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# REPORT

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## OIL, GAS AND ENERGY SECURITY

### INTRODUCTION

Energy security is an issue of global concern, one that has gained prominence over time in step with the rise in global energy demand. Where will our future energy supplies come from? How much will they cost? Who will be delivering those supplies? How will they be delivered? These are some of the questions that governments and private companies have long asked themselves, but which are being asked today with a greater sense of urgency.

Once again, by the sheer chance of its geographical location, Cyprus finds itself in the middle. It is surrounded here in the eastern Mediterranean by the Middle East, North Africa and the Caspian Sea regions – all of which are major crude oil and natural gas producing areas and all of which figure prominently and strategically within the context of energy security.

### TURKEY AND CYPRUS

The eastern Mediterranean countries are actively engaged in the exploration and development of hydrocarbon resources to various degrees. The most successful have been Libya and Egypt. Syria produces crude oil and gas, much of which is used domestically. Some seismic data has been acquired in Lebanon's and Syria's offshore waters. Israel produces small amounts of hydrocarbons and has recently announced two offshore gas discoveries very near to Cyprus's offshore zone, where so far only seismic surveys have been conducted. The discoveries in Israel are encouraging when one considers that seismic surveys conducted in Cyprus's own waters indicate promising prospects for exploration, although they are located in very deep water.

Turkey, while it has very limited hydrocarbon resources of its own, has begun to play a major role as the bridge between these energy producing regions and Europe – the main market on this side of the globe. Indeed the Turkish Foreign Minister stated recently that Turkey sees itself as a bridge connecting Middle Eastern gas producers with Europe.

Turkey is itself a growing energy consumer. It required 690,000 b/d and used 36 billion cubic meters (bcm) of gas in 2008, according to the latest BP Statistical Review.<sup>1</sup> Not only is Turkey willing to act as a bridge between eastern energy producers and western energy consumers, it is also keen to secure eastern energy supplies for its own use. It imports natural gas from Iran, crude oil from Iraq, and recently signed an agreement with Qatar, which has massive natural gas reserves, to study the possibility of constructing a gas pipeline that would carry Qatari gas to Turkey via Saudi Arabia, Jordan and Syria.<sup>2</sup> Furthermore, late last year, Turkey signed an agreement with Iran regarding participating in the South Pars project, which would eventually lead to Turkish companies developing gas fields in southern Iran and shipping that gas by pipeline to Turkey.<sup>3</sup>

Turkey is well aware of its importance to both consumer and producer nations and it is looking to employ its geo-strategic location as a means of enhancing its role as an energy entrepot in the years to come. In the meantime Turkey is keen to explore its own territory in search of oil or gas reserves and has recently announced an investment program worth hundreds of millions of dollars for its offshore Black Sea region.

Turkey has over the last two years launched exploration and development programs in the eastern Mediterranean. Turkey claims a large amount of the eastern Mediterranean including a section that encroaches on Cyprus's EEZ. It also lays claim to offshore areas that Greece considers its own. Turkey's navy has in the past interfered with the offshore hydrocarbon research being carried out in the Cyprus EEZ. How Turkey's claims to part of that zone could complicate Cyprus's plans to exploit whatever oil and gas resources might exist within the Cyprus EEZ remains to be seen. But that might become apparent during the course of the next year after the launch of the second Cyprus offshore bidding round.<sup>4</sup>

Egypt has a developed oil and gas industry. While its crude oil production has declined in recent years, Egypt is seen as having a strong potential for future gas production. It will be necessary for Egypt to use much of its gas reserves to meet its own growing domestic need for energy, but it also intends to produce enough gas to expand its LNG industry and to boost the volume of natural gas that it ships through the Arab Gas Pipeline to the Levant so that it can eventually ship gas to Turkey and Europe.

Energy demand is growing in Egypt where in 2008; the country consumed 693,000 b/d of crude oil along with 40 bcm of natural gas, according to the BP statistics.<sup>5</sup> Numerous foreign

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<sup>1</sup> BP Statistical Review of World Energy June 2009., <http://www.bp.com/>

<sup>2</sup> Middle East Economic Survey, 12 October 2009., <http://www.mees.com/>

<sup>3</sup> Middle East Economic Survey, 24 November 2008., <http://www.mees.com/>

<sup>4</sup> Middle East Economic Survey, 4 May 2009., <http://www.mees.com/>

<sup>5</sup> BP Statistical Review of World Energy June 2009., <http://www.bp.com/>

companies are involved in developing Egypt's oil and gas reserves, and indeed, some of Egypt's most promising reserves are located offshore in the eastern Mediterranean and near the Cyprus EEZ.

