



**PROBLEMS AND PROSPECTS FOR THE “FOURTH CORRIDOR”: THE
POSITIONS AND ROLE OF TURKEY IN GAS TRANSIT TO EUROPE**

Oxford Institute for Energy Studies

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Preface

The subject of Caspian and Middle East gas pipelines to Europe has become increasingly important and emotive in the late 2000s with many projects and aspirations being advanced to create a “4th corridor” aimed at significant reducing dependence on (primarily) Russian gas. The role of Turkey will be critical for all of these projects. While the details of pipeline projects are well known, the role and aspirations of Turkey as an energy transit country have received less attention. Some have portrayed Turkey as a country critical to European energy security and a potential hub for Caspian and Middle East (oil and) gas supplies. But some Turkish statements and commercial positions in relation to pipeline projects have raised questions about the conditions which the country may intend to attach to this role, some of which could be seen as obstacles to natural gas transit.

Because of the partisan nature of much of the current debate, it was important to find an author capable of making an expert, but unbiased, assessment of the Turkish position. Gareth Winrow has long experience in Turkey and was the ideal choice to interview Turkish stakeholders in relation to the many different aspects of the country’s energy situation and the fourth corridor. I am very grateful to Gareth for taking on this project and believe that his paper adds significantly to understanding the complexity of the problems related to these issues.

Jonathan Stern

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ABBREVIATIONS

bcm	Billion cubic metres
BOTAS	Petroleum Pipeline Corporation
BTC	Baku-Tbilisi-Ceyhan
CAPEX	Capital expenditure
CDC	Caspian Development Corporation
DEPA	Public Gas Corporation
DTP	Democratic Society Party
ECT	Energy Charter Treaty
EEZ	Exclusive Economic Zone
EMRA	Energy Market Regulatory Authority
EU	European Union
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
IGA	Intergovernmental agreement
IMF	International Monetary Fund
ITG	Interconnector Turkey-Greece
ITGI	Interconnector Turkey-Greece-Italy
LNG	Liquefied natural gas
mcm	Million cubic metres
MENR	Ministry of Energy and Natural Resources
MFA	Ministry of Foreign Affairs
mtoe	Million tons of oil equivalent
MW	Megawatts
NATO	North Atlantic Treaty Organisation

NG	Natural Gas
NIGEC	National Iranian Gas Export Company
OME	Observatoire Mediterranéen de l’Energie
OPEX	Operational expenditure
PKK	Kurdistan Workers’ Party
SCP	South Caucasus Pipeline
SOCAR	State Oil Company of Azerbaijan
TAP	Trans-Adriatic Pipeline
tcm	Trillion cubic metres
TEN-E	Trans-European energy networks
TPAO	Turkish Petroleum Corporation
US	United States
WTO	World Trade Organisation
000 cm	Thousand cubic metres

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1. Introduction

The Russian-Ukrainian gas crisis of January 2009, occurring three years after a similar dispute between Moscow and Kyiv had disrupted Russian natural gas supplies to Europe, led many European commentators to question the continued reliability of Russia as a supplier of natural gas. The role of Ukraine as an energy transit state was also put under the spotlight. The January 2009 crisis followed the conflict between Russia and Georgia in August 2008. This brief war had compelled governments in member states of the European Union (EU) to reconsider the wisdom of being dependent for over 40 percent of their gas imports from an increasingly emboldened and aggressive Russia. Attention has focussed more on developing projects which would supply natural gas to Europe from sources other than Russia along routes which would bypass Russian territory. The so-called “fourth” or “southern” gas corridor connecting the Caspian and Gulf regions and the Middle East to Europe (the other three corridors running to EU member states from Russia, Norway and north Africa), has been identified by the European Commission as Natural Gas (NG) Route Number 3 in the framework of the Trans-European energy networks (TEN-E).

Most of the gas pipelines which may form part of the fourth corridor would cross Turkey. If all these pipelines were constructed and operated simultaneously at full capacity they could deliver about 95 billion cubic metres annually (bcm/y) to Europe (see Table 1). Much attention has been given to the prospects for realising the Nabucco project, which would entail the construction of a dedicated pipeline through Turkish territory. However, the Interconnector Turkey-Greece (ITG) is already in place and is carrying small volumes of gas to Greece via Turkey from the Azeri Shah Deniz gas field in the Caspian Sea. This gas reaches Turkey along the 20 bcm/y capacity South Caucasus Pipeline (SCP) (also known as the Baku-Tbilisi-Erzurum gas pipeline). Plans are well-developed to connect the ITG to Italy by forming the Interconnector Turkey-Greece-Italy (ITGI). The Trans-Adriatic Pipeline project (TAP) may also be developed given StatoilHydro’s interest. In February 2008 it was announced that StatoilHydro had formed a joint venture with the Swiss-based EGL to work on the TAP. StatoilHydro has a 25.5 percent stake in the Shah Deniz consortium and in the SCP. In order to be realised, both the ITGI and the TAP would probably depend on incremental expansions to the Turkish gas pipeline network. The White Stream project is planned to connect Georgia to central Europe bypassing Turkey, but is unlikely to be constructed in the foreseeable future given the current problems in Ukraine. With no information at the time of writing with regard to investors, sources of gas or intended markets, the White Stream project is much less advanced than Nabucco, the ITGI and the TAP. Moscow has been vehemently lobbying for the realisation of the South Stream project which would bypass Turkey and would connect the Russian gas network with central and southern Europe.¹

¹ For further basic details on these proposed gas pipelines see Appendix 1.

Table 1: The Fourth Natural Gas Corridor

Name	Route	Initial capacity	Final capacity
Nabucco	Turkey-Bulgaria- Romania-Hungary- Austria	8bcm/y in 2014?	31 bcm/y by 2019?
ITGI	Turkey-Greece- Italy*	3.5 bcm/y in 2007	12 bcm/y by 2013?
TAP**	(Turkey-) Greece-Albania-Italy	10 bcm/y in 2012?	20 bcm/y by ?
White Stream	Georgia-Romania- Central Europe or Georgia-Ukraine- Central Europe or Georgia-Ukraine- Romania-Central Europe	8 bcm/y In 2015?	32 bcm/y by?

SOURCE: Information collected by the author from various sources

* **The Turkish-Greek section is already in operation**

** **The pipeline begins at Thessalonika, but gas will be initially transported to Greece via Turkey**

Addressing an international energy conference in Sofia in April 2009, Turkish President Abdullah Gul declared: “Becoming the fourth artery of Europe in terms of natural gas is among our main objectives”.² There has been much talk in recent years of Turkey becoming a key energy hub, although it is not clear what this would exactly entail. Clearly, though, officials in Ankara are eager to stress Turkey’s strategic importance, which they believe could boost the prospects for Turkey’s eventual admission to the EU. Bearing in mind the concerns of the European Commission with regard to the need to diversify the sources and import routes of natural gas, policy-makers in Ankara are keen to emphasise how Turkey could become a significant energy transit state.

It will be seen in this monograph that it is not possible to separate natural gas issues from sensitive political and geopolitical matters. In particular, the problems relating to Turkey’s EU accession negotiations have had a direct impact on discussions between Brussels and Ankara with regard to finalising the intergovernmental agreement (IGA) for the Nabucco project. Officials in both Europe and Turkey have encountered difficulties in effectively

² Speech by Turkish President Abdullah Gul at the Summit Conference titled “Natural Gas for Europe. Security and Partnership”, Sofia, 25 April 2009 (<http://www.energysummit2009.bg/en/?action=news&id=53>).

communicating with one another. Misunderstandings and misperceptions, confusing statements and conflicting messages have compounded these problems. When conducting interviews for this monograph, the author was struck by the sense of frustration felt by both Turkish and European bureaucrats and representatives of the private sector. In April and May 2009 interviews were held in Istanbul and Ankara with government officials, members of the Petroleum Pipeline Corporation (BOTAS), representatives of energy companies, academics, journalists and other informed observers. A number of those interviewed wished to remain anonymous.

When completing this monograph several key developments were unfolding which could have significant repercussions for the Nabucco project specifically, and for the fourth corridor more generally. Immediately following the EU Southern Corridor Summit held in Prague on 8 May 2009, it was reported that an IGA on Nabucco would be signed with the Turkish authorities in Ankara on 25 June.³ This account was instantly refuted by the Turkish Energy Minister Taner Yildiz who denied that a date for signing had been fixed and who noted that certain issues remained to be resolved.⁴

This monograph is organised as follows. The regional political context is first examined. A discussion of the problems in the Turkey-EU accession process is then presented. There is also a brief overview of possible and actual security problems concerning the protection of pipeline infrastructure in Turkey. This is followed by an analysis of the key players in the Turkish energy sector. It is questioned to what extent these various actors have been able to coordinate their positions with regard to planning for the development of a fourth natural gas corridor. It is also important to examine the natural gas needs of Turkey itself, as Turkish officials consistently emphasise that their immediate priority is to satisfy Turkey's rising energy demand. The monograph then focuses more closely on the problems and prospects of Turkey becoming a significant part of a fourth corridor bearing in mind that officials in Ankara are eager to exploit transit and trade opportunities.

³ Ian Traynor, "Gas deal between Turkey and the European Union breaks Russian stranglehold", *The Guardian*, Brussels, 11 May 2009 (<http://www.guardian.co.uk/business/2009/may/11/eu-turkey-nabucco-gas-pipeline>).

⁴ "AB 'Turkiye Nabucco' da yuzde 15'ten vazgeçti' diyor. Ankara kabul etmiyor" ("EU says 'Turkey has given up on 15% from Nabucco'. Ankara does not accept this"), *Radikal*, 13 May 2009, p.7.

