fields was contracted for transport through other routes (Baku-Novorossiysk and Baku-Supsa), pipeline capacity utilization was only 40% in the early stage, while the oil produced in Kazakhstan, which continualy grows toward 150 million t/y, will utilize the remaining capacity. The huge Kashagan field with proved reserves of 1.5 billion tonnes should be put into production during 2008. BTC transport tariff was set at 24 $/t. Its ownership structure is as follows: BP 30.1%, SOCAR 25%, UNOCAL 8.9%, Statoil 8.6%, ExxonMobil 8%, TPAO 6.8%, DAVON 5.6%, Itochu 3.9%, Amerada Hess 2.7%. BTC has sufficient capacity for transporting 1/6 of prospective production in the region.

Transport of oil to be produced from the large Caspian offshore fields - ACG in Azerbaijan, then Shah Deniz, all operated by BP, will go through the BTC pipeline.

Another big transit project through this region is under consideration – SCP gas pipeline (South Caucasus Pipeline). It should transport natural gas produced from the Shah Deniz field. Expected length is about 1 770 km. It should go through high Caucasus mountains at the hight of 2 850 m. This project commenced in May 2003.

According to the author's view regarding the background of the projects planned after 2010 and presented in Table 3-4, some of them like AMBO, were proposed as an alternative to PEOP when the Druzba Adria project was shelved. This was a kind of a signal to PEOP investors that „climate" in Croatia is not very favourable for this project.

Table 3-4. Oil pipelines

Oil pipeline	Volume mil t/y	Length (mile/km)	Investment bil $
Baku – Tbilisi – Ceyhan	50	1 038/1 760	2.8 – 2.9
AMBO	35.5 – 50	560/949	0.85 – 1.1
Burgas – Aleksandropoulis	30 - 40	178/302	0.6
Odesa – Brodi (with alternative Druzba – Plotsk – Gdansk)	25	400/678	0.75

It seems that politicians are not aware that such large projects are not determined only in space, but in time as well. In this particular case the investors counted on increased oil production on their concessions, which needed to be transported to Europe. If early stage production volumes are evacuated throuogh AMBO pipeline, then PEOP has possibility for transport of the second phase production, somewhere around 2015 when production could reach 150 million tonnes.

As far as Druzba Adria pipeline project is concerned, after it was stopped, Russian investors decided to construct another route - Burgas-Alexandropoulis, as an alternative export route to Western markets.

3.2 Plans for Druzba Adria pipeline

As mentioned before, the export of Russian oil faced difficulties due to congestion in tanker loading port in Novorossiysk and due to bottlenecks in the Bosporus Strait.

The idea about construction of pipeline to the Mediterranean appeared by the end of the 1990s and it included use of the existing Janaf infrastructure together with the branch in Hungary, however, with additional investment in making it reversible, since the pipeline was originally designed only for transport from the Adriatic (terminal Omišalj) to the continent, one direction toward Sisak and Pančevo, and to other to Hungary and Slovakia.

This seemed to be a good idea from the perspective of Russian interests, but Croatia's too. Janaf's installed capacity was around 22 million t/y, but through several years actual utilization was very low.

After breakdown of Yugoslavia and narrowing of the market, Janaf charged INA high tariffs (1 000 t on 100 km) to be able to survive. After the year 2000 the Management Board of INA decided that such tariffs were unsustainable and had to be decreased.

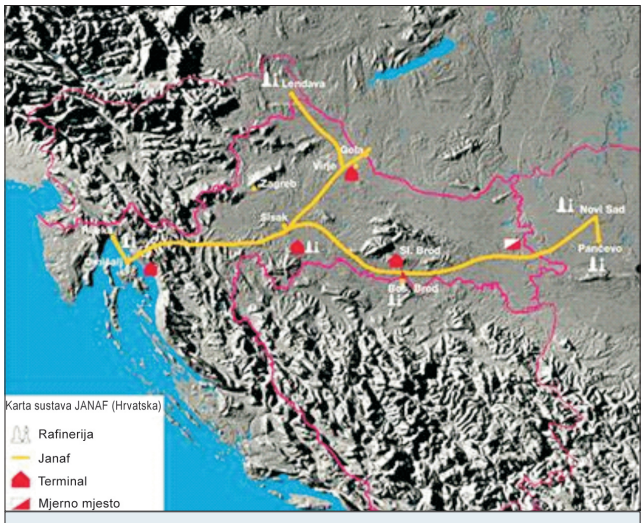

Fig. 3-7. Janaf pipeline route
Sl. 3-7. Trasa naftovoda Janaf
Source/Izvor: www.janaf.hr

Businessmen must be aware of some basic facts …

The value of each asset depends on its annual income.[note 3]

According to its book value, Janaf should generate annual income of US$ 80-100 million, and this amount can be achieved at full utilization of designed capacity. Without making expected income, it is difficult to maintain the pipeline. The Druzba Adria project was suspended under the pressure of environmentalists and other pressure groups, but this outcome hampers the economic viability of the pipeline. The problem becomes ever more accute due to growing age of the pipeline.

The pressure by environmentalists and other groups, and the Government's inability to adequately respond to such actions, resulted in many damages, not only in lost income, but risks of pollution due to possible accidents that may arise in case of poor maintenance of the pipeline.

Therefore it is a pity that we did not take advantage of possible enlargement of an important energy infrastructural project which could be beneficial for overall economy, and it could be executed with such an important partner as Russia. In addition, considerable damage was caused by wrong messages that were sent to the investors.

After signing of the preliminary agreement by the participants in the Druzba Adria project (Russia, Byelorussia, Ukraine, Slovakia, Hungary and Croatia) on 16 December 2002, and later suspension of the project, thanks to some irresponsible individuals, the message sent to the investors revealed lack of credibility and unfavourable investment climate in Croatia as a whole.

Soon after that investors interested in developing of the PEOP pipeline ordered a feasibility study for an alternative project – AMBO the abbreviation of which indicates the countries involved in the project: Albania, Macedonia and Bulgaria.

The key argument pointed out by environmentalists in the fight against the Druzba Adria project was related to ballast waters to be exhausted by tankers into the Adriatic. The data about 2.2 million cubic meters of ballast water seemed quite serious problem. Controlled disposal and remediation of ballast water is not easy to resolve, on top of costs related to such disposal.

The author of this article does not have knowledge about best practices in the world for resolving ballast water problem. It seems that neither the government administration coped well with this problem and public pressure. However, from other experiences it is obvious that by putting in place proper regulations tanker transport could be put under control (type of tankers allowed to carry crude oil in the Adriatic, routes to be used and handling of ballast waters), but with cooperation of all other countries sharing the Adriatic coast.

3 In January 2001, then the new president of the Management board of Janaf, in an interview mentioned that this pipeline transported 4.7 million t of oil in 2000, which represents 28% utilisation of installed capacity, with generated income of less than $16 million (Novi list, 02.01.2001., str 7).

Fig. 3-8. Priority routes for export of crude oil
Sl. 3-8. Predviđeni prioritetni smjerovi izvoza za sirovu naftu

Despite suspension of the Druzba Adria project, large volumes of crude are continually transported through the Adriatic Sea. According to some sources about fifty tankers call at Omišalj port alone, carrying about 5 million tonnes of oil annually. If we take into account the tankers that transport oil to Trieste for loading the Trieste – Ingolstadt pipeline, the number of tankers in the Adriatic exceeds 100 in a year. By suspension of the Druzba Adria project the problem of ballast water was allegedly "resolved". The number of tankers in the Adriatic was not increased by about 50 as planned, but neither was the transport of crude. However, by realization of the AMBO project, loading of tankers will take place in the Albanian port of Vlora. Consequently, the risk of pollution remains since the streams in the Adriatic go up along the eastern part of the Adriatic, i.e. along the Croatian coast.

The benefits of the Druzba Adria project were not properly valued: transport of planned 5 – 10 million tonnes of oil annually would strengthen Croatia's geopolitical position. However, for now this project is shelved. We can only hope that the PEOP pipeline will be realized. Moreover, as ballast water problem can be avoided by connecting this route to Trieste-Ingolstadt pipeline (although the Russian partners did not express particular delight for this option).

During 2007 and 2008 the Croatian President and Prime Minister sent some signals that Druzba Adria project could be renewed. Russians were quite reserved. With the likely alternative – the construction of Burgas - Alexandropoulos pipeline now they have a better negotiating position.

3.3 PEOP – Paneuropean pipeline

As mentioned before the Paneuropean pipeline – PEOP has quite a long history. In the mid 1990s it changed names (SEEL, CTPL), and then after 2000 it emerged as PEOP.

It seems that the initiative for this pipeline route was originally proposed by Italian ENI (in his paper presented at the Croatian Academy of Science and Art in June 2003, Mr. G. Moscato, former CEO of ENI, mentioned the early ideas about the project, and then again in his lecture at the Summer School of Petroleum Engineering in Dubrovnik).[45]

The idea was to transport crude oil produced in the Caspian region to the Black Sea port of Supsa, then by tankers to Costanta in Romania and then further by pipeline to connection with the Janaf pipeline in Pančevo (Serbia) and then to the Adriatic terminal in Omišalj. Capacity of the new pipeline had several options, ranging from 40-90 million tonnes per year, with investments around US$ 2.7 billion.[69]

However, as mentioned before, the destiny of the Druzba Adria project was «a stab in the back» of the PEOP project. It discouraged investors. The investors keen to have the Caspian oil evacuated to the West initiated the AMBO project as an alternative. Is the PEOP pipeline only postponed? If so, it could be topical again after 2015 with the increase of oil production in the Caspian region.