## LOGISTICS

While the term energy security may suggest a scarcity of oil and gas – the primary generators of energy in this stage of human civilization – at this time hydrocarbon scarcity is not really a problem. There are areas and fields where hydrocarbon reserves are beginning to decline, and major discoveries are becoming rare, but the time when the world might begin to see a period of 'peak oil' is thought to be 10 to 20 years away. Exploration companies have to drill deeper and deeper into the Earth and recently there have been several huge discoveries – such as the one made by BP in the Gulf of Mexico and those made by Petrobras offshore Brazil. Several years ago, BP reported a gas discovery at a depth of some 7,000 meters in Azerbaijan's sector of the Caspian Sea with 'significant potential'.<sup>6</sup> Drilling to such depths is carried out at considerable costs.

Discovering and developing hydrocarbon resources have always been a challenge, but a considerable part of energy security is concerned with the safe and steady shipment of oil and gas to areas where demand is greatest. For now and for the most part, energy exploration, development, export and import are carried out smoothly in the southeastern corner of the Mediterranean.

The transport of crude oil by tanker to or from eastern Mediterranean countries is a routine matter of business. Both Egypt and Libya export crude, Egypt exports liquefied natural gas (LNG) by tanker and vessels carrying crude, petrochemicals and LNG sail through the Suez Canal between eastern and western producers and consumers. Israel, Lebanon and Cyprus import fuel for their domestic needs. Syria exports some crude oil.<sup>7</sup>

As if the straightforward business of buying and selling isn't complicated enough, there must, of course, be politics. The politics of the energy industry are very complex and convoluted. Producers must develop their resources and sell, consumers have no choice but to buy, politicians want to wrest whatever advantage they can from the arrangements. As strategic commodities, controlling access to and the movement of oil and gas is a serious undertaking.

## THE CASPIAN SITUATION

There are five Caspian Sea littoral states, Russia, Kazakhstan, Azerbaijan, Turkmenistan and Iran. When the Soviet Union collapsed in 1991, the legal status of the Caspian Sea was thrown into question and it remains unresolved. In order to proceed with developing their respective area of the Caspian offshore, Russia, Kazakhstan and Azerbaijan have signed bilateral agreements dividing the seabed.<sup>8</sup> Turkmenistan and Azerbaijan are currently engaged in

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<sup>6</sup> Middle East Economic Survey, 19 November 2007., <http://www.mees.com/>

<sup>7</sup> Middle East Economic Survey, 3 August 2009 <http://www.mees.com/>

<sup>8</sup> Middle East Economic Survey, 6 April 1998, 13 July 1998, 10 December 2001., <http://www.mees.com/>

discussions on the demarcation of their respective territories, but Iran is insisting that Caspian Sea reserves be developed jointly, and barring that it wants the sea divided into five equal sectors in which it would receive 20%.<sup>9</sup> This compares with the roughly 13% of the sea that was considered its territory during the Soviet era.

The area that Iran claims in the Caspian juts into the southern part of the sea into areas that Azerbaijan and Turkmenistan claim as their own. Iran is somewhat adamant about its position, in 2001 when BP was conducting a seismic survey in the Alov, Arag and Sharg Block in southern Caspian waters; Iran sent a warship and aircraft to chase the two seismic vessels involved in the work away.<sup>10</sup> Tehran stated that the survey was being carried out in Iranian waters. BP and Azerbaijan have not returned to the area since. While the five littoral states meet periodically to discuss the status of the sea, they are not expected to reach an agreement anytime soon. Control over the huge oil and gas reserves and how those reserves will be moved to world markets is a key issue.

Kazakhstan, Azerbaijan and Turkmenistan are keen to exploit their huge reserves, and while Russia and Iran already have huge reserves of their own within their countries, they are keen to maintain a degree of political influence over the strategic resources in the Caspian.

Coming to a final agreement on respective territories in the Caspian would enable Kazakhstan and Turkmenistan in particular to pursue export routes across the Caspian Sea through the construction of underwater pipelines. Complicating this is the fact that Iran and Russia have expressed their opposition to such pipelines on several occasions.<sup>11</sup>

Proven crude oil reserves among the three Caspian Sea states of Kazakhstan, Azerbaijan and Turkmenistan are estimated at around 50 billion barrels.<sup>12</sup> Proven natural gas reserves are estimated at 11 trillion cubic meters.<sup>13</sup> These are considered conservative estimates, especially with regard to gas reserves. Turkmenistan, alone, claims to have in excess of 24 trillion cubic meters of natural gas reserves.<sup>14</sup>

With the collapse of the Soviet Union in 1991, international oil companies (IOCs) moved quickly to establish themselves in a part of the world that had been a remote part of the Soviet domain. Virtually all of the developments of the oil and gas resources in Azerbaijan and Kazakhstan since 1991 have been the result of investments made by consortia of Western oil companies.