2. The Regional Political Context

2.1 Turkey, the Caucasus and Russia

In the immediate aftermath of the Russian invasion of Georgia on 8 August 2008 doubts were raised about the security of the gas pipeline network in the southern Caucasus. The conflict had resulted in the brief closure of the SCP. Recep Tayyip Erdogan, the Turkish prime minister, scrambled to arrange a visit to Moscow. Seeking to maintain good relations with both the North Atlantic Treaty Organisation (NATO) and with Russia – Turkey was dependent on Russia for approximately two-thirds of its natural gas imports – Erdogan proposed establishing a Caucasus Stability and Cooperation Platform. This initiative, which would encompass Turkey, Russia, Armenia, Azerbaijan and Georgia, was aimed at restabilising the southern Caucasus. In an interview with *Newsweek*, President Gul noted that Turkey was seeking to create conditions in the Caucasus conducive for regional economic cooperation and for the safe transportation of hydrocarbons westward to Europe.⁵

It is important to note that relations between Ankara and Moscow have dramatically improved since the end of the Cold War. The two have become major trade partners and have established a regular political dialogue. In spite of this rapprochement, Turkish officials were concerned that the Russian invasion of Georgia could destabilise the Caucasus. Aware of Turkey's energy dependence on Russia, Erdogan could not afford to jeopardise relations with Moscow. The proposed Platform was thus an endeavour to maintain close ties with the Kremlin and also prevent a further escalation of conflict in the region.

Continued tensions between Moscow and Tbilisi and the absence of diplomatic relations between Ankara and Yerevan led to little progress being made toward the formation of the Caucasus Stability and Cooperation Platform by May 2009. Yerevan's insistence that the events of 1915 constituted "genocide" by the Ottoman authorities against their Armenian subjects, and the failure of Armenian forces to withdraw from occupied Azeri territories in and around the disputed territory of Nagorno-Karabakh, have prevented Turkey from establishing diplomatic ties with Armenia. However, expectations have been raised about the possible reopening of the land border between Turkey and Armenia in the wake of President Gul's visit to Yerevan in September 2008 to watch a football match between Turkey and Armenia. In April 2009 it was announced that Turkish and Armenian officials had agreed to a road map which could lead to the eventual normalisation of relations.

The possibility of Turkey normalising relations with Armenia before a settlement of the Nagorno-Karabakh dispute on terms satisfactory to Azerbaijan alarmed Baku. There were reports in the Turkish press – probably exaggerated – that Azeri President Ilham Aliyev had threatened to retaliate by suspending gas deliveries to Turkey, Azerbaijan's traditional close

⁵ Rana Foroohar, "The last word – pulled from two directions", *Newsweek*, 13 October 2008 (<http://www.newsweek.com/id/162306>).

ally and fellow Turkic state.⁶ Nevertheless, in a more coded warning, on 8 April 2009 Rovnag Abdullayev, the President of the State Oil Company of Azerbaijan (SOCAR), stated on television that he did not believe that the Turkish-Armenian border would be opened, and “...therefore, I do not expect stop of gas supplies from the Shah Deniz field to Turkey”.⁷ Certainly, President Aliyev caused a stir by boycotting the Summit meeting of the UN-sponsored Alliance of Civilisations Initiative which assembled in Istanbul in April 2009.

There has been speculation that the problems in relations between Ankara and Baku could result in Azerbaijan accepting Russia’s offer to purchase all the gas that will be produced in the second phase of the Shah Deniz project. Visiting Baku in June 2008, Alexei Miller, the head of Gazprom, had declared that his company was prepared to procure the gas at market prices – ie the European netback price.⁸ This would have been considerably more than the price Turkey was then paying to receive gas from the first phase of Shah Deniz. During a state visit to Moscow in April 2009, President Aliyev noted that as far as Azerbaijan was concerned there were no restrictions on possible gas cooperation with Russia.⁹ It has been suggested that in return for Azeri gas deliveries to Russia, Moscow would compel Yerevan to come to an agreement on Nagorno-Karabakh which would be favourable to Baku.¹⁰ European and Turkish concerns with regard to the future exports from the second phase of development of the Shah Deniz field may have been eased a little by President Aliyev’s signature to the Declaration at the Prague Summit on the Southern Corridor in May 2009. This appeared to indicate that Azeri gas exports could continue to be transported westwards to markets in Europe.

Ankara’s hopes of securing an agreement which could have resulted in Turkmen gas volumes being transported to Europe via Azerbaijan and Turkey in the foreseeable future were dashed after President Gul met his Azeri and Turkmen counterparts behind closed doors in Ashgabat in late November 2008. It was merely announced that the three parties would develop

⁶ Barcin Yıncı, “Ermenistan’la sınır kapisini acarsanız gazinizi keserim” (“Your gas will be stopped if you open the border gate with Armenia”), *Referans*, 2 April 2009 (http://www.referansgazetesi.com/haber.aspx?YSR_KOD=141&HBR_KOD=120139).

⁷ Shahin Abbasov, “Azerbaijan: Is Baku ready to cause geopolitical problems over Turkish-Armenian thaw?” *Eurasia Insight*, 14 April 2009 (<http://www.eurasianet.org/departments/insightb/articles/eav041409.shtml>).

⁸ “Gazprom delegation pays visit to Azerbaijan”, *OAQ Gazprom Information Division*, 2 June 2008 (<http://www.gazprom.com/eng/news/2008/06/28912.shtml>).

⁹ “President İlham Aliyev and President of Russia Dmitry Medvedev gave a joint conference in Moscow”, *www.president.az*, 17 April 2009 (http://www.president.az/articles.php?stem_id=20090418105940136&sec_id=13).

¹⁰ Shahin Abbasov, “Azerbaijan: Is Baku offering a natural gas carrot to Moscow for help with Karabakh?” *Eurasia Insight*, 20 April 2009 (<http://www.eurasianet.org/departments/insightb/articles/eav042009a.shtml>).

cooperation in the energy field and would hold regular consultations.¹¹ Prior to the meeting there had been speculation that Gul could mediate between the Azeris and Turkmen over certain disputed gas fields in the Caspian Sea and win the approval of both sides to construct a gas pipeline to connect the Turkmen Livanov-Barinova-Lam structure with Azerbaijan's Azeri-Chirag-Guneshli fields. This connection could have been accepted by the authorities in Moscow and Tehran, who have objected to the laying of a gas pipeline across the length of the Caspian Sea.

Russia and Iran have insisted that the five littoral states should first reach agreement on the status and division of the Caspian Sea before trans-Caspian pipelines could possibly be constructed. However, Azerbaijan, Kazakhstan and Russia have effectively agreed to the division of the seabed in the northern Caspian using the median line approach. But the Iranians have continued to insist that each state should be allocated a 20 percent share of both the surface area and the seabed regardless of the length of their coastlines. The position of the Turkmen has fluctuated and remains unclear.

The Prague Declaration following the Southern Corridor Summit in May 2009 noted – optimistically – that it had been agreed to give political support and if possible technical and financial assistance to “trans-Caspian energy transportation projects”.¹²

2.2 Turkey-Iraq, Turkey-Iran Relations

Beyond the wider Black Sea region, at the time of writing it remained unclear whether the security situation in Iraq would improve sufficiently to enable Iraqi gas exports at some future date to be delivered to Europe via Turkey. And it was uncertain whether the Obama administration's willingness to open diplomatic channels with Iran could result in the United States (US) lifting its opposition to the possibility of substantial volumes of Iranian gas reaching Europe through Turkey. According to a memorandum of understanding concluded in May 2007, Turkey had agreed to invest \$3.5 billion in three blocks in the Iranian South Pars gas field, and there were tentative plans to transport 30 bcm/y of Iranian and Turkmen gas to Europe across Turkish territory.¹³ The lifting of US sanctions against Iran would also boost the prospects for the TAP project. In March 2008 EGL had finalised a gas sales and

¹¹ “Turkmen, Azerbaijani and Turkish Presidents agree to maintain regular contacts”, [www.Turkmenistan.Ru](http://www.turkmenistan.ru), 30 November 2008 (http://www.turkmenistan.ru/?page_id=3&lang_id=en&elem_id=14053&type=event&sort=date_desc).

¹² *The Declaration – Prague Summit, Southern Corridor, May 8, 2009* (<http://www.eu2009.cz/en/news-and-documents/press-releases/declaration-prague-summit-southern-corridor-may-8-2009-21533/>).

¹³ Vladimir Socor, “Turkey offers route to Europe for Iranian and Turkmen gas”, *Eurasia Daily Monitor*, Vol.4, no.140, 19 July 2007 (http://www.jamestown.org/single/?no_cache=1&tx_ttnews%5Btt_news%5D=32877).

purchase agreement with the National Iranian Gas Export Company (NIGEC) for the delivery of up to 5.5 bcm/y of Iranian gas to Europe using the TAP.¹⁴

3. Turkey and EU Accession

An understanding of the problems with regard to Turkey's EU membership talks, which started in October 2005, is crucial to the appreciation of, for example, the difficulties concerning the negotiations for the IGA on Nabucco between the European Commission and Turkey. Of the 35 chapters of the EU *acquis* that need to be opened and closed before the accession process may be completed, as of May 2009 only ten chapters had been opened and only one chapter provisionally closed (the non-controversial science and research chapter). Eight chapters could not be opened because of Turkey's refusal to open its air and sea ports to Cypriot planes and shipping. The opening of a further five chapters was blocked by France, with French President Nicolas Sarkozy openly declaring that he was opposed to Turkey joining the EU. The Austrian, French and German governments prefer to offer Turkey a form of privileged partnership instead of full membership of the EU.

The Cypriot government has been blocking the opening of the energy chapter which had been successfully screened and was ready to be opened. This was because the Turkish navy was preventing the Greek Cypriots from carrying out oil and gas exploration in what they considered to be their exclusive economic zone (EEZ) in the eastern Mediterranean. According to the Turkish government, this exploration could only be undertaken after a political agreement had been reached on unifying the island of Cyprus so that both Greek and Turkish Cypriots could benefit from the exploration. Clearly exasperated, Olli Rehn, the EU Enlargement Commissioner, and usually a firm supporter of Turkey's admission to the EU, declared in Brussels in March 2009 that Ankara should refrain from "gunboat diplomacy" if they wished for the energy chapter to be opened. Turkey's then Energy Minister, Hilmi Guler, was present at the meeting in which Rehn made these remarks.¹⁵

Much attention has been given to the comments made by Prime Minister Erdogan at the European Policy Centre in Brussels in January 2009 when he noted that if the energy chapter remained blocked Turkey could abandon its support for Nabucco. Later the same day, at a meeting with Jose Manuel Barroso, the President of the European Commission, Erdogan had

¹⁴ "EGL seals final gas purchase agreement with NIGEC", *EGL Media Press Release*, Dietikon/Tehran, 17 March 2008 (<http://www.egl.ch/int/ch/en/media/news/archiv/2008/march/nigec.html>).