"The general meeting of the PEOP project shareholders was held in Zagreb. The shareholders passed decision on setting up of the PEOP Project Development Company Plc. (PEOP PDC Plc) and adopted the Association Statute and appointed members of the Board of Directors. The main task of the Board is to involve Italian partners into the project, find investors and users of the potential pipeline within the next year. The PEOP Shareholders Agreement was signed in April 2008 in Bucharest by the following shareholders: JANAF, Croatia, CONPET and OIL TERMINAL, Romania and TRANSNAFT, Serbia. The Shareholders Agreement is based on the Ministerial Declaration from April 2007, conclusions of the PEOP International Committee and with the support of the EU. Slovenia and Italy as signatories of the Ministerial Declaration have not signed the Shareholders Agreement yet, but they are given the option to join the project later under equal terms as offered to the countries that signed the Agreement. If these two countries do not join the PEOP project, particularly Italy, the entire project is under question" – quotation from the web site www.seebiz.eu/hr published on 10 July 2008.

Full support to the PEOP project is granted by Romania, Serbia and Croatia, Slovenia said no. The negative response from Slovenia could be resolved by the construction of subsea pipeline from the Croatian peninsula of Istria to Trieste, possibly even through Italian territory to Genoa or to France, but it is crucial that Italy joins the project.

The idea of "Croatia as an Energy Hub" received support by the government, but its realization depends also on the development of the PEOP project. This project is important becasue it could generate income from transit of oil through the Croatian territory, but it would also have critical impact on Croatia's geopolitical position.

Moreover, the realization of the PEOP pipeline is very important for connection of Janaf to Trieste-Ingolstadt pipeline. Otherwise this latter project would not be economically viable because the volumes of oil to be fed

from Druzba Adria project would not be sufficent to ensure adequate return on investments.

3.4 The Samsun -Ceyhan pipeline

By the construction of the Samsun-Ceyhan pipeline Turkey will become an important energy corridor between the East and the West. Turkey is surrounded by Russia, Middle East countries and the Caspian region with large oil and gas reserves. In 2005 the BTC pipeline was put into operation and enabled transport of 50 million tonnes of oil from Azerbaijan, and later from Kazakhstan, to the Turkish port of Ceyhan. Another pipeline project is planned on the route Samsun-Ceyhan.

According to IEA's projections, in 2010 oil production from the Caspian region is expected to reach 120 million t/y, while in 2020 it could reach 200 million t/y, therefore the investors considered construction of the new Samsun – Ceyhan pipeline, 560 km long, 50 million t/y capacity (Energy in East Europe / Issue 88, April 28, 2006, p. 8). It was planned that construction works on 1.5 million bbl/d pipeline would commence by the end of March 2007 with the foreseen completion in 2009. The investors are: ENI (43.75%), Turkish CALIK (43.75%) and India's IOC (12.5%). This pipeline project is a kind of competition to Russian initiatives, as for example the Burgas – Alexandropoulos pipeline (Energy in East Europe/Issue 108, February 16, 2007).

Another important energy project is to be constructed in Ceyhan - LNG gasification terminal. In line with the projections that in 2020 Europe will import 70% of its gas, it is expected that 15% of that import will go through Turkey. Turkey itself started to import gas from Gazprom in 1987, initially only 0.5 billion m^3, which in 2005 increased to 26.6 billion m^3. As a number of transit corridors will go through Turkey, it is likely that this countrly will really become an important Euro-Asian energy hub with all the relevant features of this trading point.

Nowadays, the world powers compete for strengthening their influence in certain regions. Such rivalry was evident in the recent conflicts in Georgia which enjoys the US support. The tensions between Georgia and Russia escalated when Georgia tried to prevent separation of South Ossetia province by military force. The other province, Abkhazia followed South Ossetia's example. In Abkhazia there is a buffer zone to Georgia and UN peace keeping forces in monitoring mission. The conflict was resolved, but Georgia lost control over South Ossetia and Abkhazia. The aim of such manoeuvres is also to ensure oil supply by construction of branch pipelines, as the one constructed from North Ossetia to South Ossetia.

Despite political instability Georgia is very important to the West, because of its strategic position. Namely, Georgia is a vital transit corridor for the evacuation of oil and gas from the Caspian region. [note 4]

3.5 AMBO oil pipeline - Albania-Macedonia-Bulgaria

The AMBO pipeline will extend from the terminal in Burgas, Bulgaria, through Macedonia, to the port of Vlora in Albania. The length of the pipeline is 894.5 km, capacity 30 to 40 million t/y. Estimated investment US$1.5 billion.

By the end of January 2007 the members of the consortium signed the agreement on the construction of AMBO in Skopje, Macedonia (as reported by Poslovni dnevnik of 1 February 2007). This marked commencement of this 13-year old project. Investors include five companies from the USA, Europe and Asia. According to available information, 25% of the transport capacity has been contracted. The pipeline will be fed by oil carried by tankers from Supsa, but also Odessa, Ukrajina and Novorossiysk.

Tensions between the US and Russia, and our (Croatian) relation toward the Druzba Adria project, speeded up Russian investors' decision on the construction of the Burgas-Aleksandropolis pipeline. It also discouraged American investors from faster implementation of the PEOP pipeline as a solution for first phase evacuation of Caspian oil, so they committed to the construction of AMBO.

3.6 Burgas-Alexandropolis oil pipeline

The construction of Burgas-Alexandropolis pipeline, as a result of direct engagement of the Russian policy and President Putin, has been undertaken by Russian companies in order to ensure new export route for their crude oil. The works had to commence in 2008 with planned completion in 2009 or 2010.

According to reached agreement, the Russian companies Transneft, Rosneft and Gazpromneft with 51% stake and Bulgarian and Greek companies with 49% stake will undertake construction of the pipeline. [note 5]

The length of the pipeline is 285 km, capacity 35 million t/y, completion date between 2008 – 2010 (differenc sources quote different data). Estimated investment is € 900 million, however, in June 2008 the investors announced that costs will increase to € 1.5 billion.

Alexandropoulos port can accept tankers of 300 000 – 400 000 t on offshore platforms 5-6 miles distant from the coast. Exported oil will serve the markets in the USA and Europe.

In the middle of 2008 it was announced that some changes in the route across Bulgaria had to be made due to environmental reasons, and that the documentation would be ready by the end of 2008 or in early 2009.

3.7 Odessa – Plock – Gdanjsk oil pipeline

Poland expressed strong interest for the supply of Caspian oil and proposed construction of the pipeline from Odessa, across Brody and Plock to Gdansk, at estimated

4 The conflict with Russia broke out in the 1990s after break up of Soviet Union, after Georgia proclaimed independence and required integration with North Ossetia and in 1992 it grew into military clash. In 1996 the parties in conflict agreed truce and all three appoint peace keeping forces, 500 soldiers each, with OESCE monitoring.

5 Some sources, as for example Energy in East Europe (issue 62/15 April 2005, pg 4) quote some other Russian investors beside Transneft and Lukoil, and on the Greek side Latsis (shipping company) and Hellenic Petroleum, and Bulgargaz and Transexportstroy on the Bulgarian side. In 2007, u Poslovni dnevnik (19.2.2007., p. 7) published information about Russian desire to have majority stake in loading terminal in Burgas, which would serve for both Burgas-Alexandroupolis and AMBO. Most probably after that Bulgarians released news that they would relinquish 25% of their share to Chevron in Burgas – Alexandroupolis pipeline.

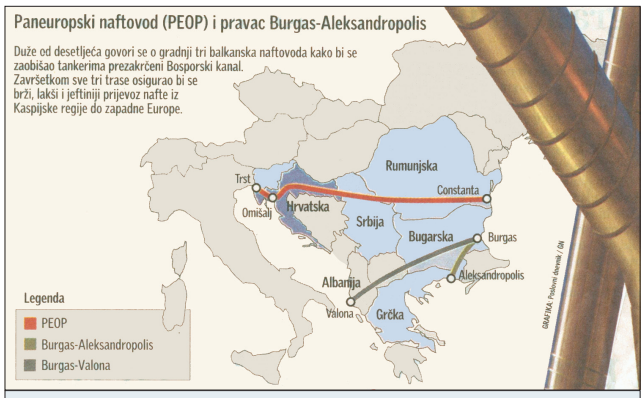

Fig. 3-9. PEOP and Burgas-Alexandropolis and Burgas-Vlora
Sl. 3-9. PEOP i naftovodi Burgas-Aleksansropolis i Burgas-Vlora
Source/Izvor: Poslovni dnevnik, 7. veljače 2007.