## CASPIAN CRUDE EXPORTS

There currently exist a number of pipelines designed to transport crude oil produced in the Caspian region to foreign markets. Russia holds something of a monopoly on natural gas

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<sup>9</sup> Middle East Economic Survey, 27 August 2007., <http://www.mees.com/>

<sup>10</sup> Middle East Economic Survey, 30 July 2001., <http://www.mees.com/>

<sup>11</sup> Middle East Economic Survey, 5 October 2009., <http://www.mees.com/>

<sup>12</sup> BP Statistical Review of World Energy June 2009., <http://www.bp.com/>

<sup>13</sup> BP Statistical Review of World Energy June 2009., <http://www.bp.com/>

<sup>14</sup> Middle East Economic Survey, 22 September 2008., <http://www.mees.com/>

transport out of Central Asia, but there are several more independent pipeline projects designed to carry both crude and gas in the works. How these projects progress will have much to say about the future of European energy security.

To export the crude oil and gas from the Caspian region, old Soviet-era pipelines were refurbished and new ones were built. The Baku-Tbilisi-Ceyhan (BTC) pipeline, which stretches 1,760 kilometers from the Caspian Sea to the eastern Mediterranean, was a major (and controversial) undertaking. The BTC came into operation in June 2006. It is now seen as a vital piece of Caspian energy infrastructure as it is the primary export route for Azerbaijani crude and the terminal has already loaded millions of tons of oil. During the last year it also began to carry some Kazakh crude.

While BP was in the early stages of revamping and developing Azerbaijan's offshore Azeri-Chirag-Guneshli (ACG) oilfields, it refurbished the old Soviet-era pipeline running between Baku and the Georgian Black Sea port of Supsa. This pipeline was used before the BTC came into operation. It has a capacity to transport 145,000 b/d.<sup>15</sup> The Soviet-era Baku-Novorossiysk pipeline was also used during the pre-BTC days. Its capacity is around 100,000 b/d<sup>16</sup> and Azerbaijan still exports small volumes of oil through it. For crude transport through the Caucasus, Azerbaijan, Kazakhstan and Turkmenistan also use railway lines to carry crude by rail tanker to Black Sea ports, particularly Batumi and Kulevi. They are owned respectively by Kazakhstan's state-owned KazMunaiGaz and Azerbaijan's state oil company Socar.

BP is the leading Western company operating in Azerbaijan; it also heads the consortium that is developing Azerbaijan's offshore Shah Deniz gas field. During the course of bringing that field on-stream, another BP-led company built the South Caucasus Pipeline (SCP) which runs parallel to the BTC crude pipeline to Turkey, and this gas feeds into the Turkish gas distribution system at Erzurum.

The Caspian Pipeline Consortium (CPC) was formed for the purpose of building a 1,580 kilometer pipeline to carry crude oil produced at Kazakhstan's onshore Tengiz oilfield – which is operated by a consortium led by the US oil company Chevron – across western Kazakhstan and southern Russia to the Black Sea port of Novorossiysk. After years of delay caused by differences between Russia, which is the largest shareholder in the CPC, and its Western partners, plans are now being drawn up to double the capacity of the pipeline, which came into operation in 2001, to 1.32mn b/d by the middle of the next decade.<sup>17</sup> That is essentially where Caspian crude oil and gas transport is at this time. Several of the pipeline projects that are proposed are designed to be built upon this existing infrastructure.

Crude oil from Iraq is also exported through Turkey's Mediterranean port of Ceyhan.<sup>18</sup> This crude arrives at Ceyhan through the Kirkuk-Ceyhan pipeline, which was built in the 1980s during the Iran-Iraq war. Also, there has been talk in recent years that Iraq might rebuild the

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<sup>15</sup> Middle East Economic Survey, 18 August 2008., <http://www.mees.com/>

<sup>16</sup> Middle East Economic Survey, 16 February 2004., <http://www.mees.com/>

<sup>17</sup> Middle East Economic Survey, 22/29 December 2008., <http://www.mees.com/>

<sup>18</sup> Middle East Economic Survey, 17 March 2008., <http://www.mees.com/>

pipeline that runs to Syria's Mediterranean port of Tartous, but that project is likely to be years away.