¹⁵ Amanda Akcakoca, "Turkey's Nabucco support unconditional. What about the EU?" *Today's Zaman*, 11 March 2009 (<http://www.todayszaman.com/tz-web/yazarDetay.do?haberno=169225>).

backtracked and asserted that Turkey did not want to use energy as a political weapon.¹⁶ Nevertheless, the prime minister's earlier remarks had provoked the German Economy Minister, Michael Glos, to proclaim that Turkey was attempting to use Nabucco as leverage in order to join the EU.¹⁷ Certainly, Erdogan has a reputation of speaking openly on issues of the day, and his critics have referred to him as a "loose cannon". Selim Kunalp, the deputy undersecretary in charge of economic affairs at Turkey's Ministry of Foreign Affairs (MFA), in a later interview with the Austrian daily *Die Presse*, stated that although there was no formal link between Turkey's EU accession and Nabucco, progress on the project could be accelerated if the energy chapter was opened. This was because the chapter's opening would lead to a speeding up in Turkey of the adoption of EU law on energy policy.¹⁸

It appears that without the opening of the energy chapter, Turkey will not sign the Energy Community Treaty. This treaty aims to establish a single regulatory framework for uniform energy trading across south eastern Europe and the EU. States in south eastern Europe would become part of the EU's internal energy market and would commit themselves to implement the energy *acquis*. At present, Turkey remains an observer to the Energy Community Treaty – a treaty it had helped to draw up – and it seems likely that it will not agree to the energy *acquis* as a whole unless the energy chapter is actually opened and progress therefore made in its accession talks.¹⁹ Apparently, to the annoyance of EU bureaucrats and representatives of energy companies, officials in Ankara have questioned why they should accept the applicability of EU laws on Turkish territory when Turkey is not a member of the EU and the opening of the energy chapter remains blocked due to a political veto.

Nevertheless, among some observers the perception persists that Turkey has been dragging out the negotiations on the IGA for Nabucco in order to gain leverage in talks on EU accession and on other issues such as Cyprus.²⁰ Significantly, immediately before a visit to

¹⁶ "Turkey plays energy card in stalled EU accession talks", *EurActiv.com*, 20 January 2009 (<http://www.euractiv.com/en/enlargement/turkey-plays-energy-card-stalled-eu-accession-talks/article=178623>).

¹⁷ "Turkey blackmailing EU over gas pipeline, German minister says", *Deutsche Welle*, 20 January 2009 (<http://www.dw-world.de/dw/article/0,,3962409,00.html>).

¹⁸ "Kunalp: Niemand kummert sich wirklich um Nabucco" (Kunalp: Nobody is really caring about Nabucco"), *Die Presse*, 5 February 2009 (<http://diepresse.com/home/wirtschaft/eastconomist/450163/index.do?from=simarchiv>).

¹⁹ Katinka Barysch, "Turkey's role in European energy security", *Centre for European Reform Essays*, December 2007, pp.6-7 (http://www.cer.org.uk/pdf/essay_turkey_energy_12dec07.pdf).

²⁰ Vladimir Socor, "Nabucco project faces Turkish hurdles at critical turn", *Eurasia Daily Monitor*, Vol.6, no.80, 27 April 2009 (http://www.jamestown.org/programs/edm/single/?tx_ttnews%5Btt_news%5D=34908&tx_ttnews%5BbackPid%5D=407&no_cache=1).

Ankara, Jozias Van Aartsen, the EU's coordinator for natural gas projects in the southern (fourth) corridor, had gone on the record as saying that if Turkey wanted a relationship with the EU, then working together on Nabucco would be one way of making clear that Turkey was in earnest.²¹ On the other hand, many Turkish officials interviewed by the author have argued that it is rather divisions between EU member states and EU institutions, and the absence of a common European energy policy, which have caused problems in negotiations over the IGA for Nabucco. The then Energy Minister Guler complained how European officials would keep returning to issues that had previously been agreed upon and would shift and revise their earlier positions.²² Several Turkish commentators interviewed by the author were discontented that Van Aartsen had not spent enough time in Turkey to familiarise himself with the policies of Ankara.

4. Security of Pipeline Infrastructure in Turkey

Serious threats to the security of the pipeline network in Turkey would obviously jeopardise the prospects of Turkey becoming a key energy transit state. The conflict between Russia and Georgia in August 2008, and the temporary closure of the SCP, had led commentators to reassess how secure the pipeline network was in the southern Caucasus, even though Russia insisted that it had not intentionally targeted energy infrastructure. There have also been concerns that the re-igniting of the “frozen dispute” between Armenia and Azerbaijan over Nagorno-Karabakh could endanger the SCP and the Baku-Tbilisi-Ceyhan (BTC) crude oil pipeline, given their proximity to the disputed territory. Regular attacks since 2003 on the Kirkuk-Ceyhan oil pipeline network in northern Iraq by insurgents opposed to the authorities in Baghdad have also led Ankara to give prominence to issues involving the protection of pipeline infrastructure. In the case of the Turkish pipeline grid, there is a particular concern over the threat posed by the Kurdistan Workers' Party (PKK), a rebel group recognised as a terrorist organisation by the authorities in the EU and the US.

The PKK has periodically attacked pipelines in south eastern Turkey in largely Kurdish-populated territory where it has been traditionally active. These attacks have included two strikes against the Kirkuk-Ceyhan pipeline in November 2008, and a further two targeting the Iran-Turkey gas pipeline in May 2008. Much publicity was given to the fire on the BTC oil pipeline on 5 August 2008. An explosion had occurred on the above-ground pipeline valve number 30 near Refahiye in Erzincan province in north eastern Turkey. This led to the closure of the BTC oil pipeline for 16 days. On 7 August the PKK claimed responsibility for

²¹ Ed Crooks, “Turkey pressed for support on gas scheme”, *Financial Times*, 10 February 2008.

²² Elitsa Vucheva, “Turkey wants clear European position on Nabucco”, *EUObserver*, 5 March 2009 (<http://euobserver.com/9/27716>).

the explosion, but this was swiftly denied by the authorities in Ankara who alleged that the fire had been caused by a technical failure.²³

If the PKK had indeed struck the BTC oil pipeline this would be a major propaganda success for them given the high profile nature of the pipeline and given that the “attack” occurred in territory well beyond the PKK’s usual area of operations. The PKK had earlier threatened to sabotage the BTC oil pipeline. There has also been speculation that the “attack” may have been linked with the conflict between Russia and Georgia which commenced three days later,²⁴ But such direct coordination between the PKK and Moscow seems difficult to envisage. One interesting argument, which could have more credence, is that the PKK attacked pipelines in Turkey to demonstrate its destructive capabilities in order to secure covert or open support from an outside state.²⁵ The “attack” on 5 August could therefore have been an attempt by the PKK to attract Russian backing. Although Turkish officials have in public strenuously and repeatedly denied that the PKK had hit the BTC oil pipeline, it does appear that the PKK had targeted the pipeline.²⁶ This then begs the question whether in future Nabucco or other gas pipelines in Turkey may also be attacked by the PKK.

One may contend that the threat posed by the PKK is diminishing for various reasons. Better intelligence sharing with the US has resulted in more effective Turkish air strikes against PKK forces holed up in the Kandil Mountain in northern Iraq. The establishment of a trilateral security mechanism between Ankara, Washington and Baghdad, and the greatly improved relations between Ankara and the Kurdish authorities in northern Iraq have inhibited the movements of the PKK. When President Gul visited Baghdad in March 2009 his Iraq counterpart Jalal Talabani – himself a northern Iraqi Kurd – announced that the PKK

²³ Gareth Jenkins, “Explosion raises questions about the security of the BTC pipeline”, *Eurasia Daily Monitor*, Vol.5, no.152, 8 August 2008 (http://www.jamestown.org/programs/edm/single/?tx_ttnews%5Btt_news%5D=33875&tx_ttnews%5BbackPid%5D=166&no_cache=1).

²⁴ Nihat Ali Ozcan, “Energy security and the PKK threat to the Baku-Tbilisi-Ceyhan pipeline”, *Terrorism Monitor* (The Jamestown Foundation), Vol.16, no.18, 22 September 2008 (http://www.jamestown.org/programs/gta/single/?tx_ttnews%5D=5170&tx_ttnews%5BbackPid%5D=167&no_cache=1).

²⁵ Emrullah Uslu, “Is the PKK sabotaging energy infrastructure in a search for a Superpower partner?” *Terrorism Focus* (The Jamestown Foundation), Vol.5, no.42, 12 December 2008 (http://www.jamestown.org/programs/gta/single/?tx_ttnews%5D=34263&tx_ttnews%5BbackPid%5D=246&no_cache=1).

²⁶ The author has come to this conclusion after interviews with various commentators both inside and outside of Turkey.

should lay down their arms or leave Iraq.²⁷ There are indications that the Turkish military may back the government in Ankara in giving effectively an “amnesty” for PKK militants not involved in murder.²⁸ This could encourage the fragmenting of the PKK.

However, in spite of increased military and political pressure on the PKK, it appears that the Kurdish rebels will neither lay down their weapons nor disband in the foreseeable future. A conference of Kurdish groups planned to convene in Arbil in northern Iraq to discuss the future of the Kurds in Turkey and other neighbouring states has had to be postponed several times, in part because of disagreements over how to handle the PKK. An amnesty for the PKK would be highly unpopular among certain sectors of Turkish society given the high numbers of troops and civilians killed in the campaign waged against the PKK over three decades. The possible enforced closure of the Democratic Society Party (DTP) in Turkey, a party in effect representing the Kurds with 21 deputies in the Turkish parliament, could further exacerbate tensions. The DTP may be closed by a ruling of the Constitutional Court on the grounds that it has supported the PKK and abetted separatism in Turkey. In these circumstances it appears unlikely that the PKK is about to collapse completely. Moreover, if the PKK perceives itself to be under grave threat, it may resort to spectacular operations, such as attacks on energy infrastructure in Turkey, in order to demonstrate that it remains a force to be reckoned with.