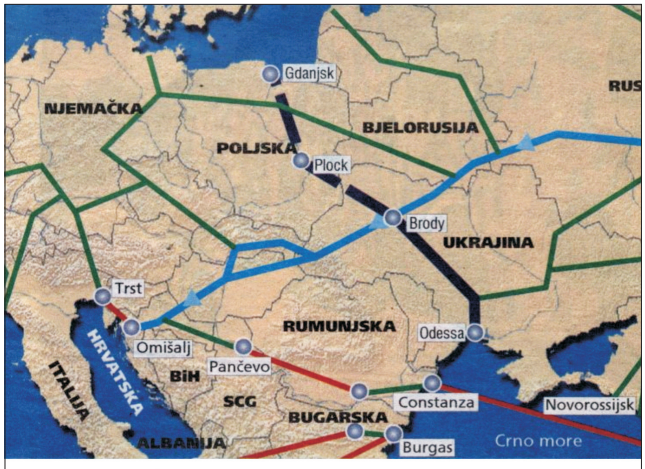

Fig. 3-10. Journey of Caspian oil toward the Baltic Sea
Sl. 3-10. Put kaspijske nafte do Baltika

Fig. 3-11. China's oil pipeline project for evacuation of Caspian oil
Sl. 3-11. Kineski projekt naftovoda za opskrbu iz Kaspijske regije
Source: Caspian Investor, June/July 2005

investment of 500 million. This project reflects Poland's concerns about its dependency on Russian oil. By realization of this pipeline, Poland would diversify sources of supply and ensure new supply route for the Caspian oil. It would be transported from Supsa in the Black Sea, loaded on tankers and transported by sea to Odessa, and then by the new pipeline to Gdansk. With the EU support, this project is to be realized by Ukraine and Poland. The Odessa – Brody 667-km-long pipeline would have initial capacity of 12 million t/y and final capacity of 40 million t/y. This is one of the first projects that endangers Russian monopoly in Polish oil supply. In Brody, where the Druzba pipeline and the new route Odessa – Plock – Gdansk pass by, the Caspian oil can be also loaded for transport toward Slovakia. (Vjesnik, 22 March 2007, p.25)

The oil fed into the pipeline will be transported by tankers from Novorossiysk, but also from Supsa, however, crude oil will arrive from the production fields both in Kazakhstan and Azerbaijan.

3.8 China – a rival competing for supply of Caspian oil Pipeline – Kazakhstan - China

China, the market with huge demand for oil as a result of large population and fast growing economy, tends to ensure supply of the Caspian oil. Kazakhstan and China decided to construct the pipeline connecting the two countries, on the route as presented in figure 3-11.

Chinese oil company CNODC (China National Oil & Gas Exploration and Development Corporation) took over the Kazakstan company Ai-Dan Munai in 2005 and thus acquired concession on the fields Arysskoe and Blinovskoe. With the support of the existing pipeline network, the new Kazakh-Chinese Pipeline (KCP) was constructed toward China (Fig. 3-11), capacity 20 million t/y, with operation started in May 2006.

The other Chinese oil companies are also working on the supply and transit projects in cooperation with Lukoil and Rosnjeft. Some arrangements involved, as in the case of CNPC (Chinese National Oil Co), contracts with companies that were taken over by other (Yukos was taken over by Rosnjeft), which caused changes in contract terms, particularly in relation to crude oil prices. It caused troubles and in one case Rosnjeft threatened to cut supply despite constructed pipeline for transport of around 87,000 t/daily (600,000 bbl/day). (Poslovni dnevnik, 13 September 2007, p. 23)

Considering recent fast growing demand for oil in China, it is no wonder that they have chosen Caspian region for China's supply.

4. NATURAL GAS TRANSIT PROJECTS

During the 1990s European Union looked at its long-term natural gas supply with optimism, counting on balanced supply from different sources. Although indigenous production started to decline, particularly in

the North Sea, new discoveries like those made by Norwegian companies seemed promising. Also, many hopes were turned to the Caspian region potentials as convenient counter balance to the Russian share in European gas supply.

However, after 2000 many changes took place:

- Russia recovered and took position of the second leading power with consolidated energy sector and vast oil and gas reserves that could be used as a weapon in geopolitical games.
- Growing consumption in China, India, even Pakistan, created competition among possible buyers interested in purchase of Caspian natural gas.
- EU has complex structure and decision making process which causes delay in execution of some energy projects. On the other side Europe is not the only contender for Caspian gas as fast growing markets like China and India want their share of this supply.

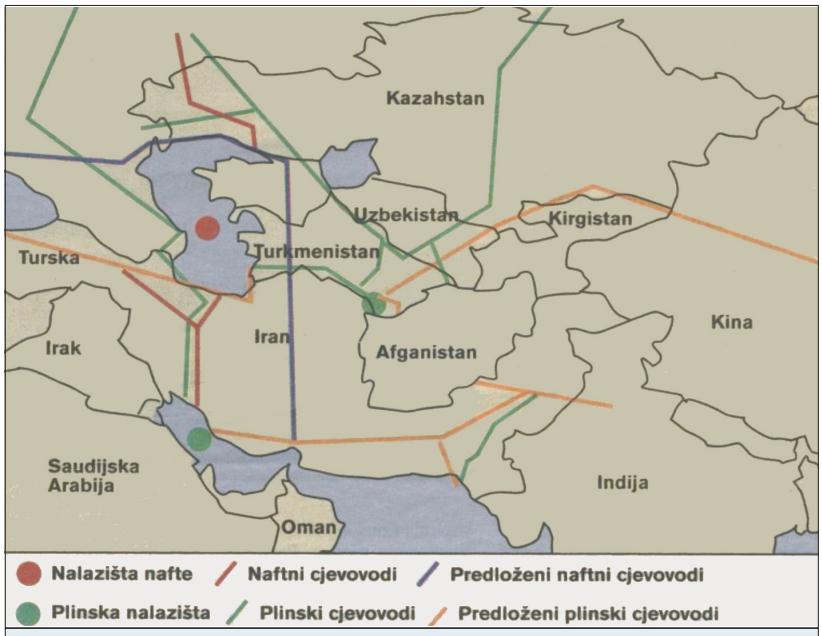

Fig. 3-12. Location of major gas discoveries and oil and gas pipeline routes toward India and Pakistan (existing and proposed)
Sl. 3-12. Lokacije većih plinskih nalazišta i trase plinovoda i naftovoda prema Pakistanu i Indiji (postojeći i predloženi)

In the recent years it became evident that Russia decided to turn to new markets in an effort to strengthen its bargain position. The decision to offer natural gas supply to China announced in 2005 is in line with this path. The fact is that after Gazprom's failure to acquire British Centrica, it signed the contract with CNPC (Chinese National Petroleum Co.) for the construction of new pipeline for China and the supply of 80 billion m³/y of gas.

According to the media, officials from the ministries of India and Pakistan reached agreement with Russia on the construction of 2 600 km long pipeline. The works ought to begin in 2007.

In addition, in 1993 Iran and India signed agreement on laying pipeline for the supply of India with the gas from Iran. The other agreement was signed between Iran and Pakistan in 1995 for delivery of gas to Pakistan.

In 2007 the big news was that the gas from the huge Shah Deniz field in offshore Azerbaijan arrived to Turkey via 690 km long South Caucasus Pipeline – SPC, laid along the Baku-Tibilis-Ceyhan oil pipeline. The pipeline was constructed by the same investors who participate in the development and production of the Shah Deniz field. The construction was led by Statoil and on the Turkish side, Botas. The companies forming gas production consortium own respective share in the SPC pipeline.

The Shah Deniz field (according to Energy in East Europe, Issue 118, July 6, 2007, p. 31-32, this field represents one of the largest discoveries), was put into operation in the middle of 2007 with production of 8.5 million m³/day of gas (average annual production would be 31 billion m³) and 25 000 bbl/d of condensate (average annual production would be 1 170 000 t). The first gas from Shah Deniz was supplied to Azerbaijan, Georgia and Turkey via South Caucasus Pipeline. BP as the main operator reported that they planned to produce an average of around 2.7 billion m³ of gas and 0.8 million tonnes of condensate for the entire year.

The parties to the Shah Deniz production sharing agreement are: BP (operator) with 25.5%, Statoil 25.5%, Total 10%, and Azerbaijan oil company SOCAR 10%, TPAO (Turkey) 9%, Lukoil 10% and National Iranian Oil Co. 10%. Azerbaijan Gas Supply Company is a joint venture between Statoil (operator) 20.4%, BP s 20.4%, Azerbaijan Ministry of Industry and Energy 20%, Lukoil's 8%, Iranian NIOC 8%, SOCAR 8%, Total 8% and Turkish TPAO 7.2%.

Another planned project is Turkey-Greece interconnector with possibility of pipeline extension to Italy as the Trans Adriatic Pipeline. International Gas Report, (Issue 598, May 5, 2008, p.16) reported that Russia and Greece signed agreement on construction of the South Stream pipeline section through Greece. The capacity of the link would be 30 billion m³/year.