### CASPIAN AND MIDDLE EAST GAS EXPORTS

Regarding the transport of natural gas through pipelines in the region, there is the South Caucasus Pipeline, which was mentioned earlier. It now has the capacity to transport 8 bcm/y of Shah Deniz Gas. Azerbaijani gas is delivered through this pipeline to Georgia and Turkey. There exists also the Interconnector-Turkey-Greece-Italy (ITGI) pipeline, which is – and will be – essentially a linking of domestic grids that will transport gas from east to west. Some new pipeline has been constructed between Turkey and Greece, and new pipe will be laid across northern Greece and the Adriatic Sea. There is the Blue Stream gas pipeline, built by Russia's Gazprom and Italy's Eni earlier this decade. It runs across the Black Sea from southern Russia to Samsun, Turkey, and then links into the Turkish domestic grid. It has a capacity to carry 16 bcm/y, but has yet to reach that volume. Turkey imports most of its natural gas from Russia, but most of it comes overland through Bulgaria. In the Levant, there is the Arab Gas Pipeline (AGP), which was also mentioned earlier. It begins in Egypt and crosses the Gulf of Aqaba to Jordan and runs north into Syria. The AGP will also supply Egyptian gas to Lebanon through Syria. There are plans, and work may have already started to extend the pipeline into Turkey, where it will join the Turkish domestic network. From there the Egyptian's hope to feed their gas into the proposed Nabucco gas pipeline, which will begin in central Turkey.<sup>19</sup>

These are the main working oil and gas pipelines in the region, complementing this is a list of proposed projects that may or may not be constructed. But one thing is clear and that is that Turkey figures prominently in this part of the world as a conveyor of oil and gas supplies from producer countries to consumers.

### BYPASSING THE BOSPORUS

There are a number of proposals for the construction of crude oil pipelines that would bypass Turkey's Bosphorus and Dardanelle Straits. Again, there is a lot of politics involved in this and it remains to be seen just which of these proposals will eventually be the one to win out.

The Turkish waterways see several million barrels of crude oil and products sail out of the Black Sea and past Istanbul every day. The Turks are quite concerned about the volume of tanker traffic and have taken steps to regulate the flow of tankers through the waterways. There are at least five proposed pipeline routes designed to move crude oil out of the Black Sea to world markets: the AMBO pipeline across the Balkans; the Burgas–Alexandroupolis pipeline through Bulgaria and Greece; the Pan European Oil Pipeline across southwestern Europe between Constanza, Romania, and Trieste, Italy; the Odessa-Brody-Plock pipeline, through Ukraine and Poland; and the Samsun-Ceyhan pipeline through eastern Turkey. Only the Odessa-Brody section of the Odessa-Brody-Plock pipeline exists and most of the other projects have been on the drawing board for years. Ukraine finished construction of the Odessa-Brody section of their pipeline in 2001, but they could find no one – particularly the Azerbaijanis and

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<sup>19</sup> Middle East Economic Survey, 17 March 2008., <http://www.mees.com/>

the Kazakhs – to ship crude through it. In 2004 they were forced to reverse the flow of the pipeline to allow Russian crude to flow through it to the Black Sea for export. Only recently have the Ukrainians taken measures to change the Odessa-Brody pipeline back to its original flow direction as it finally prepares to accept some shipments of Azeri crude. The Bosphorus bypass pipelines are essentially waiting for crude oil supplies to materialize. Only the presence of crude oil will warrant the construction of these new pipelines – as the example of Odessa-Brody shows.

Right now there are two of these proposed projects that stand a possible chance of being built. One is the Burgas-Alexandroupolis pipeline (BAPLine), in which Russia's Transneft holds 51% and Bulgaria and Greece split the remaining share; the other is the Samsun-Ceyhan pipeline, also known as the Trans Anatolian Pipeline.<sup>20</sup> Russia is keen to have the BAPLine available to transport the increased volume of crude oil that will be transported through the CPC once that pipeline is expanded. For its part, Turkey would like to see CPC shipments transferred to its proposed Samsun-Ceyhan pipeline, along with the crude exported from the terminals in Georgia.

### ROTTERDAM ON THE MED

Turkey has stated on numerous occasions that it would like to see Ceyhan, in the northeastern corner of the Mediterranean become a 'Rotterdam on the Med', meaning that Turkey would like to transform what is now a small crude oil loading terminal into a regional energy entrepot. Should the Samsun-Ceyhan crude pipeline be built and operate at full capacity, the amount of crude arriving at Ceyhan – added to that from the Caspian and Iraq – could amount to more than 3mn b/d. The Samsun-Ceyhan pipeline is to have a capacity of 1.5mn b/d of crude.<sup>21</sup> The BTC, which already has a 1mn b/d capacity, is likely to see throughput increase to as much as 1.6mn b/d in the years ahead as shipments of Kazakh crude through the BTC increases and shipments of Iraqi crude, through the northern pipeline from Kirkuk, are likely to increase to more than 1mn b/d as Iraq slowly gets its hydrocarbon industry back on its feet.