5. Key Players in Turkey’s Energy Sector

A number of players are involved in decision-making in Turkey with regard to energy issues. For example, the Nabucco Working Group, established to coordinate policy for this particular project, consists of representatives from more than twenty Turkish state institutions, including the Ministry of Energy and Natural Resources (MENR), BOTAS, the MFA, the Energy Market Regulatory Authority (EMRA), the Interior Ministry, the Treasury, and the Turkish Armed Forces. Modelled on the earlier BTC Working Group, and including several of the same personnel from that group, the Nabucco Working Group reports to the MENR.²⁹ There have also been inputs from personal advisers of the prime minister and president. Evidently, before being appointed to the post of Energy Minister by Prime Minister Erdogan on 1 May 2009, Taner Yildiz had been influential in energy policy-making as an adviser to

²⁷ Anthony Shadid and K.I. Ibrahim, “Turkish President visits Iraq as bombings kill 34”, *Washington Post Foreign Service*, 24 March 2009 (<http://washingtonpost.com/wp-dyn/content/article/2009/03/23/AR2009032300392.html>).

²⁸ Lale Sariibrahimoglu, “General Basbug’s remarks underline serious secularism and religion divide”, *Today’s Zaman*, 15 April 2009 (<http://www.todayszaman.com/tz-web/detaylar.do?load=detay&link=172487>).

²⁹ Interview with Osman Z. Goksel, Advisor to the Minister for Energy and Natural Resources, Ankara, 15 April 2009.

Erdogan and a close associate of President Gul. Yildiz had previously worked in the electricity generation sector in Kayseri, Gul's home province.

Given the number of actors involved in decision-making on energy issues in Turkey, one may question to what extent policies are actually closely coordinated. Each organisation has its own particular mindset, bureaucratic routines and cultures, and sets of interests. For instance, the Turkish Armed Forces will clearly be focused on security threats and wider geopolitical concerns. The MFA will presumably continually bear in mind the impact of energy issues on Turkey's EU accession prospects, while BOTAS and the MENR are more likely to focus on technical problems with regard to specific energy projects. It has been argued that there are still shortcomings in the coordination of energy policy in Turkey, particularly between the MFA and the MENR.³⁰ Perhaps aware of such criticisms, the new Energy Minister, Yildiz, in one of his first public statements, affirmed that energy could be a "catalyst" to improve relations between Turkey, Armenia and Azerbaijan.³¹ In practice, it appears that since the start of 2009 the MFA has played more of a leading role in conducting negotiations with the European Commission over the IGA for Nabucco.

The future of BOTAS, an influential player in Turkish policy-making, has come under question. According to the Natural Gas Market Law of 2001, in order to create a free market for gas in Turkey to facilitate Turkey's admission to the EU, the role of BOTAS as a gas importer would have to be significantly curtailed. BOTAS was obliged to transfer 80 percent of its gas import contracts to the private sector by the end of 2009. The state body would then be divided into legally unbundled companies, with the title "BOTAS" remaining with the import company.³² However, in practice, only 4 bcm had been transferred to the private sector in open tenders by spring 2009, which was a little more than 10 percent of Turkey's gas imports. The head of BOTAS, Saltuk Duzyol, has strongly argued that the position of BOTAS as the major gas importer in Turkey should be maintained.³³ Officials at BOTAS have been lobbying for other revisions to the Natural Gas Market Law so that BOTAS may conclude new import contracts to help guarantee future energy supplies. According to the law in its current form, new contracts may not be agreed with states from which Turkey already

³⁰ Interview with Necdet Pamir, Ankara, 13 April 2009. Pamir has held a number of key positions in the Turkish Petroleum Corporation (TPAO) and is a Board Member of the World Energy Council, Turkish National Committee.

³¹ "Turkey-Armenia thaw not to harm energy projects with Azerbaijan – min", *Hurriyet Daily News*, 6 May 2009 (<http://www.hurriyet.com.tr/english/finance/11583748asp?gid=244>)

³² For more details see F. Yesim Akcollu, *Major Challenges to the Liberalization of the Turkish Natural Gas Market*, (Oxford: Oxford Institute for Energy Studies, NG 16, November 2006).

³³ David O'Byrne, "Turkey-EC at loggerheads over Nabucco", *Platts International Gas Report*, issue 620, 30 March 2009, p.5.

imports gas until these contracts expire. This would prevent Turkey from concluding a new import contract with Azerbaijan for gas to be produced in the second phase of Shah Deniz.

It has been argued that BOTAS should remain a leading actor in the gas market and act as a “locomotive” behind which private companies could follow.³⁴ Duzyol has stressed that it was imperative that BOTAS should remain strong in order to negotiate effectively on issues of energy transit with other powerful energy companies.³⁵ Indeed, the proposal that BOTAS should merge with the Turkish Petroleum Corporation (TPAO) to create a new national energy champion able to compete with its European rivals has attracted increasing support. This new company could be involved in exploration, production, transportation, refining, trading, storage and activities concerned with liquefied natural gas (LNG) for example.³⁶

It remains to be seen whether such a powerful, vertically integrated company will be formed in the foreseeable future, and what impact this company could then have on negotiations involving natural gas projects and the development of a fourth gas corridor. However, it does appear likely that the Natural Gas Market Law of 2001 will shortly be amended and as a consequence BOTAS will remain an influential player in energy policy-making in Turkey. There is an assumption that BOTAS will officially be recognised as the Nabucco Turkey Company responsible for overseeing the construction of the Nabucco pipeline on Turkish territory. And there are indications that energy policy is becoming better coordinated in Turkey after the appointment of a new energy minister together with the increased role of the MFA in negotiations on Nabucco. Certainly, there is a real need for Turkey to be seen as acting in a united and coherent manner on issues relating to natural gas transit, bearing in mind the problems of misperception and breakdowns in communication with EU bureaucrats and representatives of European governments and energy companies.

6. Turkey’s Gas Needs

Turkey is a significant producer neither of natural gas nor crude oil. Officials in Ankara insist that with continued economic growth Turkey will need to import substantially more gas for the foreseeable future. Gas volumes from the Caspian Sea and Gulf regions and the Middle East, as well as transiting Turkish territory to Europe through a fourth corridor, are also

³⁴ Interview with Emre Engur, Head of Strategy Development and International Projects Department, BOTAS, Ankara, 14 April 2009.

³⁵ H. Saltuk Duzyol, “Nabucco Projesi ve Turkiye” (“The Nabucco Project and Turkey”). Presentation made to the Middle East Technical University Alumni Association, Ankara, 28 March 2009 (http://www.odtumd.org.tr/etkinlik/2009/03/NABUCCO_projesi/NABUCCO_Sunumu_ODTU_S_Duzyol_28_03_09.pdf).

³⁶ Oguz Turkyilmaz, “Proposals for a new natural gas strategy for Turkey”. Presentation made to the Eighth Turkish International Oil and Gas Conference (TUROGE 2009), Ankara, 11 March 2009, p.5.

expected to help meet Turkey's rising energy needs. Questions have been raised, though, with regard to how much gas Turkey will consume in the following years, and whether Turkish policy-makers may be exaggerating their future energy needs to strengthen their hand in negotiations on pipeline projects such as Nabucco.

According to BOTAS, Turkey's natural gas demand is expected to increase to around 66 bcm by 2020, with almost 41 bcm expected to be consumed in 2009. But without additional import contracts, Turkey will only be supplied with approximately 41 bcm by 2020. By 2015, with the expiring of contracts to import Algerian LNG and Russian natural gas by pipeline, there is predicted to be a shortfall of around 15 bcm (see Table 2). Turkey is currently heavily dependent on Russia for its gas imports. This is likely to continue. Talks have already commenced between BOTAS and Gazprom on renewing the contract which is due to expire by 2012, with early indicators suggesting that Russia could provide additional gas to the Turkish market after 2015.³⁷ There has been a steady rise in natural gas and LNG imports to Turkey since deliveries commenced in 1987 (see Table 3).

³⁷ "Gazprom's delegation visits Turkey", *Gazprom Press Release*, 26 March 2009 (<http://www.gazprom.com/eng/news/2009/03/35443.shtml>).

Table 2: Turkey: Contracted Volumes and Natural Gas Demand (mcm)

	2009	2010	2015	2020
Russian Fed (west)	6,000	6,000	0	0
Russian Fed (addition) (west)	8,000	8,000	8,000	8,000
Russian Fed (Black Sea)	14,000	16,000	16,000	16,000
Iran	9,556	9,556	9,556	9,556
Azerbaijan	6,600	6,600	6,600	6,600
Turkmenistan*	0	0	0	0
LNG Algeria	4,444	4,444	0	0
LNG Nigeria	1,338	1,338	1,338	1,338
Total Contracted	49,938	51,938	41,494	41,494
Total Demand	40,903	43,806	56,183	65,867

* This project is currently pending

Source: Figures adapted from *BOTAS*, (June 2009)

Table 3: Turkey: Natural Gas and LNG Imports (mcm)

	Natural Gas	LNG	Total
1987	433		433
1990	3,246		3,246
1995	5,560	1,298	6,858
2000	10,080	4,742	14,822
2001	11,046	5,322	16,368
2002	12,272	5,352	17,624
2003	16,195	4,993	21,188
2004	17,903	4,271	22,174
2005	22,147	4,881	27,028
2006	25,339	5,402	30,741
2007	30,583	5,867	36,450
2008	32,200	5,593	37,793

Source: *BOTAS* (June 2009)

The accuracy of the projected *BOTAS* figures must be questioned. Past estimates have been radically revised with earlier predicted demand needs lowered. It appears that the current *BOTAS* estimates assume that the Turkish economy will grow by 8-9 percent/year on average. This assumption may be challenged. At the time of writing the *BOTAS* figures still indicated that Turkey would consume around 41 bcm in 2009 in spite of the negative impact of the global economic crisis on the Turkish economy. In its forecast announced in January 2009, EMRA predicted that Turkey would consume 35 bcm in 2009³⁸, about 3bcm less than it consumed in 2008. Unlike *BOTAS*, EMRA does not make long term projections but works

³⁸ *Enerji Piyasası Duzenleme Kurumundan (Energy Market Regulatory Authority):* Kurul Karari – Karar No. (Council Decision- Decision no) 1954-6 – 29 January 2009 (http://www.epdk.org.tr/mevzuat/kurul/dogalgaz/1954_6/1954_6.html).

more with real time data. On the other hand, according to the Observatoire Mediterranéen de l'Energie (OME), because of continued growth in the power generation sector, Turkey will need to import over 90 bcm/y by 2030³⁹, 14 bcm more than the amount predicted by BOTAS for that year. But there are other views which suggest much lower demand.⁴⁰

The Turkish economy has undoubtedly suffered as a result of the global economic crisis. In the last quarter of 2008 Turkey's gross domestic product (GDP) shrank by 6.2 percent.⁴¹ This was the first contraction in the economy since 2001. In mid-April 2009 the government in Ankara announced that the economy would contract by 3.6 percent in 2009 and then grow by 3.3 percent and 4.5 percent in 2010 and 2011. The International Monetary Fund (IMF) has predicted that the Turkish economy will contract by 5.1 percent in 2009 and then will recover to grow by 1.5 percent in 2010.⁴² At the time of writing there were record levels of unemployment in Turkey, there was a serious decline in industrial production, and exports had plummeted. Nevertheless, the Turkish economy could quickly recover, particularly if its traditional export markets in Europe begin to revive. Possible agreement with the IMF over a large stand-by loan could also boost investor confidence and kick start the Turkish economy. But, in the meantime, given the economic problems, it seems exceedingly unlikely that Turkey will need to consume over 40 bcm of gas in 2009, and it may actually consume considerably less.