Although the Caspian countries' economies recorded growth by the end of the 1990s, GDP figures for Azerbaijan, Kazakhstan and Turkmenistan were below $1 995 per capita, the level from 1992. Undefined state borders in the Caspian Sea also pose a problem which was only party solved in 2003. The maritime territory was divided so that Kazakhstan obtained 27%, Russia 19% and Azerbaijan 18% of sea and subsea area. Nevertheless, in 2007 Russia refused again to sign the accord on borders and thus prevented laying of subsea pipelines across the Caspian Sea for evacuation of oil and gas produced in the region. The problem of evacuation is still the main obstacle in the south corridor where the route has to bypass Iran and some other Middle East states like Syria. Consequently, the transit

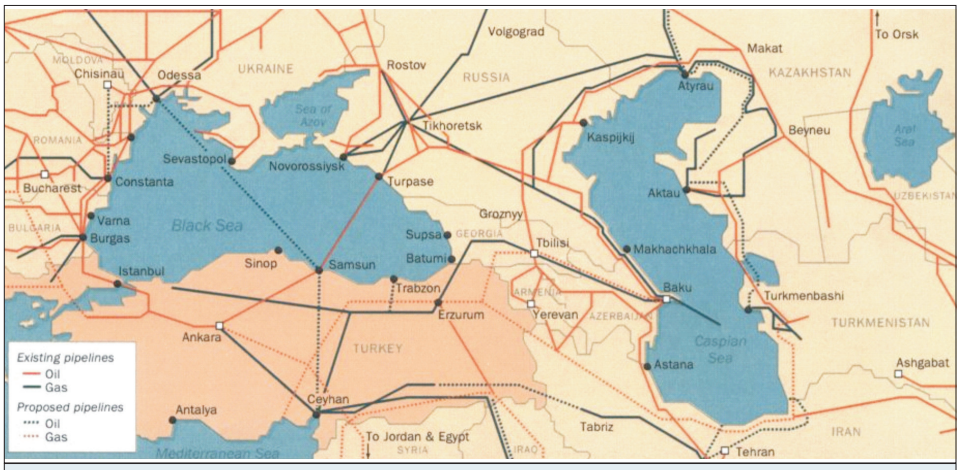

Fig. 3-13. Existing and planned transport routes for oil and gas through Turkey
Sl. 3-13. Postojeće i planirane transportne rute nafte i plina kroz Turskul.
Source / Izvor: Energy in East Europe, Issue 88, April 28, 2006

corridors are mainly realized via Azerbaijan and Georgia to Turkey.

Europe's ideas about oil and gas supply from the Caspian region are threatened by radical Islamism spilled over from Iran, Iraq, Afghanistan, and Pakistan into Kazakhstan, Uzbekistan, Kyrgyzstan and Tajikistan. Due to rivalries among the countries they are rather weak in fighting radicalism. On the other hand, neither is Europe acts always as homogenous entity. In addition, there is China and other countries with large consumption which tend to redirect energy flows toward the east and south. China has already established oil transport route from Kazakhstan and the new one from Turkmenistan is in preparation.

Russia signed up longterm contracts with some of the Caspian states for purchase of their surplus gas current and future.[51] This puts in jeopardy the EU backed Nabucco pipeline because it is difficult to find sufficient gas to feed the pipeline as Gazprom launched the competitive South Stream line.

The structure of European Union energy consumption is as follows: crude oil 35.1% and natural gas 26.6%. It is expected that consumption of natural gas will grow faster than oil. According to projections, EU dependency on oil from 59% in 2000 will grow to 68% in 2010.[69]

Natural gas imports will also grow. In the light of growing dependence on natural gas imports, EU decided to increase the share of LNG. The current import of around 57 billion m^3 (in 2007) could be doubled after 2010. In 2020 the EU will need 200 billion m^3/y of new gas imports.

South East and Central European countries including Croatia and Bosnia and Herzegovina, Macedonia, Monte Negro, Albania, Romania, Bulgaria, Austria, Hungary and Slovenia consume around 54 million t/y of oil, out of which 82% comes from import. Total indigenous production is around 10 million t/y.[69]

With the decline in domestic production and growing consumption, the SEE countries will be forced to import more gas. In 2005 this region had gas consumption of 26.3 billion m^3 while in 2015 additional 15 billion m^3 will be needed to cover demand (Tab. 3-5)

In the light of growing demand for gas in the EU, and efforts to maintain diversified sources and transit routes in supply of gas, possible routes from the Caspian region inevitably cross SEE region. So, this becomes transit area with a possibility to ensure sufficient supply for

Table 3-5. Demand for natural gas in SEE, 2005, 2010, 2015 and 2025

Country	Total demand (bil. m^3)			Expected average growth rate of demand 2010 – 2025 (% per year)	Expected demand not covered by supply (bil. m^3)		Key generators of demand growth
	2005	2010	2025		2015	2025	
Romania	17.3	19.9	25.6	1.7	9.5	18.3	households, comm. sector, power gen.
Bulgaria	3.2	3.9	6.3	3.2	1.5	3.1	Power gen., industry, households
Serbia	2.5	2.7	3.6	1.9	0.5	1.2	Power & heat gen. households
Croatia	2.7	3.6	4.2	1.0	0.6	2.0	Power gen., industry, households
Bosnia & Herzegovina	0.3	0.6	1.4	6.1	0.6	1.1	Heat gen., industry
Macedonia	0.1	0.7	1.2	3.8	0.7	1.1	Power gen., industry, households
Albania	0.1	0.6	1.0	10.2	0.7	1.0	Power gen., industry, households
Kosovo	-	0.1	0.9	15.5	0.3	0.9	Heat gen., transport
Monte Negro	-	0.6	0.7	1.0	0.6	0.7	Power gen., industry
TOTAL	26.2	32.8	45.0	2.6	15.0	29.4	Power gen., industry, households

Source: Energy in East Europe, Issue 133, 15th February 2008

Table 3-6. Dependence of some European countries on Russian gas

Country	% dependence
Germany	40
Czech Republic	75
Slovakia	100
France	32
Austria	78
Italy	33
Poland	63
Finland	100
Hungary	77
Greece	100

Source: Poslovni dnevnik, 11 October 2007, p. 21

proper needs. With the exception of Romania, which has high level of gas market saturation, all other countries have rather high potential for demand growth. This represents an additional motive to the investors.

In the last ten years a number of projects were launched, some of them even compete with each other:

- Nabucco, to be fed with natural gas from Azerbaijan and Iran, its route should go via Turkey.
- South Stream, Russian gas that would go from Russia via Black Sea through subsea pipeline to Burgas and than via still undefined route to Baumgarten in Austria with likely branch through Slovenia to Italy.
- TransAdriatic pipeline (TAP) with Adriatic-Ionian branch (IAP) to Croatia and Italy. The Swiss company EGL and Norwegian StatoilHydro are likely investors in TAP project, which should also be supplied from the Shah Deniz field.

To make the above projects real, the investors considered different transit routes and their connecting with the sources of natural gas.

From the very beginning, the Nabucco project counted on two sources of gas: from the Caspian region and from Iran. The South Stream project counts on Russian gas, so the Russians adjusted accordingly its route and infrastructure. In the early stage of the South Stream planning, Gazprom and ENI[note 6] designed and constructed the Blue Stream project, which should transport gas from Russia to Turkey. Start of operation was scheduled for 2007. The incoming point is in Supsa, Black Sea and then the pipeline extends to Samsun, Turkey and is then connected near Ankara with the transit pipeline to Europe. The Blue Stream is subsea pipeline, 385 km, capacity 16 billion m³/y.

The precondition for connecting the transit pipelines with sources of gas is the construction of interconnector TGI (Turkey-Greece Interconnector) to be implemented by Edison (Italy), Depa (Greece) and Botas (Turkey), for the needs of:

- White Stream, subsea pipeline which should transport gas from Azerbaijan (and Georgia) to Ukraine,
- Pan-European Gas Pipeline which should go through the same corridor alongside PEOP pipeline,
- Blue Line as an extension of the Blue Stream through which gas from Russia should be transported to Turkey, however, it seems that this project was abandoned after launching of South Stream.

European Union is striving to design superior concept of transit than its rival – Russia. In May 2007 it announced the idea about the Balkans Ring which would connect current and future sources of supply and the SEE markets of Macedonia, Serbia then Albania, Bosnia & Herzegovina, Croatia and Hungary (Figure 3-14). The idea looked great on paper. However, in reality, until the source of gas for feeding the pipeline is not resolved, each country will tend to find solution for meeting its demand by itself. When the source of adequate supply is eventually found, most of the countries will have their requirements met with mid-term supply solutions. After that, the investments in Ring realization by means of interconnector might be excessive and unnecessary cost.

The SEE countries could be interested for cooperation in relation to gas storage services. The storage services could be offered in countries which have oil and gas

Fig. 3-14 The concept of SEE Ring
Sl. 3-14. Koncept plinskog prstena za Jugoistočnu Eruopu
Source / Izvor: Energy in East Europe, Issue 133, February 15, 2008

6 The cooperation between ENI and Russia began in 1960 when legendary Enrico Mattei and Nikolay Patolichev signed agreement on supply of 12 million tonnes of oil. By the end of the 1960s the partners signed longterm gas supply contract (for 38 years) and delivery at the Slovakian – Austrian border. The first deliveries were received in 1974. According to later agreements (1976, 1986, 1996) deliveries of Russian gas to Italy continued and in 2007 reached 21 billion m³, and grew to 28.5 billion m³ in 2008.

production and consequently have possibility for use of depleted fields as underground storage for natural gas. Among the SEE countries, such possibilities have Croatia, Serbia, Hungary, Bulgaria and Romania. However, the oil companies in those countries which have production licences have, or may have foreign co-owners that are in competitor relation: INA-MOL, NIS-Gazprom, etc. Competitive relations will make the realization of the Ring concept more difficult, as well as the idea about cooperation in storage services. Some underground gas storage projects have been annouonced and it seems they could be realized rather soon:

- Joint construction of underground gas storage by MOL & E.ON, capacity 800 mil m^3,
- Gazprom announced that it would provide funding in underground gas storage Banatski dvori in Serbia, planned capacity 500 mil m^3.