At one point Turkey was considering licenses for at least four refineries at Ceyhan. It has also been suggested that petrochemical plants could be built there and that natural gas could be routed there by pipeline for the production of LNG. If Turkey should succeed in realizing all these things, there could indeed come the day when Ceyhan would be recognized as a major oil trading center.

### REGIONAL CHALLENGES

The Middle East is usually in an uproar, so bombings or fighting that may disrupt shipments of Iraqi crude don't lead to alarm. The political fracas with Iran over its nuclear research program did impact prices during the first six months of 2008, when oil prices were on their way to reaching \$147/B in July of last year. But the crude oil market is now oversupplied and the continuing dispute between Iran and the UN over its nuclear program makes little impact on

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<sup>20</sup> Middle East Economic Survey, 17 March 2008., <http://www.mees.com/>

<sup>21</sup> Reuters, 26 May, 2008., <http://www.reuters.com/article/GCA-Oil/idUSL2643390220080526>

the oil market. That could of course change, depending on the current round of talks between the P5 + 1 and Iran.

The war in Afghanistan and increasing violence in Pakistan is naturally cause for concern, but as long as these conflicts remain localized there is not much worry about them impacting energy production and distribution.

If there is to be an examination of possible crises in this region, then the focus at this time must include the movement of hydrocarbons from the Caspian Sea and Russia to Europe. The war between Georgia and Russia in August 2008 was a wake up call to Europe, as was the gas price dispute between Russia and Ukraine last January, when Moscow left a huge chunk of Europe to freeze while it argued with the Ukrainian leadership over its gas bill.

That dispute and a less consequential disagreement between Russia and Ukraine the year before erased from Europe's collective mind the thought that Russia was a reliable energy supplier. Why Russia felt it necessary to go to such lengths over its gas supply issue with Ukraine has left most of us guessing. But in a way it is lucky for Europe that that dispute came to a head when it did, because it forced Europe to pull its head out of the cloud that it sometimes prefers to exist in.

The same goes for the war between Russia and Georgia. In August 2008 a dispute arose between Georgia and Russia that resulted in Russian troops invading Georgia and occupying parts of it for several days. During the war, crude oil and gas shipments through Georgia were stopped. That means shipments of oil and gas through the BTC and Baku-Supsa crude oil pipelines, and natural gas shipments through the SCP pipeline were halted.<sup>22</sup> Crude shipments by rail were halted. The key export routes for Caspian oil and gas were severed. Shipments were not resumed for a number of days until after the war ended and the Russian forces withdrew.

The war is explained as being about the rights of South Ossetia, but it clearly demonstrated that Russia can easily bring shipments of Caspian oil and gas to an abrupt halt if it so chooses. Apart from making it clear that Moscow is not pleased with Georgia's political realignment with the West, Moscow also made it clear to the West that shipping crude oil and gas through a volatile state like Georgia can be a risky business.

The Russian gas monopoly Gazprom supplies Europe with roughly 40% of its supplies. Russia appears keen to maintain that market share and expand it if possible. Gazprom has signed deals and acquired assets in Algeria and Libya, from where Europe will be receiving large volumes of gas in the future. It is seeking assets in Nigeria and the proposed Trans Sahara gas pipeline project, which, if it is ever built, will deliver more natural gas to Europe via Algeria.

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<sup>22</sup> Middle East Economic Survey, 18 August 2009, 25 August 2009, 1 September 2009., <http://www.mees.com/>



## NABUCCO AND RUSSIAN RESURGENCE

The Ukraine price dispute demonstrated to Europe just how vulnerable the EU is to Moscow's temperament and it reinforced the fact that Europe needs to diversify its gas supplies. Thus the Ukraine dispute and the Russia-Georgia war put new European emphasis on the proposed Nabucco Gas Pipeline project, plus other gas supply projects in North Africa and West Africa.

Earlier this decade, a number of eastern European countries got together and proposed the construction of a natural gas pipeline that would carry gas from the Caspian region to Europe through Turkey.<sup>23</sup> The idea was to provide gas to Europe that would not come from Russia. By the year 2000, Europeans had become concerned over their growing dependence upon Russian gas. As it turned out, the events of 2008 and January 2009 drove this point home.

In 2002, when the Nabucco project was first conceived, European gas companies thought that it would be prudent to diversify their supplies by tapping into those huge Caspian reserves, and so the Nabucco Gas Pipeline consortium was formed in 2004 by Austria, Hungary, Romania, Bulgaria and Turkey.