In 2007, over 48 percent of electricity produced in Turkey was generated from gas.⁴³ The power generation industry accounted for over 51 percent of gas consumption in 2006, followed by the residential and service sector which accounted for 35 percent. By 2030 the power generation industry in Turkey is expected to account for 54 percent of gas consumption (see Table 4). In the words of the OME, "...the power sector will be the driving force in gas consumption in the future".⁴⁴ Gas-fired power stations are seen as reasonably environmentally friendly, quick-fit, immediate solutions to address Turkey's energy needs. By the end of 2008, 426 applications had been made to EMRA to construct natural gas

³⁹ *Mediterranean Energy Perspectives 2008* (Nanterre: Observatoire Mediterranéen de l'Energie, 2008), p.335

⁴⁰ Honore A. *European Gas Demand, Supply and Pricing; Cycles, Seasons and the Impact of LNG Price Arbitrage*, Oxford University Press, (forthcoming 2009).

⁴¹ "Turkish economy hits brakes, Q4 GDP shrinks 6.2 percent", *Turkey Daily News*, 31 March 2009 (<http://www.turkeydailynews.com/news/118/ARTICLE/1661/2009-03-31.html>).

⁴² "Turkey: Economy to contract by 3.6 percent", *Stockhouse*, 13 April 2009 (<http://www.stockhouse.com/News/FinancialNewsDetailFeeds.aspx?n=12410529&src=cp>); IMF: *World Economic Outlook, April 2009* (Washington, D.C.: IMF, 2009), p.194.

⁴³ *Mediterranean Energy Perspectives 2008*, p.361.

⁴⁴ *Ibid.*, p.335.

fuelled power stations with an anticipated installation capacity of 26,555 Megawatts (MW).⁴⁵ Turkey's current installed capacity amounts to approximately 41,170 MW.

Table 4: Natural Gas Demand by Sector: Turkey 2006 and 2030

	2006	2030
Natural Gas Consumption	26 mtoe*	83 mtoe
Power Generation	51%	54%
Residential and Services	35%	35%
Industry	13%	10%
Other	1%	1%

* Mtoe: million tons of oil equivalent

Source: *International Energy Agency, BOTAS, OME.*

In spite of the interest of Turkish governments in making more use of lignite and hydropower, launching a nuclear energy industry, and exploiting renewable forms of energy (Turkey has great potential in wind, solar and geothermal energy), gas will remain a key element in Turkey's future energy mix. According to the OME, the total final energy consumption in Turkey is expected to rise from 76 million tons of oil equivalent (mtoe) in 2006 to 188 mtoe in 2030. Renewables are expected to be used more extensively, but their share of the total final energy consumption in 2030 is not predicted to amount to more than 5 percent. On the other hand gas, which accounted for 28 percent of total final energy consumption in 2006, is forecast to account for one third of total final energy consumption in 2030.⁴⁶

It likely that Turkey's future gas demand requirements will continue to be largely met by imports of natural gas and LNG. At present, Turkey only produces around 900 mcm/y of natural gas. The OME suggests that domestic production will peak at around 1 bcm/y in 2016 before eventually declining to 600 mcm/y by 2030. More pessimistically, the MENR predicts that Turkey's production of natural gas will decline to 252 mcm/y by 2020.⁴⁷ These figures may need revising because of the oil and gas exploration being conducted in the Black Sea by TPAO together with ExxonMobil and Petrobas. Mehmet Uysal, the General Manager of TPAO, has publicly stated that the hydrocarbon reserves of the Black Sea may be comparable to those of the Caspian Sea, with at least 1.5 trillion cubic metres (tcm) of gas waiting to be

⁴⁵ Turkyilmaz, "Proposals for a new natural gas strategy for Turkey", p.2.

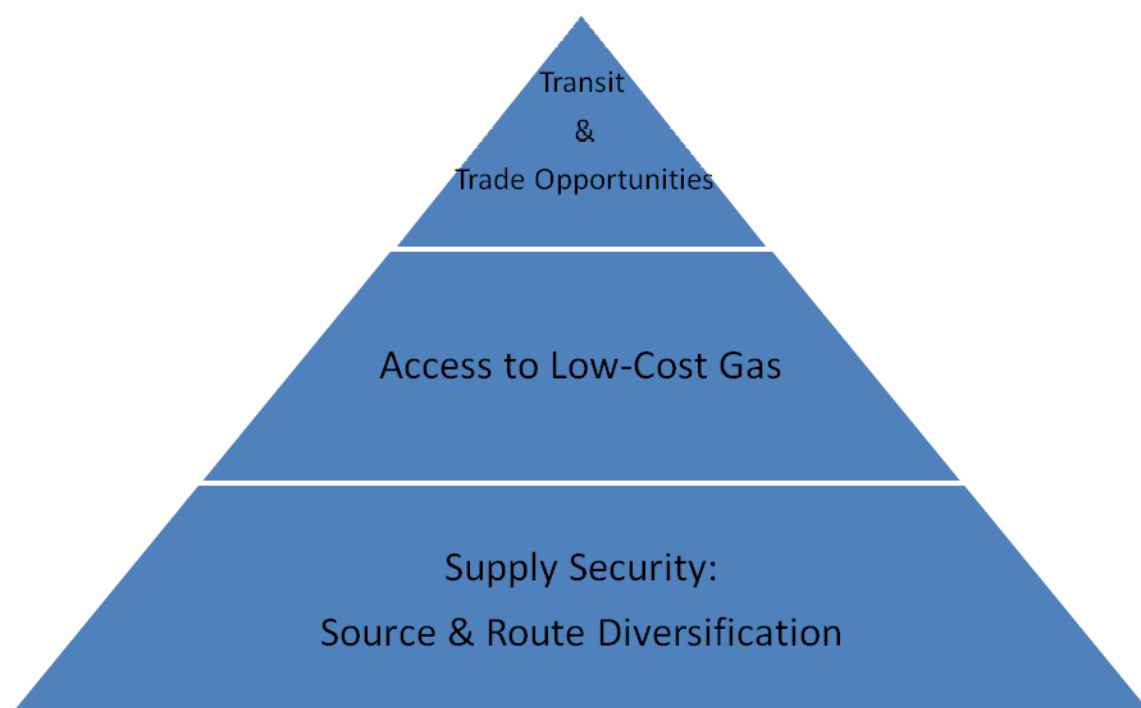
⁴⁶ *Mediterranean Energy Perspectives 2008*, pp.322-323.

⁴⁷ *Ibid.*, p.334.

tapped.⁴⁸ These figures appear to be highly optimistic. Exploration in the Black Sea is not yet at an advanced stage. It would seem that Turkey will still need to import substantial gas volumes in the future in order to meet economic growth. Although the BOTAS projected figures may be exaggerated, officials in Ankara are convinced that Turkey will need to import considerably greater amounts of gas in the future and are basing their energy policies on meeting Turkey's energy security needs.

7. Turkey and Gas Supply Security

Figure 1: Priority Pyramid for Turkish Gas Sector



Source: *BOTAS*

According to BOTAS, the priorities for the Turkish gas sector are depicted in the so-called "priority pyramid" (see Figure 1). Most emphasis is given to meeting Turkey's supply security needs. The importance of this should not be over-estimated when attempting to understand the positions of Turkish officials with regard to the prospects for a fourth gas corridor through Turkey. Thus, policy-makers in Ankara will find it exceedingly difficult to agree to allow the passage of substantial gas volumes across Turkish territory without being

⁴⁸ "Black Sea oil to meet Turkey's needs for 40 years", *Today's Zaman*, 4 March 2009 (<http://www.todayszaman.com/tz-web/detaylar.do?load=detay&link=168584>).

able to access a portion of these volumes for the Turkish market. Access to this gas could also help Turkey to reduce its heavy dependence on Russian natural gas deliveries, although officials in Ankara have tended to focus more on meeting gas security needs from whatever country of origin. They have given less emphasis in practice to source and route diversification.