INA has opportunities for developing storage projects in favourable geological strutures, both large and smaller ones (from 50-100 mil m^3), with good collector features, which would be an excellent solution for peak shaving. Some of the projects are in advanced preparatory stage.

5. COMPETITION AMONG PROJECTS FOR TRANSIT AND TRANSPORT OF NATURAL GAS – GEOPOLITICAL BACKGROUND

Since Rudolf Kjellen first coined the word "geopolitics" in 1899, at least we have got the right term that can help us in understanding the competition among different gas transit projects, behind which are geopolitical games. On one side it is Russia and on the other side the EU and the USA (whose interests sometimes differ).

Geopolitical interests are closely linked to energy. Although a number of events confirmed that geopolitics played extremely important role throughout the 20th century, the motives and outcomes of certain moves have been unveiled only later. Today it is clear that designing of energy strategy cannot be done without considerations about geopolitics, so, not only statesmen and generals should profound their knowledge in geopolitics, but it should be also in the focus of interest of everyone involved in large energy projects. The events described below cannot be understood without addressing geopolitical challenges.

Gazprom announced construction of new underground gas storage capacity. The reports in the media (M. Dobrašin: "Gazprom promises secure supply to customers by storage construction projects across Europe", Poslovni dnevnik, 18 April 2007, p. 24) confirmed the Russian giant's intention to build underground gas storage in Hungary, Germany, Belgium, Serbia and Romania and thus strengthen its position as a "leader in gas production, supply and storage". Considering the fact that Gazprom's revenues doubled in 2006 in comparison with previous year (from $151 billion in 2005 to $371 billion in 2006), its financial strength enabled further expansion based on huge reserves and harmonized strategy pursued by the state and the company.

Public addresses of Gazprom's leaders sometimes have a ring of threat. For example, at the beginning of July 2006, the Croatian news agency Hina reported on Mr. Miller's speech at the general meeting when he addressed the shareholders saying: "Albeit we pointed out that gas exports to the western markets would remain our priority, in the following 15 years Gazprom will growingly direct exports to India, South Korea and particularly China. From 2011 onwards, Gazprom will export to China 68 billion m^3/year of gas". But this is not just verbal declaration. We have already mentioned large transit pipeline projects that should bring Russian gas to India and China.

With gas import of 40 billion m^3/year, Germany is the largest consumer of Russian gas in Europe. Apart from exporting gas, Gazprom expressed interest for further penetration into European gas system through acquisition of distribution companies. When turned down in such attempts, it sent warning that priorities might switch to Asian market. President Putin reiterated that Russia is committed to meeting Europe's gas demand. Currently, imports from Russia cover 44% of EU's import needs, but in the future Europe will need more gas and the dependence on Russian import will grow despite Brussels's concerns.

In mid 2006 Gazprom concluded agreement with E.ON on the construction of NEGP (North European Gas Pipeline), 1 200 km long, from Viborg in Russia, via the Baltic Sea to Greifsward in Germany (on the Baltic coast) planned to become operable in 2010, able to transport 27.5 billion m^3/year of Russian gas in the first stage, with full capacity of 55 billion m^3/year to be completed in 2013. The third partner in the project is Wintershall. Gazprom has 51% stake while the other two shareholders have 24.5% stake each, with a possibility for Gasunie to join in with 9% stake (the German partners' stake would decrease then). This project had strong support by Chancellor Shroeder and President Putin. It ensured realization of an important transit route on the north of the continent for the supply of Russian gas to consumers in the EU countries. Due to subsea sections the project is three times more expensive than land route would be, but this is the price of security of supply.

Such bilateral activities by individual member states have negative impact on other negotiations on the EU level with the Russian supplier, particularly in case of EU accession candidates as Croatia, which are in weaker bargaining position.

Apart from the above described transit route on the northern rim of the European continent, Russia sponsors another transit route on the southern part of the continent.

With full support of Kremlin, Gazprom is strongly opposing to European protectionism, particularly after British Prime Minister interfered with the aim to prevent takeover of British Centrica by Gazprom (according to Energy in East Europe, issue 88, April 28, 2006).

Europe's priority certainly is security of supply and diversification of sources so that no individual supplier has over 40% share in supply, including Russian supplies, but now when new transit routes are laid to

China and supply contracts signed with Asian buyers, LNG from rich Stockman field is headed to the USA (only?), in such a context Europe will have to re-examine sustainability of its existing policy. But Gazprom goes on. It is also very active in the Balkans. Serbia is among the countries invited to participate in the South Stream project. The agreement was signed with the Serbian government for the construction of 400 km long section of the South Stream pipeline across Serbia, together with the contract on repayment of clearing debt owed by former USSR. From this fund Serbia will pay outstanding debt for natural gas delivered in previous years amounting to $188 million. Total investment in the construction of the pipeline via Serbia is estimated at $800 million (Poslovni dnevnik, 31 July 2006, p. 15).

Fig. 3-15. Gas pipelines from the Caspian region and Iran to Austria
Slika 3-15 Plinovodi od Kaspijskih zemalja i Irana do Austrije
According to / Prema: Balkan & Black Sea Association, 30 March 2004

The year 2006 has indicated that European Union will have to address certain challenges if it continues to base its energy policy on security of supply principle and continues to set rules, expecting that Russia will accept them. Apart from difficulties created by the fact that Russia refused to ratify European Energy Treaty, the development of the South Stream project which is a rival to the EU backed Nabucco project, is certainly a blow. The South Stream project has three important advantages:

- Russia has in place huge gas reserves,
- Two important partners in the Nabucco project, Turkey and Hungary, each for its own reasons, at one point gave support to the South Stream,
- Uncertainties about sources of gas for the Nabucco pipeline in Caspian states, and particularly Iran, make the completion of the Nabucco project quite unpredictable.

At the same time, individual deals forged by large European partners with Gazprom, weakened EU's negotiating position. In 2003, with the construction of the Blue Stream pipeline running underneath the Black Sea from Russia to Turkey, invested by Gazprom and ENI (50% each) began the supply of the Turkish market with 2 billion m³/y of gas, with expectation that by the end of decade the pipeline will reach installed capacity of 16 billion m³/y. Turkish gas company contracted almost 26 billion m³/y of gas (while their domestic demand was around 20 billion m³/y.

Due to higher contracted supply of gas than expected consumption, Turkish Botas expressed interest for construction of an export pipeline to Greece and the Balkan states, but this idea did not materialize. Instead, the Nabucco project gathered momentum with the idea to transport gas from the Caspian region and Iran to Central Europe, with possible supply of the countries on the route. Still in 2006 the following "southern corridor" projects were likely to be implemented:

- BTC – which was put into operation in 2006
- It was expected that realization of the BTE (Baku-Tbilisi-Erzurum) pipeline would start soon for transport of gas from Azerbaijan to Turkey.
- The USA put forward the idea about oil pipeline from Samsun to Ceyhan, whcih would transport oil from the Black Sea to the Mediterranean. A gas pipeline from Iraq via Turkey to Europe was also considered.

The partners in the Nabucco project (OMV, MOL, BOTAS, BULGARGAZ, TRANSGAZ) had negotiations with French Total about joining the consortium, but the talks were suspended.
(http://energybusiness- review.com).
Total investments in the Nabucco project are about $ 6 billion.

The idea about the Nabucco project stemmed from Europe's considerations about the supply from the rich reserves in Caspian countries on the one side and need for diversification of sources of supply on the other side. Estimates about the reserves of 34 000 billion m³ in Azerbaijan, Kazakhstan, Turkmenistan and Iran made the idea attractive. The plans for the construction of the 3 300-km long Nabucco pipeline were elaborated, with the foreseen start of construction in 2009 and operation in 2011.[37]

The feasibility study prepared by Boston Consulting Group – BCG (source: B& BSPA, 20 April 2004) envisaged that five companies from five countries: OMV, Austria, MOL, Hungary, Transgas, Romania, Bulgargaz, Bulgaria and Botas, Turkey, will undertake the construction of the pipeline from Iran to Austria, each with 20%

Table 3-7. Existing and planned pipelines for gas supply to Europe 2005 – 2015 (billion m³)

pipeline	route	2005.	2006.	2007.	2008.	2009.	2010.	2011.	2012.	2013.	2014.	2015
Northern lights	Russia-Belorus-Ukraine	38	38	38	38	38	38	38	38	38	38	38
Brotherhood	Russia - Ukraine	35	35	35	35	35	35	35	35	35	35	35
Progres	Russia - Ukraine	35	35	35	35	35	35	35	35	35	35	35
Union (Soyuz)	Russia - Ukraine	35	35	35	35	35	35	35	35	35	35	35
Yamal-Europe	Russia – Belorus	20	20	20	20	20	20	20	20	20	20	20
Blue Stream	Russia – Turkey	6	8	10	12	14	16	16	16	16	16	16
Transmed	Algeria – Tunis – Italy	27	27	27	27	27	27	27	27	27	27	27
Duran Farrell	Algeria – Morocco – Spain	13	13	13	13	13	13	13	13	13	13	13
Green Stream	Libya – Italy	6	8	8	8	8	8	8	8	8	8	8
Total existing		216	220	222	224	226	228	228	228	228	228	228
Langeled	Norway – G.Britain			20	20	20	20	20	20	20	20	20
TGI	Turkey – Greece – Italy				2	2	4	4	8	8	8	8
Transmed exp.	Algeria – Tunis – Italy				3	7	7	7	7	7	7	7
Medgaz	Algeria – Spain					8	8	8	8	8	8	8
Galsi	Algeria – Italy					8	9	10	10	10	10	10
NEGP	Russia – Germany						27	27	55	55	55	55
Nabucco	Turkey – Austria									25	25	25
In project phase total				20	25	45	75	76	108	133	133	133
TOTAL		216	220	242	249	270	302	303	335	360	360	360

Source: Pavlović, Vištica, Babić: „Development of liberalization process in European gas market" (Plin, 1/2007, March 2007)

participation in investment ranging from 4.6 to 5 billion, with capacity of 20-28 billion m³/y.[note 7] Azeri company Socar expressed intention to join the consortium after 2012, when they should reach the production of over 20 billion m³/y of gas from their fields.