Imagine the reaction in Moscow. First the BTC crude oil pipeline through the Caucasus and then a gas pipeline, both of which are designed for the purpose of transporting hydrocarbons from the Caspian region – a region once controlled by the Soviet Union – without having to cross Russian territory.

Moscow had voiced its opposition to the BTC when it was first proposed in the late 1990s but at the time there was little that Russia could do. It was politically weak. Over the last several years, as the price of crude oil has increased, Russia has been able to reassert itself. The collapse of crude oil prices a year ago dealt a serious blow to the Russian economy, but it has recaptured some of its political influence in the world.

Yet like the BTC, the idea that a gas pipeline designed with the intent of sending Caspian gas to Europe for the express purpose of reducing Europe's dependence on Russian gas does not sit well in Moscow.

The Nabucco Gas Pipeline project proposes to transport 31 bcm/y of gas through a 3,300 km pipeline from a gathering point west of Ankara to the Baumgarten gas hub in Austria.<sup>24</sup> From the start, the partners had their eye on gas from Azerbaijan, Turkmenistan and Middle Eastern suppliers. It was initially thought that the pipeline could become operational by 2009. Its current construction cost is estimated at around \$8 billion.<sup>25</sup> It is now expected to come into operation by 2014.

But Nabucco has not been able to secure gas supplies and hence its delay. Azerbaijan's Shah Deniz gas field is currently producing around 7 bcm/y and peak production for Stage 1

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<sup>23</sup> <http://www.nabucco-pipeline.com/>

<sup>24</sup> <http://www.nabucco-pipeline.com/>

<sup>25</sup> Middle East Economic Survey, 20 July 2009., <http://www.mees.com/>

development will be under 9 bcm/y. Current production is going to Georgia, Turkey and a small amount to Greece.<sup>26</sup> Stage 2 production is expected to come on-stream in 2014 and output will increase to 16 bcm/y.<sup>27</sup> Azerbaijan has stated recently that it is willing to ship gas to Europe through Nabucco once it is built. That will give Nabucco about a quarter of its capacity.

Earlier this year two Nabucco partners, Austria's OMV, which leads the consortium, and Hungary's MOL, purchased a 20% share of Pearl Petroleum, a joint venture between Sharjah-based Dana Gas and Crescent Petroleum which is developing the Khor Mor and Chemchemal gas fields in Iraqi Kurdistan. Gas shipments from northern Iraq are to be piped into Turkey, where they will find their way to Nabucco.

Earlier this month, Reinhard Mitschek, Managing Director of the Nabucco Gas Pipeline project, said first gas is expected to flow through the pipeline in 2014 and that the first shipments are likely to be of Iraqi origin. "We believe that we will start up in 2014 and that the gas will be ready from Iraq. During 2015, 2016, we should have a further 8 billion cubic meters from Azerbaijan," Mitschek said.<sup>28</sup>

Apart from finding sources of supply, another delay was involved differences within the consortium. The Nabucco members had difficulty negotiating gas allocations and prices with Turkey. As mentioned, Turkey aspires to be a regional energy hub, but it has no energy resources of its own. What Turkey wanted was to keep 15% of the gas transiting Nabucco for its own use at a preferential price. The other Nabucco partners, who now include RWE of Germany, would not agree to that. Turkey intended to store that gas or resell it to third parties. Azerbaijan, for its part, was not keen to discount its gas price in favor of Turkey.<sup>29</sup>

Turkey has since been persuaded to adjust its position and in July an intergovernmental agreement was signed by the five countries through which the pipeline will pass. More negotiations among the partners lay ahead, however.

During the gathering for the intergovernmental agreement in Istanbul, Iraqi Prime Minister Nuri al-Maliki stated that Iraq would be willing to supply Nabucco with 15 bcm/y of gas. Maliki did not explain from where the gas would originate, but it has been mentioned that gas produced at Iraq's Akkaz gas field could be exported to Syria where it would be exported to Turkey through the AGP. Plans for this scenario have yet to take shape.<sup>30</sup>

If it were not for international sanctions against Iran, that country, which possesses the second largest gas reserves in the world, would be a very likely supplier of gas for Nabucco. Turkey already receives gas from Iran by pipeline, and while Iran is not now able to supply the volume of gas that Nabucco would be interested in receiving, the potential exists. But as long as Iran

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<sup>26</sup> Middle East Economic Survey, 26 November 2007., <http://www.mees.com/>

<sup>27</sup> Middle East Economic Survey, 12 October 2009., <http://www.mees.com/>

<sup>28</sup> Middle East Economic Survey, 12 October 2009., <http://www.mees.com/>

<sup>29</sup> Wall Street Journal, 17 October 2009., <http://europe.wsj.com/home-page>

<sup>30</sup> Middle East Economic Survey, 25 May 2009, 20 July 2009., <http://www.mees.com/>

retains its current political stance and sanctions remain in place, there is little chance that it will be supplying gas to Nabucco.