Hence, officials in Ankara have argued that 15 percent of gas that is piped through Turkey should be allocated to the Turkish market – and at concessionary prices as discussed later. This percentage figure is based evidently on Turkey’s rising gas needs in recent years.⁴⁹ Article 2.9 of the IGA on the ITGI signed in Rome in July 2007 also refers to Turkey having the right to take 15 percent of gas transported across its territory.⁵⁰ Interestingly, the supplier of the gas, Azerbaijan, is not a party to this IGA. The 15 percent offtake provision does not apply to the gas currently being transported to Greece from Azerbaijan via Turkey on the TGI. In this case, according to the December 2003 sales and purchase agreement between BOTAS and the Public Gas Corporation (of Greece) (DEPA), Turkey will buy up to 750 mcm/y of gas from Azerbaijan and resell this same amount to Greece. According to the sales and purchase agreement concluded between BOTAS and SOCAR in March 2001, Ankara has the right to re-export gas delivered to Turkey from Azerbaijan in the first phase of production of gas from the Shah Deniz field. It is also probable that Turkish policy-makers in future negotiations would seek to obtain 15 percent of the gas that may piped through the TAP. They have been pressing to secure this percentage in negotiations over the IGA for Nabucco. It has been argued that the Turks are not acting against EU competition law as they are not discriminating against anyone.⁵¹

Turkey’s insistence on a 15 percent offtake from a Nabucco pipeline has encountered opposition. For example, Mihaly Bayer, Hungary’s special envoy appointed to promote Nabucco, reportedly stated that the demand for 15 percent of the gas was blocking negotiations on the IGA. According to Bayer, the Turkish claim would make the project financially infeasible.⁵² It has also been alleged that Ankara was seeking to profit by reselling the 15 percent of Nabucco gas it would receive at a higher price. The European Commission’s spokesman on energy issues, Ferran Tarrandellas Espany, openly declared that Turkey should not resort to this policy. Some observers in Turkey have suggested that at one stage Turkish officials may have contemplated the idea of gas resales. However, in late 2008, BOTAS chief Duzyol categorically denied that Turkey intended to resell the gas. Indeed,

⁴⁹ Interview with Emre Engur, Ankara, 14 April 2009.

⁵⁰ Interview with Levent Ozgul, Strategy and Business Development Manager, BOTAS, Ankara, 14 April 2009.

⁵¹ Interview with Osman Z. Goksel, Ankara, 15 April 2009.

⁵² “Turkey’s gas request blocks Nabucco, says Hungary”, *Turkish Daily News*, 4 October 2008 (<http://arama.hurriyet.com.tr/arsivnews.aspx?id=638252>).

Duzyol has stated that he would be happy to purchase all Azeri gas earmarked for the initial operation of Nabucco (around 9 bcm/y) in order to satisfy Turkey's energy needs.⁵³

Officials in Ankara have noted that in place of 15 percent of Nabucco gas they are willing instead to take 4-8 bcm/y of Azeri gas produced in the second phase of production at Shah Deniz.⁵⁴ According to the consortium members working at Shah Deniz, the field is expected to produce an additional 16 bcm/y in its second phase when fully operational. If Turkey were to be successful in pressing its claim for 8 bcm/y, this would leave only a further 8 bcm/y for possibly Nabucco, the IGTI, the TAP, and Azerbaijan's own expanding energy needs. In practice, it would appear unlikely that Baku would be prepared to commit such large volumes to the Turkish market, especially when bearing in mind that there has been a price dispute between the Azeri and Turkish authorities over gas produced in the first phase of Shah Deniz, as outlined below.

Turkish policy-makers have also stated that they would be prepared to drop the claim for 15 percent if the proposed Caspian Development Corporation (CDC) wins approval.⁵⁵ The CDC is an initiative being developed by the European Commission which would entail the setting up of a consortium of European buyers to purchase gas produced in the Caspian and Gulf regions and the Middle East. This initiative has full Turkish support.⁵⁶ Through agglomerating demand the aim would be to promote investment and encourage the development of transportation routes westward to Europe. In his Activity Report published in February 2009, Van Aartsen suggested that, as a precondition for Turkey joining the CDC, it should first establish "a clear transmission regime based on cost" and abandon its ad hoc approach.⁵⁷ This idea has not gone down well with policy-makers in Ankara. There is no guarantee that the CDC will materialise. The European Commission has instructed the World Bank to prepare a report on the CDC to be completed by the end of 2009, but certain energy companies have apparently only offered lukewarm support for the initiative. It has been suggested that the announcement in December 2008 by RWE and OMV that they would form a Caspian Energy Company with the intention of transporting Turkmen gas to Europe, could mark the first step toward the eventual realisation of the CDC.⁵⁸ In April 2009 RWE secured a deal with the Turkmen authorities to develop an offshore field in the Caspian Sea. This

⁵³ O'Byrne, "Turkey, EC at loggerheads over Nabucco", p.5.

⁵⁴ Interview with Osman Z. Goksel, Ankara, 15 April 2009.

⁵⁵ Interview with Emre Engur, Ankara, 14 April 2009.

⁵⁶ Interview with Selim Kunalalp, Deputy Undersecretary in the Turkish MFA, Ankara, 16 April 2009.

⁵⁷ *Activity Report September 2007-February 2009*, European Coordinator Jozijs van Aartsen, Project of European Interest no. NG3, Brussels, 4 February 2009, pp.8-9.

⁵⁸ Interview with Emre Engur, Ankara, 14 April 2009.

prompted Reinhard Mitschek, the managing director of the Nabucco Consortium, to remark that the deal was important for the development of the Nabucco project.⁵⁹

Immediately after the holding of the Southern Corridor Summit in Prague in May 2009, the European Energy Commissioner Andris Piebalgs announced with regard to the negotiations on the IGA for Nabucco, that the Turkish government had abandoned its demand for 15 percent of the gas transported across its territory. Piebalgs declared that Ankara had instead agreed to “cost-based transit”.⁶⁰ But, the next day, energy minister Yildiz, without making any reference to the issue of “cost-based transit”, asserted that the claims for 15 percent of gas were still on the table.⁶¹

8. Turkey and Access to Low Cost Gas

The second and central part of the BOTAS priority pyramid with its reference to the need for importing low cost gas is also obviously of importance for Turkey’s energy security. Decision-makers in Ankara are seeking to secure the 15 percent of gas transported across Turkish territory, or 4-8 bcm/y of Azeri gas produced in the second phase of Shah Deniz mentioned above, at a favourable price. Noting Turkey’s geographical location, they are opposed to paying the same price as Central Europeans for gas produced in the Caspian and Gulf regions and in the Middle East. Turkish officials are insisting on purchasing the gas at Turkey’s eastern border at a lower price.⁶²

The issue is complicated by the fact that Turkey and Azerbaijan have been at loggerheads over the price paid by Ankara for gas deliveries from the first phase of production at Shah Deniz. Turkey is set to receive 6.6 bcm of gas from Azerbaijan in 2009, having initially imported 1.2 bcm in 2007 after the SCP had become operational. According to the terms of the sales and purchase agreement, in the first year of deliveries the price would range in a band between \$70-120/000 cubic metres. This arrangement expired in April 2008.⁶³ Speaking in Brussels in April 2009 President Aliyev asserted that it was not to the advantage of the consortium working at Shah Deniz that Turkey was only paying \$120/000 cm when the

⁵⁹ “Nabucco chief: Partner states to sign agreement in 2009”, *RFE/RL News/From Our Bureaus*, 6 May 2009 (http://www.rferl.org/content/Nabucco_Chief_Partner_States_To_Sign_Agreement_In_2009/1622556.html).

⁶⁰ Traynor, “Gas deal between Turkey and European Union breaks Russian stranglehold”.

⁶¹ “AB ‘Turkiye Nabucco’da yuzde 15’ten vazgecti’ diyor. Ankara kabul etmiyor”.

⁶² Interview with Emre Engur, Ankara, 14 April 2009.

⁶³ *Perspectives on Caspian Oil and Gas Development*, International Energy Agency Working Paper series, Directorate of Global Energy Dialogue (2008), 1, December 2008, p.12.

market price in 2008 had been between \$400-500/000 cm.⁶⁴ Before his appointment as energy minister, Yildiz had been confident that the pricing issue would be resolved without the need to resort to arbitration.⁶⁵ In late April 2009 the then energy minister Guler had claimed that 70 percent of the issues had been settled with regard to pricing.⁶⁶ Without a swift resolution of this dispute it is difficult to imagine Baku agreeing to set aside for Turkey significant volumes of gas produced in the second phase of Shah Deniz where pricing would again need to be agreed upon.

To further complicate the picture, tensions have escalated between traditional allies Turkey and Azerbaijan over the Armenia issue, as previously noted. In June 2008, Moscow had offered to procure Azeri gas from the second stage of Shah Deniz at “European level” prices – implying a parity with the price paid on the European market for Russian natural gas, minus the costs of transportation and export tax. With further delays concerning Nabucco, Baku may be tempted to accept Russia’s offer. This could be dependent on developments in Russian-Azeri relations, with perhaps Moscow pressing Yerevan to make concessions on the Nagorno-Karabakh dispute. Baku also has possible alternatives in transporting gas westwards to Europe along the ITGI and/or the TAP. At a briefing given in London in early April 2009, Peter Mellbye, the head of international exploration and production at StatoilHydro (which has a large stake in the Shah Deniz consortium), noted that his company was interested in the possibilities of transporting Azeri northwards to Russia and also southwards to Iran.⁶⁷ However, there could be problems in delivering Azeri gas to the Russian market. The current gas pipeline along the Caspian coast connecting Azerbaijan and Russia, built in the Soviet era, has a design capacity of 13 bcm/y. Its real operating capacity is likely to be much lower and technical work would be required to reverse the flow to enable gas to be transported northward.⁶⁸

Taking these circumstances into account, Turkey will probably eventually agree to pay more for the gas it currently receives from Azerbaijan. In discussions held in Baku on 13 May 2009 with the head of SOCAR, Abdullayev, energy minister Yildiz offered to pay \$200/000 cm for Azeri gas. Abdullayev insisted that Turkey should pay \$250/000 cm.⁶⁹ Turkey has evidently

⁶⁴ “Aliyev: Baku will align policy to region’s new realities”, *Today’s Zaman*, 30 April 2009 (<http://www.todayszaman.com/tz-web/detaylar.do?load=detay&link=173911>).

⁶⁵ Interview with Taner Yildiz, Ankara, 15 April 2009.

⁶⁶ S. Aliyev, “Azerbaijan, Turkey have principle agreements on gas price: minister”, Baku, 29 April 2009 (<http://news-en.trend.az/politics/foreign/1462945.html>).

⁶⁷ Ben Farey, “Norway’s Statoil may bypass Turkey, imperilling Nabucco pipeline”, *Bloomberg*, 2 April 2009 (<http://www.bloomberg.com/apps/news?pid=20601087&sid=aGW4J2FWmlBM&refer=home>).

⁶⁸ *Perspectives on Caspian Oil and Gas Development*, pp.41-42.