It was estimated that the volume of 11-12 billion m³/y of gas would be overtaken by consuming countries along the Nabucco pipeline route, while 13-14 billion m³/y would be directed to the gas hub/storage at Baumgarten, Austria. At the time of the feasibility study preparation it was envisaged that the pipeline would become operable in 2011/2012.

However, some of the countries involved in the project caused delays in planning phase. The conflict between Iran and international community represents a serious threat to the project, moreover since Azerbaijan does not have sufficient volumes available for feeding the pipeline, and Gazprom signed agreements for purchase of gas from Kazakhstan and Turkmenistan. These factors hindered the implementation of the Nabucco project. According to initial plans, this route should bring up to 15% of new gas supply to Europe. During 2008 a number of efforts were made with the effort to revive the project.

In the middle of 2004 it was announced that Lukoil acquired from ENI a share in the large Shah Deniz field. The idea about the Nabucco project relied mainly on the gas produced from the Shah Deniz field.

After delay in implementation of the Nabucco project, which was also affected by Gazprom's initiative for the construction of a rival South Stream pipeline, which had strong support by President Putin, but also Hungary and Turkey, the EC launched initiatives for continuation of works on the Nabucco project.

(www.argusmediogroup.com, dated 20 September 2007, p. 3). However, the schedule of the project had to be changed. Beginning of construction was postponed to 2009 and completion of the 1st stage was planned for 2012. Initial capacity of the first stage was 15 billion m³/y and total capacity after the completion of the 2nd stage should be 31 billion m³/y. According to plans, the gas to be transported by the pipeline after completion of the 1st stage was earmarked for the markets of participants in the project: OMV, MOL, Botas, BulgarGaz and Tranzgas, each to have 20% of transported volume, while the volumes from the 2nd stage would be sold to other consumers. It was expected that the Nabucco pipeline would be sourced from six producing countries: Azerbaijan, Iran, Iraq, Egypt, Russia and (possibly) Kazakhstan. In 2008 German company RWE joined Nabucco (Energy in East Europe, issue 133, February 15, 2008, p.7). Gaz de France also expressed interest for participation but it was prevented by Turkey as a response to President's Sarkozy's statement about Turkish atrocities against Kurds during the World War I.

In 2008 the CEO of OMV, Mr. Ruttenstorfer said that the supply of gas for the Nabucco project remained uncertain because the gas offered by Caspian countries is not sufficient and without participation of Iran and Iraq, there is

7 The most recent data published in World Oil, July 2008, indicate investments of € 7.9 billion.

no future for this pipeline (International Gas Report , issue 603, July 2008, p.1). However, this is quite contradictory view, if we take into account that Gazprom's South Stream relies largely on Caspian gas contracted with Kazakhstan, Turkmenistan and Uzbekistan for transport to Europe. According to information, Gazprom concluded contracts for purchase of around 70 billion m^3/y of gas.

For the time being both the Nabucco and South Stream remain in competition. Without geopolitical games, these two projects could be integrated into a single project that would use all available sources. Recent slump in oil and gas prices, which weakened economic potentials of investors, might support such an outcome.

The difficulties in realization of the Nabucco project and its slowdown were noticeable already in 2005. Then it was reported (Energy in East Europe, Issue 76, 11 November 2005, p.4) that problems appeared in Turkey due to disagreements over existing capacity and the scope of further investments. Shortage of available gas for sourcing the Nabucco pipeline was posed as a problem, particularly after it became evident that availability of gas from Iran is under question for longer time as a result of conflicts caused by Iran's nuclear programme. The gas from Azerbaijan was not sufficient for the designed scale of Nabucco and necessary profitability level could not be achieved.

In 2008 it was reported that EU Commissionaire for foreign affairs, Ms. Benita Ferrero-Waldner, reached agreement with Turkmenistan on the supply of 10 billion m^3/y of gas, provided European investments in pipelines and exploration operations in this country increase, but through tendering procedure. This additional source would strengthen the position of the Nabucco project, however the conditions imposed by Turkmen government diminished the prospect.

5.1 South Stream

South Stream, the new transit route from Russia, via a subsea pipeline in the Black Sea to Bulgaria and further to southern Europe, is planned to be constructed by Gazprom and ENI, and joint ventures with national companies along the pipeline route. Initially, the pipeline design envisaged 900 km long route, capacity of 30 billion m^3/y, investment of $ 5.5 billion and completion by 2010. According to the most recent plans the capacity could double as partners intend to boost the project.

After Bulgaria, the pipeline would supply gas to Romania, Serbia, Hungary and Austria, while another spur would go to Greece and then across the Adriatic to southern Italy.

In regard to the expansion of the South Stream pipeline from Burgas across the Adriatic Sea, there are two ideas: the first is Trans Adriatic Project to be developed by the Swiss company EGL, and the other is the Poseidon pipeline to be developed by Edison, Italy and Depa, Greece. EGL reserved in TAP 5.5 billion m^3 out of total planned transport volume of 10 billion m^3/y, consequently, other consumers could contract the remaining 4.5 billion m^3/y. The TAP pipeline would transport gas via Greece and Albania, counting on the gas sourced from the South Stream.

As Nabucco project was delayed, these other transit options via Turkey and Greece were considered and plans for their realization advanced.

Hungary as one of the first partners in the Nabucco project, joined also the South Stream consortium. It was reported (Novi list of 16 September 2006) that Gazprom and MOL jointly financed the preparation of the feasibility study for the South Stream pipeline. What was the reason of MOL's joining South Stream after they strongly backed Nabucco, seen also as an opportunity for diversification of source and transit route of Hungary's gas supply? Was it uncertainty of Nabucco versus strong push for realization of the South Stream?

Hungary tended to minimize its support to the South Stream during September 2007 when the Prime Minister Gyurczany pointed Hungary's need for diversification as 80% of gas comes from Russia, and called for speeding up decisions on implementation of the Nabucco project (INA, Information no. 12-8-07/18.09.2007.). In fact, Hungary is in a position neither to decline Nabucco nor South Stream.

From INA's perspective, the realization of the Nabucco pipeline would enable additional supply of gas from the pipeline through Hungary after 2011, but more realistically after 2015. In the view of the Nabucco plans that one branch would be extended to Israel through

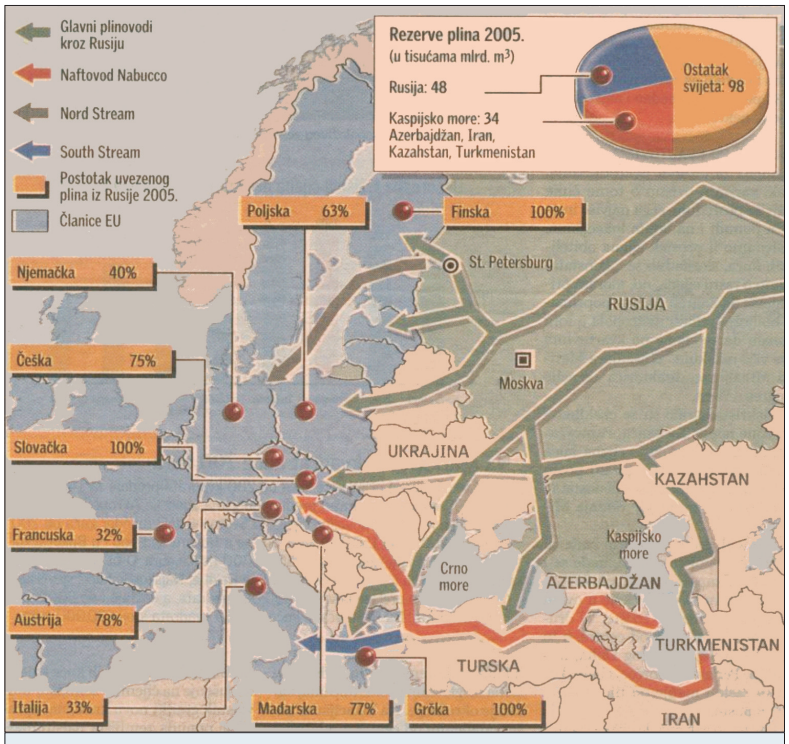

Fig. 3-16. Main gas supply routes to Europe
Sl. 3-16. Glavni opskrbni pravci europe plinom
Source / Izvor: Poslovni dnevnik

Syria, probably part of INA's gas production from Syria could be transported (swapped) through this pipeline.