As far as Nabucco is concerned, the prize is Turkmenistan. Gas reserves in that country are unknown. President Gurbanguli Berdimukhamedov, who has been in power only since February 2007, occasionally hints at the size of Turkmenistan's gas reserves – suggesting 24 trillion cubic meters – and makes statements about how his country supports multiple export routes, although he had yet to say yes to Nabucco.

Turkmenistan has a lot of gas that has yet to be developed. But regarding exports to the West it has two major problems – it is in dispute with Azerbaijan about where the offshore boundary in Caspian Sea should be (oil and gas fields are at stake in this) and the other problem is how to get around Russia.

A key detail in all this is the fact that if Turkmen gas were to be exported to Europe without crossing Russian or Iranian territory it would be necessary to build a Trans-Caspian Gas Pipeline (TCGP). As noted earlier, both Russia and Iran are opposed to cross-Caspian pipelines, and they are particularly opposed to them primarily for this reason. They do not want to do Europe any favors.

Russia has an agreement to buy at least 80 bcm/y of Turkmenistan's gas output as of 2010.<sup>31</sup> This gas would undoubtedly be routed to Europe. For Moscow, a Trans-Caspian Gas Pipeline would be like a leak in the Central Asian gas balloon.

A Trans-Caspian Gas Pipeline was nearly built in 2000 by Shell and GE of the US, but that plan fell through when the late President Niyazov demanded that a large amount of the financing for the project be paid up front.

Technologically it would not be difficult to build a Trans-Caspian Gas Pipeline. It would link up with the SCP in Azerbaijan, and Turkmen gas would be on its way to Europe.

The Europeans and Russians are not the only parties interested in Turkmen gas. Later this year or early next, a 40 bcm/y capacity pipeline is scheduled to begin operation that will carry Turkmen gas across Uzbekistan and Kazakhstan to China.<sup>32</sup> Turkmen shipments will eventually reach 30 bcm/y and Kazakhstan is expected to export around 10 bcm/y of its own gas to China through that system.<sup>33</sup>

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<sup>31</sup> Middle East Economic Survey, 3 December 2007., <http://www.mees.com/>

<sup>32</sup> Middle East Economic Survey, 7 April 2008., <http://www.mees.com/>

<sup>33</sup> Middle East Economic Survey, 7 April 2008., <http://www.mees.com/>

## NORD STREAM AND SOUTH STREAM

Russia dismisses the Nabucco project as unrealistic. There is no gas to supply it, it says. But as events with Ukraine have shown, Russia, too, has its own problems. Not only Ukraine, but Belarus has also proved to be problematic. In order to get around these difficulties and continue supplying Europe, Russia has proposed two bypass pipelines of its own.

Nord Stream is designed to carry 55 bcm/y to Germany by means of an under water pipeline through the Baltic Sea.<sup>34</sup> By traveling down the Baltic, the gas in the pipeline bypasses not only Belarus but also the former Soviet Baltic states which are now members of the EU and Poland, also an EU member and a former member of the Warsaw Pact. These eastern members of the EU have criticized this, and it is important to point out, that if the EU had a common energy policy, Nord Stream might not be on the table.

Nord Stream is estimated to cost €5.5 billion and come into operation in 2011. Later phases of the project will increase the project's cost.<sup>35</sup>

Russia's other proposed pipeline, South Stream, is considered to be a rival to Nabucco, although the EU and Russia, for the sake of protocol, do not admit that South Stream is competing with Nabucco for the Central European market and if projections for European gas demand is correct, both gas pipelines will be required to meet those demands anyway. But for now, the two projects are racing against time against one another.

Vladimir Putin, while still president of Russia, announced the plan to build South Stream in 2007 during a gathering of Black Sea states. With South Stream, Russia will be able to bypass Ukraine and Turkey, rather than expand Blue Stream as was previously proposed.

South Stream, currently estimated to cost around €20 billion, calls for the construction of a 900 kilometer gas pipeline across the Black Sea.<sup>36</sup> The pipeline would reach depths of more than 2,000 meters (about three times deeper than a Trans-Caspian Gas Pipeline). Russia said recently that it would transport more than 60 bcm/y through the pipeline.<sup>37</sup> Italy's Eni, which partnered with Gazprom to build the Blue Stream to Turkey, would again join Gazprom in this project.