⁶⁹ “Bargaining for Azeri gas”, *Hurriyet Daily News*, 16 May 2009 (<http://www.hurriyet.com.tr/english/domestic/11660208.asp?gid=243>).

been paying between \$400 and \$450/000 cm for imports of Russian gas. There would appear to be room for a deal, but this price haggling may yet work to Turkey's disadvantage. If Baku were to accept Moscow's offer to purchase future Azeri gas production, or if the Kremlin would agree to the transit of Azeri gas across Russian territory to Europe, the prospects for Turkey becoming a fourth corridor for the delivery of gas to Europe would be seriously diminished.

9. Turkey and Transit Opportunities

The concerns involving the offtake and pricing of gas are closely linked to the question of what sort of gas transit regime should be agreed upon between Ankara and Brussels in the negotiations on the IGA for Nabucco. The top of the BOTAS priority pyramid may not be separated from its other parts. With regard to Nabucco, Turkish officials have complained that EU bureaucrats have been unnecessarily dragging out discussions on the issue of transit. In Brussels in March 2009, the then energy minister Guler voiced his frustration that the Europeans had still to respond to a draft text of the IGA which the Turkish government had submitted in February 2008.⁷⁰ In April 2009 Guler forwarded a letter to the European Commission urging Brussels to expedite the talks.⁷¹

Difficulties in resolving the transit issue must be understood in the wider context of the Turkish accession process to the EU. There is a general sense in Ankara that the Europeans are demanding various concessions from the Turks without offering anything in return – blocking the opening of the energy chapter for example. On the other hand, there appears to be a feeling among officials in Europe and among some energy companies that if Turkey wants to be a full member of the EU it should immediately sign up to European norms and regulations. Misunderstandings and breakdowns in communication appear to further cloud the picture. Nevertheless, it was clear that StatoilHydro was pointing the blame at Turkey, when in April 2009 at the sidelines of the energy conference in Sofia the company's head of operations in Azerbaijan announced that production from the second phase of Shah Deniz had been postponed until 2016 because of problems in setting transit conditions.⁷² A whole range of development problems has also caused delays at Shah Deniz.

Commentators have accused Turkey of insisting on exorbitant transit fees for the transportation of gas for the Nabucco project. It has been argued that this would cut future

⁷⁰ O'Byrne, "Turkey, EC at loggerheads over Nabucco", p.4.

⁷¹ "Nukleer enerjide komisyon calismalarini bitirdi" ("The Commission has finished its studies on nuclear energy"), *Dunya*, Istanbul, 4 April 2009 (<http://www.dunyagazetesi.com.tr/haber.asp?id=43084&cDate=>).

⁷² "Update 1 – Azeri-Shakh-Deniz II gas seen around 2016- Statoil", *Reuters*, Sofia, 24 April 2009 (<http://in.reuters.com/article/oilRpt/idINL019126720090424>).

profit margins, raise unnecessary questions about investment returns, and delay the funding of the project.⁷³ Van Aartsen has complained about Turkey having adopted a position on “taxing” on “an ad hoc and unpredictable basis”, although he noted a recent evolution of Turkey’s position. However, the EU’s Coordinator for the Southern Corridor has insisted that Turkey should agree to free transit for trade in line with Article 5 of the General Agreement on Tariffs and Trade (GATT), the predecessor of the World Trade Organisation (WTO). He advocated the need for a joint Azerbaijan-Georgia-Turkey Gas Corridor Transmission Agreement with the EU based on Article 5 of GATT and on cost-based transmission principles reinforced with a mutual assistance obligation.⁷⁴

Officials at BOTAS have emphasised that they have never demanded a transit fee for gas to be transported along a Nabucco pipeline. One could perhaps question what is exactly meant by this use of “transit fee”. With regard to Nabucco specifically, the term “transit fee” appears to have become a pejorative one. BOTAS claims that they have been asking for the standard terms – Operational expenditure (Opex) + Capital expenditure (Capex) + a “rational” (or “reasonable”) profit margin.⁷⁵ These conditions would be in line with the terms of the Energy Charter Treaty (ECT), of which Turkey is a full member. The ECT refers to the freedom of transit, non-discrimination and transparency with regard to trade in hydrocarbons, although there have been attempts to reinforce further its provisions through the draft transit protocol which has yet to be approved. The ECT, notably, also has a dispute settlement mechanism for resolving trade issues. It would appear then, that through its membership of the ECT, Turkey is ready to agree to market terms for the transit of gas through its territory.

The signed IGA for the ITGI may be taken as a model, at least in part, for the IGA for the Nabucco pipeline. According to DEPA’s General Director of Corporate Development and Planning, the “transportation tariffs” for the various sections of the ITGI (in Turkey, Greece and for the Poseidon Pipeline across the Adriatic Sea) would be based on “cost-reflective principles using reasonable returns for incurred investments”.⁷⁶ The earlier agreed and ratified IGA for the TGI has incorporated an ECT dispute settlement mechanism and it seems that this is also the case for the ITGI. In the EU’s Screening Report on Turkey and the energy chapter of the *acquis* published in March 2007 (before the signing of the IGA for the ITGI), it was stated that Turkey had incorporated the ECT’s dispute settlement mechanism into the

⁷³ Vladimir Socor, “Turkey’s stalling on Nabucco hurts Europe, Azerbaijan and itself: Part one”, *Eurasia Daily Monitor*, Vol. 6, no.42, 4 March 2009 (http://www.jamestown.org/programs/edm/single/?tx_ttnews%5Btt_news%5D=34657&tx_ttnews%5BbackPid%5D=407&no_cache=1).

⁷⁴ *Activity Report September 2007-February 2009*, pp.6 and 9.

⁷⁵ Interview with Emre Engur, Ankara, 14 April 2009.

⁷⁶ Vasileios Tsompanopoulos, “ITGI Project”. Presentation given to the World Energy Council regional meeting, Istanbul, 17 October 2008 (http://cesenet.org/documents/8_vasileios_tsompanopoulos.ppt).

relevant intergovernmental agreements, although it added: “Turkey should adopt and implement an appropriate legal framework to facilitate the transit of energy materials and products”.⁷⁷ Some Turkish officials have indicated that the European Commission may yet take the parties to the IGA on the ITGI to court on the grounds that the contract may not fully conform to EU legislation. A blind eye appears to have been turned to the previous IGA for the TGI, perhaps because of the relatively small volumes of gas involved. As indicated below, legal problems do appear to have contributed to the delay in concluding the IGA for Nabucco.

There are signs that Turkey is moving towards formalising a gas transit regime. A Law on Transit of Petroleum through Pipeline was published in June 2000. This ostensibly covers the rules and procedures for the transit of both petroleum and natural gas. In June 2001 a Transit Petroleum Board was established to determine and set legal, technical, administrative, financial and other services for transit for petroleum and natural gas projects.⁷⁸ However, there does appear to be an acknowledgement by officials in Turkey that a new gas transit regime should be prepared for gas separate from the agreed legislation and procedures which, in practice, have been solely applied to the transit of crude oil. At the time of writing, effectively no molecule of gas had “transited” Turkey. Volumes being delivered on the TGI consisted of resold gas and also probably gas which had physically originated from Russia and entered the Turkish market. The MENR has apparently recently formed a new transit pipeline body which will consider gas transit issues.⁷⁹ And BOTAS officials have intimated that a new gas transit regime will probably be established when the Natural Gas Market Law of 2001 is likely to be amended later in 2009.⁸⁰ These developments are most likely being taken into account in negotiations on the IGA for Nabucco.

It seems that in the negotiations on the IGA for Nabucco, one of the major difficulties has been how to reconcile the applicability of two sets of legislation - EU law and Turkish law - with regard to the operation of a pipeline on Turkish territory. This has become a sensitive issue of national sovereignty for some in Ankara. There have been concerns that Turkish law should not be regarded as somehow inferior to EU law. One would assume, however, that Turkey’s membership of the ECT, which is after all based on the provisions of Article 5 of the GATT, would somehow help to bridge this problem. And, if the energy chapter had been opened, as previously noted, legal complications could have been swiftly addressed.

⁷⁷ “Screening Report: Turkey- Chapter 15- Energy”, 22 March 2007, pp.6 and 11

(http://www.abgs.gov.tr/files/tarama/tarama_files/15/screening_report_15_tr_internet_en.pdf).

⁷⁸ “Screening chapter 15: Energy. Agenda item: International agreements – General international agreements in the domain of energy (energy chapter): Country session: The Republic of Turkey, 14-15 June 2006

(http://www.abgs.gov.tr/tarama/tarama_files/15/SC15DET_Energy%20Charter%20Treaty.pdf).

⁷⁹ Interview with Necdet Pamir, Ankara, 13 April 2009.

⁸⁰ Interview with Emre Engur, Ankara, 14 April 2009.

In spite of these various problems, progress does seem to have been made in recent months in negotiations on the IGA for Nabucco, and this appears in part to have been due to better coordination on the Turkish side, with the MFA apparently assuming greater responsibility. The wording of the Prague Declaration at the conclusion of the summit on the southern corridor in May 2009, may suggest that the legal hurdles were about to be overcome. The signatories to the Declaration, which included President Gul, promised to work toward an energy transit treaty with rules on how energy supplies should be transported, how much transit countries should charge, and how fees should be shared. Significantly, the Declaration also boldly stated that member states and Turkey had agreed to reach a deal to sign an IGA for Nabucco by the end of June 2009.⁸¹ On the other hand, the Declaration was only a declaration and was not a binding agreement.

10. Turkey and Trade Opportunities

In the negotiations for the IGA on Nabucco, another complicating factor has been the various references made by officials in Ankara to Turkey becoming a future energy hub. In some instances they may have been referring to Turkey becoming a trading hub as opposed to being merely a physical hub. A trading hub would presumably involve the reselling of gas, and this may have led observers to claim that Ankara was demanding the right to receive and possibly resell 15 percent of gas being transported through Turkish territory. However, officials at BOTAS have indicated that the notion of Turkey becoming a trading hub for natural gas was one which could only be realised in the longer term and would not apply in the case of Nabucco.⁸² Presumably, these officials would not have been happy with the suggestions of Van Aartsen, in his Activity Report, on natural gas hubs. Instead of Turkey becoming a single hub, the EU's coordinator proposed somewhat unrealistically that four alternative natural gas hubs should be developed for the southern or fourth corridor in Azerbaijan, Romania, Greece and Austria.⁸³

The authorities in Ankara are not exclusively focusing their attention on the Nabucco pipeline given the trading opportunities that could arise from progress being made on other natural gas projects. Turkish officials have noted, somewhat optimistically perhaps, that even without Nabucco, the realisation of the IGTI and/or the TAP, could still make Turkey a part of a fourth gas corridor. Gas volumes from these pipelines could also help meet Turkey's rising energy needs. If both the ITGI and the TAP were realised simultaneously, and Turkey succeeded in obtaining 15 percent of the gas transported along these pipelines, an additional 5 bcm/y could enter the Turkish market. But these two projects are both competing for Azeri

⁸¹ *The Declaration – Prague Summit, Southern Corridor, May 8, 2009.*

⁸² Interview with Levent Ozgul, Ankara, 15 April 2009.