5.2 North Stream

After concluding the agreements with E.ON and BASF and entering into the North Stream project, Gazprom strengthened its position in the European gas market. The North Stream pipeline will run under the Baltic Sea from Russia to Germany and is intended to supply north European countries with 55 billion m^3/y through the 1 200-km long route. The partners' share in investments is as follows: Gazprom 51% and German partners 24.5% each.

Estimated investment in the North Stream project is around € 9 billion, and according to plans it should become operable in 2012. With the construction of this pipeline Russia wants to bypass transit through Ukraine, Poland and Lithuania. This was the reason why Poland, Lithuania, Latvia and Estonia claimed the project was unacceptable for them. After that Denmark, Sweden and Finland expressed their concerns about the environment. (Miho Dobrašin: Estonia to refuse construction of North Stream in their waters, Poslovni dnevnik, 21/22 September 2007, p. 23). The most recent information mention some delays but realization of the project is not under question. Moreover, the year 2011 is mentioned as the commencement of transportation at 50% capacity level, and in 2012 at full capacity.

5.3 Trans-Adriatic pipeline – TAP and Ionian Adriatic Pipeline – IAP

On 25 September 2007, at the ministerial level meeting, Croatia, Monte Negro and Albania signed the declaration on the construction of the Trans-Adriatic Pipeline, TAP with a spur called Ionian Adriatic Pipeline, IAP to extend toward Croatia (www.business.hr, 25 September 2007). The 880-km long TAP pipeline would run from Thessaloniki, Greece via Albania to Italy. The capacity of the 1st phase is 10 billion m^3/y with an increase in the 2nd phase to 20 billion m^3/y, estimated investment is $ 2.2 billion. Investors are the Swiss company EGL and StatoilHydro, Norway. The precondition for the realization of this pipeline is the completion of the pipeline between Turkey and Greece in 2008. According to initial plans the Ionian Adriatic branch should be completed by 2012, capacity 5.5 billion m^3/y. The distance from Fiera in Albania to Ploče, Croatia is about 400 km (170 km in Albania, 100 km in Monte Negro and 130 km in Croatia). If really planned capacity remained at 5.5 billion m^3/y, which is a condition for the project's profitable (almost break even) operation, where would this gas be sold?

According to some sources, in 2007 EGL signed the MoU with Iran for the supply of 5.5 billion m^3/ y of gas, while StatoilHydro would ensure additional volume of gas from their share in production from the Shah Deniz field.

As mentioned above, ENI and Gazprom reported (Petroleum Argus, vol XII, 26 June 2008, p. 1) that they would construct a section of South Stream pipeline to go south to Greece and then to Italy. Thus Greece will become an important transit corridor with a competition of sources of supply and transport routes. The final outcome will be more clear when the construction of the South Stream to Bulgaria is completed, expectedly by 2015. Then the western European competitors might achieve some advantage, however, provided the interconnector between Turkey and Greece is constructed, along with the linking pipeline to Italy, either through Albania as TAP and/or as IGI Poseidon, directly from Greece to Italy.

5.4 ITGI (Interconnector Turkey-Greece-Italy), IGI Poseidon (Interconnector Greece-Italy)

The investor in ITGI (600 km of land pipeline and 206 km of subsea pipeline named Poseidon) is Italian Edison, while the investors in IGI Poseidnon section are Edison and Depa, Greece. They count on gas supplies from Azerbaijan (!) of 8 billion m^3/y. The largest portion of the transported gas, 80% will be for Edison's needs. (It is expected that 14 billion m^3/y of gas would be exported from Azerbaijan, 3 billion m^3/y for Georgia and 11 billion m^3/y to be directed to Turkey, which counts on 3-4 billion m^3/y for its own consumption.)

However, it seems that ITGI will be able to supply gas to only one of the mentioned projects, TAP or TGI, which leads to conclusion that project that first contracts needed capacity with Interconnector will be implemented. As Turkey's standpoint is not very clear, it is hard to predict what will be the outcome.

5.5 Interconnector Hungary - Croatia

INA, HEP (Croatian Electricity company) and MOL concluded the deal on import of Russian gas through Hungary and the construction of connecting pipeline with capacity 2.5 billion m^3/y. The negotiations among the partners, including Plinacro, Croatia's natural gas system operator, ended in 2006. Similar deals normally include a provision about suspending the project until a kind of guarantee is obtained from gas supplier, in this case Gazprom, on actual supply of volumes for feeding the pipeline. However, after two requests for additional supply, Gazprom answered that it was not possible before 2013.

In the meantime, the intergovernmental negotiations between the Russian Federation and the Republic of Croatia were conducted regarding offsetting of the former USSR clearing debt. Russian side committed to supply equipment for HEP's power plant at Sisak and pipes for the pipeline, and somehow it seemed logical that Gazprom's attitude would change, since HEP, as the investor and owner of the gas fired power plant needed gas for this purpose and that was the reason of HEP's additional import of 1 billion m^3/y of gas via Hungary. Nevertheless, this was not the case.

In the meantime Plinacro, in agreement with MOL, redesigned pipeline project into Interconnector with 6.5 billion m^3/y capacity (!) with expected completion by 2010. This fact opens up at least three significant issues:

- Question about timing and volumes of supply,
- Question about functionality of the interconnector – who will use it and how, considering the fact that MOL never gave any answer concerning gas supply from the LNG terminal in Croatia, which would imply share in investment,

- Question of guarantees for supply of required volumes; such costly projects are implemented for known users of interconnector/pipeline. Investing in such infrastructure facility without commitments by users of gas would put the investors into quite unfavourable position.

It is possible that the capacity was determined with a view of abandoning current route for import of Russian gas through Slovakia, Austria and Slovenia, which has been contemplated for about ten years. However, it is not wise to enter into such a project without detailed cost analysis (per m^3) of current and future costs, and without taking into account effective longterm transport agreements and costs that may arise as a result of their termination (take or pay clause).

And..a message at the end. About ten years ago INA and Ruhrgas conducted negotiations about new transport route and pipeline construction via Hungary. At the end of discussions INA requested and obtained cost analysis of the new transport route. The amounts were equal to the ones paid by INA according to transport agreements with partners in Slovakia, Austria and Slovenia. Consequently, INA abandoned the idea about changing transport route for import of Russian gas.

5.6 White Stream pipeline

The original name of this pipeline project GUEU, abbreviation of Georgia – Ukraine – European Union, was later changed into White Stream. This pipeline, designed to run under the Black Sea and land route, was primarily intended for the diversified supply of Ukraine which is fully dependant on Russian gas. The White Stream Pipeline company was also established to run the project.

The pipeline design foresees 24" subsea pipeline and 48" land section. According to information reported by BBSPA Monthly Bulletin, November 15, 2007 (p. 18) the project foresees laying of 100 km land section in Georgia to Supsa at the Black Sea, and then two options were considered:

- one to Crimea, 650 km long, which would then be connected with the Ukrainian gas system but would further be directed toward Romania across the shallow part of the Black Sea
- other, 1 100 km long route, would run under the Black Sea from Supsa to Konstanta in Romania. For realization of this alternative, investors should build a compressor station at sea.

Depending on the final selection of the route, estimated investments range from $2.5 to 3.5 billion, capacity 8.5 billion m^3/y which could be utilized in the fifth year of operation. In the 2nd phase of the project transport volumes would be increased by additional 8 billion m^3/y. The project counts on sources of gas from Azerbaijan and other producers in the Caspian region. For increased capacity in the 2nd phase it would be necessary to lay another 24" subsea pipeline. The third phase of the project is very optimistic and counts on additional volume of 16 billion m^3/y. Hence, total capacity would reach 32.5 billion m^3/y. Quite interestingly, there were no information about commencement of construction or investors in this ambitious project.

5.7 New gas markets; Pipeline Turkmenistan – Afghanistan – Pakistan – India (TAPI)

International Gas Report (Issue 596, April 2008, p. 3-4) reported about a meeting held in Istanbul on 22 April 2008, at which the partners discussed construction of the TAPI pipeline, 1 680 km long, 56" diameter, extending from the Dauletabad-Donmez fields in Turkmenistan to India. These fields, discovered already in 1990, hold estimated reserves of 13 000 billion m^3 of gas. If this is so, we could talk about huge production potential of 50 billion m^3/year. Foreseen investments are around $ 6-7 billion.

Planned capacity is 30 billion m^3/y, through 30 years, with equal transport volumes for India and Pakistan.

The Afghan government expects revenues from transit fee of $ 300 million/year.

As for natural gas price, Turkmenistan was satisfied in January 2008 with the price offered by Chinese buyer of 195 US$/1 000 m^3.

Large consumer markets, both for oil and gas, like India and China, offer to gas producers diversified sales markets and competition among them. Available quantities of gas for Europe are diminishing, while Gazprom's bargaining power becomes ever stronger.

The authors Pavlović, Vištica and Babić, in an article published in the magazine Plin, 1/2007, March 2007 entitled „Development of liberalization process in European gas market» provide an overview of all existing and planned pipelines for transport of gas to Europe.