South Stream would make landfall in Bulgaria from where it would take northern and southern directions. The northern route would cross Bulgaria, Serbia, Hungary and Austria and also terminate in northern Italy. The southern route would cross Bulgaria, Greece and enter southern Italy.

There is no doubt that Russia has the gas reserves to supply these pipelines, but they would have to be developed and this would require considerable investment. It is more economical

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<sup>34</sup> Middle East Economic Survey, 14 September 2009., <http://www.mees.com/>

<sup>35</sup> Middle East Economic Survey, 14 September 2009., <http://www.mees.com/>

<sup>36</sup> Middle East Economic Survey, 10 august 2009., <http://www.mees.com/>

<sup>37</sup> <http://south-stream.info/?L=1>

for Russia and more politically satisfying for Russia to draw upon Turkmenistan's gas reserves and those in other Central Asia and Caspian countries. Gazprom has already approached Azerbaijan with an offer to purchase all of its Shah Deniz gas output that is not under contract. Azerbaijan has since agreed to sell Gazprom 500 million cubic meters/year of Shah Deniz gas beginning 2010.<sup>38</sup> But this is seen as more of a political concession than a deal that Azerbaijan genuinely wants to pursue.

## KAZAKHSTAN

In recent days it has been announced by Kazakhstan that it intends to proceed with the Kazakhstan Caspian Transportation System (KCTS)/Trans-Caspian Project. The purpose of this project will be to export crude oil produced at Kazakhstan's giant offshore Kashagan oilfield in the northern Caspian Sea to Azerbaijan, and from there to Ceyhan.

Initially the project calls for tankers to ferry the crude across the sea from Kuryk to a terminal in Azerbaijan from where it will be fed into the BTC. Ultimately this project calls for the construction of an under water pipeline to transport as much as 1.2mn b/d of crude across the Caspian.<sup>39</sup>

Kazakhstan has also repeatedly expressed its support for multiple export routes, but the existence of the CPC begs the question as to why not expand the CPC pipeline further and ship Kashagan crude through it.

One possible answer is that the Central Asian oil and gas producers have decided that they would rather not rely on Russia. Moscow blocked the expansion of the CPC for years over issues like taxes, loans and management, to the point that Tengizchevroil (TCO), the operator of the Tengiz oilfield, had to resort to shipping crude by rail car as it had during the pre-CPC days. Rather than put too much faith in the future of the CPC, TCO will also participate in the KCTS/Trans-Caspian project.<sup>40</sup>

## REMAINING QUESTIONS

The momentum for hydrocarbon production is rolling in Kazakhstan, Turkmenistan and Azerbaijan. The question is how long will those countries wait to have a settlement over the legal status of the Caspian Sea before they go ahead with building under water pipelines? Kazakhstan and Azerbaijan have a bilateral treaty demarcating their sea beds. What happens if they proceed with the construction of a crude oil pipeline without Russia's or Iran's permission? What happens if Azerbaijan and Turkmenistan reach an agreement on their offshore borders and agree to construct a gas pipeline? How will Iran respond? Would it send warships and airplanes again? How would the governments of the Western companies involved respond? How would the EU and U.S. respond if there is more trouble in Georgia and the Russian military invades that country again? What if there is a pro-Moscow coup in Tbilisi

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<sup>38</sup> Nefte Compass, 15 October 2009., [http://www.energyintel.com/publicationhomepage.asp?publication\\_id=3](http://www.energyintel.com/publicationhomepage.asp?publication_id=3)

<sup>39</sup> Platts, 5 October 2009, 8 October 2009., <http://www.platts.com/>

<sup>40</sup> Platts, 5 October 2009., <http://www.platts.com/>

and the new government nationalizes the pipelines running through its territory? What if it sells those pipelines to Transneft and Gazprom?

Momentum is also gathering in the southeastern Mediterranean. The big gas discoveries offshore Israel and Cyprus's upcoming second offshore bidding round have injected new interest in the region for the international oil companies. But what if Turkish warships continue to harass survey vessels in the Cyprus EEZ? What if a US company like Noble Energy decides to drill in Cypriot waters? Will it be able to go about its business?

The situation that exists within the energy sector of the Greater Eastern Mediterranean region is complicated enough to invite any number of misunderstandings or even incidents. Crises erupt only when things are brought to an abrupt halt and the threat of violence or a return to violence looms. The question surrounding all of this is whether countries new to the energy industry will be allowed to develop their energy resources independently and export their production freely, or whether they will have to continually face a situation where a stronger neighbor is forcing reluctant decisions upon them.

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