⁸³ *Activity Report September 2007-February 2009*, pp.9-10.

gas, although the TAP could also deliver Iranian gas, bearing in mind the deal concluded between EGL and NIGEC. New LNG contracts could be negotiated, including with Qatar for instance. And future gas import deals with SOCAR, Gazprom and Iran, and possibly with companies in Iraq for example, after the revision of the Natural Gas Market Law of 2001, could include re-export clauses to allow Turkey to become a gas trading hub.

In order to achieve such objectives, the gas pipeline grid in Turkey would need to be upgraded. Apparently, the grid in its current state only has a spare capacity of around 6 bcm/y. If Nabucco, the ITGI and the TAP projects would all be realised, up to € billion would have to be invested in the Turkish pipeline network to handle the increased volumes.⁸⁴ There may be scope for incremental additions to the grid to accommodate the amounts envisaged for the ITGI but, evidently, any project involving the transportation of over 8 bcm/y would require a stand-alone pipeline to be constructed across Turkey.

11. Conclusion

At the time of writing, the situation remained very fluid and uncertain concerning the possible signing of the IGA on Nabucco after the statements made at the Prague Summit on the Southern Corridor and the non-binding Declaration agreed and signed at the summit itself. It has been earlier noted that energy minister Yildiz contradicted the remarks of energy commissioner Piebalgs, who had claimed that the IGA would be signed in Ankara on 25 June 2009. President Gul himself, who had added his signature to the Declaration, was then quoted at the time as saying that the opening of the energy chapter was “related to the credibility of the EU”.⁸⁵ This may suggest that without the Greek Cypriots signalling that they would be prepared to lift their veto on the opening of the energy chapter, Turkey could delay the signing of the IGA. This monograph has underlined the close links between the problems and prospects for Turkey’s EU accession and the difficulties encountered in the negotiations to realise Nabucco. Even if Ankara does sign the IGA, the Nabucco project would not automatically proceed given the problems in securing funding and acquiring enough gas to fill the proposed pipeline.

The future of other pipeline projects, including the ITGI and the TAP as well as White Stream, also remains open to question, especially with regard to financing and throughput capacity. The ITGI is most likely to be developed, given the signing of the IGA for this project and the operation of the TGI. The TAP may also get the go-ahead given StatoilHydro’s involvement. Both the ITGI and the TAP could materialise before Nabucco, with the White Stream project the least likely to evolve. Moscow is continuing to progress

⁸⁴ Interview with Gokhan Yardim, Manager of ADG Anadolu Natural Gas Consultancy Trade Limited, Ankara, 15 April 2009.

⁸⁵ “President Gul on normalisation of Turkey-Armenia relations”, *Anadolu News Agency*, Prague, 8 May 2009.

South Stream, with additional agreements concluded at Sochi on 15 May 2009 between Gazprom and ENI, and with the companies of states in south eastern Europe interested in the project. But further progress will be dependent on securing transit through the Ukrainian or Turkish EEZs in the Black Sea.

There is much speculation among observers in Turkey that some form of “Grand Bargain” could perhaps be struck with Russia over energy. Supposedly, Ankara would allow Gazprom to construct the subsea section of South Stream across Turkey’s EEZ, and, in return, Moscow could allow the flow of Kazakh and possibly Russian crude along the planned Samsun-Ceyhan oil pipeline. The package could also include a deal to construct the so-called Blue Stream 2 gas pipeline connecting Russia and Turkey. This could provide Turkey with new trading opportunities if re-export clauses would be included in an agreement. At the time of writing, though, much still needed to be realised before this “Grand Bargain” could materialise. And, this arrangement would not reduce Turkey’s energy dependence on Russia.

Geography may be to Turkey’s advantage concerning the prospects for a fourth corridor, although security problems, especially with regard to the PKK, could yet cause further complications. A number of other issues remained unresolved at the time of writing, such as the disagreements between Turkey and Azerbaijan over gas pricing, the routing of gas to be produced in the second phase of Shah Deniz, and the question as to whether the CDC would be established. However, it does appear, with regard to Nabucco at least, that policy-makers in Ankara have been able to better coordinate their positions in recent months and the conclusions reached at the Prague Summit in May 2009 would suggest that the Europeans are also beginning to speak more with one voice on energy matters.

APPENDIX 1: Proposed Pipelines for the Fourth Natural Gas Corridor and South Stream

Nabucco

This planned 3,300 km pipeline project will run from Turkey's borders with Georgia and Iran to Baumgarten in Austria, along a route passing through Bulgaria, Romania and Hungary. The current estimated cost of construction is €7.9 billion, although this could climb to €12 billion. A consortium, the Nabucco Gas Pipeline International GmbH, was established in June 2004 to develop, construct and operate the pipeline and market the gas transported through it. The consortium will conclude transportation contracts with shippers on the one-stop-shop principle. There are at present six shareholders in the consortium, namely: BOTAS, MOL PLC of Hungary, OMV Gas & Power GmbH of Austria, the Bulgarian Energy Holding EAD, Transgaz SA of Romania, and the German company RWE AG (which joined the consortium later in February 2008). Identified as a priority project by Brussels, engineering work commenced in April 2009, supported by €200 million offered by the EU as part of its general economic stimulus package. It is not clear where the gas will come from to fill the pipeline – with its projected final operational capacity of 31 bcm/y- , although Azerbaijan, Turkmenistan, Iran and Iraq, for example, have been identified as possible suppliers.

For further details see <http://www.nabucco-pipeline.com/project>

Interconnector Turkey-Greece-Italy (ITGI)

The Turkey-Greece Interconnector (TGI) was officially inaugurated on 17 November 2007. This 296 km link connected Karacabey in Turkey with Komitini in Greece and included a 17 km stretch under the Sea of Marmara. The TGI has a capacity of around 12 bcm/y. This pipeline is planned to be extended to Italy. The new section in Greece, running from Komitini to Thesprotia is estimated to cost €600 million. The 215 km connection from Thesprotia to Otranto in Italy, involving the laying of a pipeline across the Adriatic Sea, is estimated to amount to approximately €300-500 million. DEPA and Edison have established a 50/50 joint venture – Poseidon SA – to construct the subsea “Poseidon Pipeline”. The pipeline connecting Greece and Italy will have a capacity of about 8.5 bcm/y. The Greeks and Italians have included tentative agreements with Azerbaijan for the possible delivery of gas. There are plans to reach a final investment decision for the ITGI by early 2010 with the aim to begin construction in the autumn of 2010. The main markets for gas transported along the ITGI are likely to be Edison's power plants in Italy as well as power stations in Greece.

For further details see, Vasileios Tsompanopoulos, “ITGI Project”. Presentation given to the World Energy Council regional meeting, Istanbul, 17 October 2008 (http://cesenet.org/documents/8_vasileios_tsompanopoulos.ppt).

The Trans-Adriatic Pipeline (TAP)

This planned 520 km pipeline would connect Thessalonika in Greece with Puglia in southern Italy along a route crossing Albania and the Adriatic Sea. According to initial estimates the costs will come to about \$1.5 billion. A feasibility study was completed in 2006 and extended basic engineering work was concluded in March 2007. In 2008 more detailed engineering studies commenced. EGL and StatoilHydro established in February 2008 a 50/50 joint venture – the Trans-Adriatic Pipeline Company. In June 2008 the company filed an application with the Greek authorities to build the 200 km stretch from Thessalonika to the Greek-Albanian border. The project also includes plans to build up gas storage capacity in Albania. An investment decision is hoped to be reached before the end of 2009. The pipeline would probably be filled with Iranian gas (EGL's contract with NIGEC) and gas from Azerbaijan given StatoilHydro's stake in the Shah Deniz consortium. Gas would be delivered to EGL's power plants in Italy and possibly Switzerland. The projected final operational capacity of the pipeline is 20 bcm/y.

For further details see <http://www.trans-adriatic-pipeline.com>

White Stream

Currently, three routes are being considered for this project – originally known as the Georgia-Ukraine-EU gas pipeline (GUEU) - which would connect Georgia with either Ukraine and/or Romania by pipelines running across the Black Sea. The White Stream consortium, an independent organisation which includes energy service companies, has been founded to develop the project. On 3 April 2009 the Georgian government signed a memorandum of mutual understanding with this consortium. The current government in Ukraine is also very supportive of the project. In December 2008 the European Commission agreed to fund a feasibility study. Still at an early stage of development, the costs of the project are not yet known. It is not clear who would invest in the project. There is no information with regard to the sources of gas or the intended markets, although the projected final operational capacity of White Stream is 32 bcm/y.

For further details see <http://gueu-whitestream.com/index.php?id=6&lang=eng>

South Stream

In 2007 Gazprom and the Italian firm ENI agreed to establish a company on an equal basis to develop the South Stream project. This is planned to entail the construction of a 900 km pipeline to link Bregovaya on the Russian Black Sea coast with Bulgaria. From Bulgaria, two routes are being considered to transport gas to Italy and Austria. One branch could run through Greece and across the Adriatic to Italy. A northern link would connect with Romania Hungary and Serbia. A spur to Slovenia is also being planned. A final decision with regard to routing is expected by the end of 2009. Intergovernmental agreements have already been concluded with Bulgaria, Greece, Hungary and Serbia. The costs of the project are currently estimated at between €9-24 billion. On 15 May 2009 Gazprom and ENI agreed to more than double the anticipated capacity of South Stream from 31 bcm/y to 63 bcm/y. It is intended to begin construction in 2011, and commence operations in 2015.

For further details see <http://www.gazprom.com/eng/articles/article27150.shtml>