Figure 3-17. TAPI pipeline
Sl. 3-17. Plinovod TAPI
Source / Izvor: International Gas Report, Issue 596, April 2008

6. CONCLUDING REMARKS

Ten years ago many believed that geopolitics left the scene with the 20th century. On the contrary, the author of this article considers that today we have a symbiosis of geopolitics and energy. Despite globalisation processes grounded on neoliberal concept, it is hard to explain previous steep rise of oil prices and than their slump in the second half of 2008, first to 60 $/bbl and then to 35 $/bbl. It cannot be explained only by changes in supply and demand. Russian economy fully recovered on the wings of high oil and gas prices. This fact removed the threat of Russia's destabilisation and possibility of losing control over army and nuclear arsenal. At the same time the markets of China and India recorded fast development which was accompanied by high energy and raw material consumption. High crude oil prices "cooled" economic boom of China and India, which also diminished some threats (China, Iran and Venezuela). Drop in international oil prices hit oil producing countries including Russia, because their income depends on oil exports.

Financial Times of 15 April 2008 quoted opinion of one of the Russian energy industry leaders who stated that the large international oil producers cannot meet huge Asian demand for oil. At the time when the article was published, crude oil price was above 112 US$/bbl. Further in the article FT quotes a statement by L. Fedun, vice president of Lukoil, who said that Russian oil production peaked in 2007 with output of almost 10 million bbl/day. FT also reported an observation given by V. Kristenko, Russian energy minister, who called for decrease of oil export taxes „because oil production started to stagnate after reaching its peak, and without new investments in exploration and development there is no increase of production volumes."

Changes in Russia's leadership with D. Medvedev as the President of Russia and V. Putin as the Prime Minister will not bring changes in their strategy in oil and gas sector. On the contrary, it is likely that all trends toward concentration and effective use of energy for achieving geopolitical goals will continue, probably with less aggressive approach to takeovers in Europe. No doubt, Russia's priority is to strengthen its position as the second superpower in the world. The data announced by Sergey Ivanov, the deputy of V. Putin, (in 2008) about increase of investments in infrastructure from 2.5% of GDP to 4.0%, on top of state's share in such investments ranging from 40 – 45%, indicate Russia's intention to strengthen further its dominant position in energy sector. This is a form of state capitalism which explains their current and future behaviour.70

We would like to believe that national states pursuing economic nationalism with «zero sum» game, which base their national development to the expense of the others, do not have a chance in global economy.[17]

During 2008, the above mentioned Leonid Fedun renewed Iraq's initiative from 2000, on replacement of US dollar as a currency in oil trading. When Sadam Husein threatened with introduction of other currencies for payment of oil exports, some analysts considered that this was the real cause of events that followed in Iraq, which ended with military intervention and overthrowing of Sadam Husein.

Payment of crude oil with US dollars, which became worldwide practice after the oil shock in 1973 and the US agreement with Saudi Arabia, enabled „a free lunch for America on expense of world economy". Global needs for US currency were met by printing dollars by the USA which eventually resulted in huge deficit. This deficit has grown to almost $500 billion and loss of half of the currency value since 2000. If currency basket is introduced in oil trading, and if it is accepted by China and other oil exporting countries, beside Venezuela which has already adopted this system, it could mark the end of the US economic domination.

In the situation when global financial crises began to spill over into Russian economy, there are doubts whether Russian economy will be able to fulfil its threats and lead dismantling of international monetary system with dollar as world currency. One western commentator expressed his view that Russia will have to accept the fact that it is only a world power but not superpower.

In considerations about Croatia's energy needs, the fact about energy dependency is widely accepted. The draft energy strategy called Green Paper adopted the key principles of the EU energy strategy. However, similarly to any other strategy, its implementation «in space and time» relies heavily on politics. The catch is in implementation which involves the risk of delay, lost opportunity for realization of important energy projects and irrational waste of time and resources for wrongly dimensioned and unnecessary projects. May be politicians have some rational for a policy «Let a Hundred Flower Bloom», however, the time is running and relevant decisions must be made. Moreover, since new energy projects are to be financed predominantly by private and not state capital.

All those involved in planning of energy supply, i.e. oil and gas supply, for the Croatian market are facing the challenge of very complex decisions. In the midterm perspective, oil supply should not be a problem. The access to oil supply is not questionable. Pipeline supply with transit and transport pipelines across Croatia's territory could bring several advantages: improved security of supply and more important role in geopolitics. Croatian government supports the PEOP project and recently they also expressed considerable understanding for the Druzba Adria oil pipeline project.

However, in case of natural gas there is no available transport capacity for bringing more gas in the midterm period. Nevertheless, in the longterm, there are various new projects, some of which would go through Croatia. Each of the offered projects should be carefully analysed from different aspects and appropriate decisions should be based on such analyses.

Some of the projects are in considerable delay, as for example the LNG acceptance terminal, the operability of which is now postponed to 2013 at earliest. The interconnector Hungary – Croatia could also be put into operation around this time, however, it does not have ensured source of supply.

According to recent information, the South Stream pipeline, regardless the fact whether one section would cross Croatia or not, will not be completed before 2015.

IonianAdriatic pipeline, provided its section is going through Croatian territory, could be operable at earliest in 2013. However, the question is can Croatian market absorb at least 4.5 billion m^3/y to be made available along the route, and which is the precondition for making the pipeline profitable?

If INA, HEP and Plinacro participate in 25% investment in construction of the LNG terminal, at the Adriatic coast and the terminal is completed within schedule, in 2013, Croatia would have additional 2.5 billion m^3/y capacity. With the contracted supply from Russia, if Gazprom agrees to extend the longterm contract beyond 2010, and in addition to domestic gas production, in 2013 the Croatian market would have at disposal 5.5 billion m^3 of gas.

In case the interconnector Hungary – Croatia is constructed with envisaged capacity of 6.5 billion m^3/y, but without defined source of gas, the question is who will bear the cost of unutilized capacity? If the Ioninan-Adriatic pipeline is completed about that time, it will be another additional capacity. Redundancy of pipeline capacity is more than obvious. The investors in any pipeline or interconnector infrastructure must be aware that they must ensure return on investment and it can be achieved only if the facility is in use and generates income by providing transport service. Considering further market opening after liberalization, it will be even more important that transit and transport projects meet the economies of scale requirement, but then they must have capacity utilization of 95-100%.

If anyone considers it possible that any of the above mentioned projects be realized without longterm supply contract, which implies firm financial commitments, then he is mistaken.

In case of the South Stream pipeline implementation and its sections running through Serbia, Croatia and Slovenia, the question is who needs interconnector Hungary - Croatia? The idea about abandoning current transport route for import of Russian gas through Slovakia, Austria and Slovenia and to use instead the new interconnector via Hungary, is not grounded on economic viability. Even if this alternative route is accepted, how can Russian gas be taken over both on the Ukrainian and Hungarian border? According to Gazprom's statements, it is not possible by 2013. Even if this issue of import gas takeover point is resolved, the interconnector would use less than 25% of its capacity. Besides, we should rightly question who will, if at all, contract additional import of Russian gas for Croatia, at least in the observed period. After 2015 / 2016 the second phase of LNG terminal project should be completed and then the Croatian partners could withdraw up to 4 billion m^3/y of gas. Indeed, this capacity can be rented to others. However, it is expected that by that time the Croatian gas market will be fully liberalized with prices set on market principles and in compliance with other EU directives obligations.

If energy entities who bear all the risks, are really given the chance to make relevant decisions, it is essential to speed up transformation from the current «market» with administrative price regulation into the market which will prevent price distortions in real time. It is equally important to make preparations for new entrants into the market. Some energy entities are entitled to import gas even now. It is clear that after 2011 no supplier will have 100% share in the market.

The experience of cuts in supply of Russian gas in January 2009 after the dispute with Ukraine, showed that western part of the EU was not so severely hit by gas shortage. The countries that were seriously hit are the new EU members along the route from the Baltic Sea to the Balkans with Greece to the south. These countries rely fully or in great part on Russian supplies.

In the period from now to 2015, when the North Pipeline is expected to be in operation and new LNG terminals constructed on the rims of western and southern Europe, Western Europe will not risk shortages caused by possible Russian supply cuts. The countries bearing the highest risk in case of supply reductions are the SEE countries, including Croatia.

The projects that are in the focus of Croatia's interest are still surrounded by uncertainties. LNG terminal still lacks green light by the Croatian government. The Nabucco project, albeit it received strong support by Brussels in January, is far from implementation. TAP counts on the same gas sources as Nabucco. South Stream is also far from realization; in any case it will not be completed before 2015. In addition, it does not meet diversification requirement. Last but not least, possible supply from the South Stream section is conditioned and limited in volume of supply.

Longterm gas supply for the Croatian market must be defined very soon from the aspect of source of supply and transit route. All projects that have been considered cannot be implemented because it would mean total commitment for 15 billion m^3/y by the year 2020, which is quite unrealistic.

Whatever decisions are made, we hope that they will take into account key principles of security of supply and respective geopolitical impacts.

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Author:

Dr.sc. **Stevo Kolundžić**, INA d.d., Av. V. Holjevca 10, 10020 Zagreb

Tel. 01/6450401

Fa . 01/6452401

e-mail: stevo.kolundzic@ina.hr