



# IENE Briefing Note No2 Revised Edition

An Overview of the South Corridor Gas Pipeline Projects

### Introduction

In mid June IENE published a review of the South Corridor gas projects in its Briefing Note No 2. Since then TAP was selected by the Shah Deniz II consortium as the most suitable gas pipeline project to carry Caspian gas to Europe once new gas starts flowing from the Shah Deniz field, sometime after 2018. TAP's selection is a major development and therefore it warrants a revision of our original Briefing Note.

## The Southern Gas Corridor - A Background

The Southern Gas Corridor is a term used by the European Comission to describe planned infrastructure projects bringing gas from the Caspian and Middle Eastern sources to Europe, aimed at improving security of supply. These new gas pipelines will create a new and alternative gas supply corridor to Europe in addition to similar ones originating in Russia, Africa and the North Sea. According to EC planning, it will include at least six separate components: the wells project in the Caspian Sea, the offshore facilities and platforms, expansion of the Sangachal Terminal, and then the three pipeline projects in Azerbaijan/Georgia (SCP), Turkey (TANAP) and Europe (TAP and Nabucco West)

However, in its expanded definition the Southern Gas Corridor includes all the planned infrastructure projects which aim to bring gas from Asia (read Russia) the Caspian, Middle East and East Mediterranean sources to Europe. The overall scope is to improve Europe's security of energy supply. These gas pipelines will create new and alternative gas routes to Europe and thus help diversify the continent's gas supply sources.

Basic Characteristics of the South Corridor Projects (July 2013)							
Project	Capacity (bcm/y)	Distance (kms)	Gas Origin	Estimated Project Cost (in Billion Euro)	Sponsors	Anticipated Start Up Date	Project Status
ITGI	10-16	796	Shah Deniz II	1.70	DEPA. EDISON	2017	Temporary on hold, pre FID activities completed
TAP	10 – 20	791	Shah Deniz II	1.70	EGL, STATOIL, E.ON	2017	Selected by SDC on June 27,2013, Construction to start in 2015
TANAP	16 - 24	2.000	Shah Deniz II	8 - 10	SOCAR (80%) BOTAS (20%)	2018	Construction to start in 2014
Nabucco West	10 – 23	1.300	-Shah Deniz II -Iraq -Turkmenistan	5.5	OMV, TRANSGAZ, BEH, MOL, RWE, BOTAS	2017	Cancelled
South Stream	63	2.950	-Russian Fields	16.0	Gazprom, ENI, Wintershall, EDF	2016	Construction commenced December 2012
White Stream	8 – 32	1.440	-Azerbaijan -Turkmenistan -Iraq	n.a	Not Disclosed	2016	Feasibility study stage
AGRI	5 – 8		-Azerbaijan	4 – 6	SOCAR, GOGC, ROMGAZ, MVM	2017	Feasibility study stage
SEEP	10	~1.000	-Shah Deniz II	1.0 – 1.5	BP	2017	Cancelled

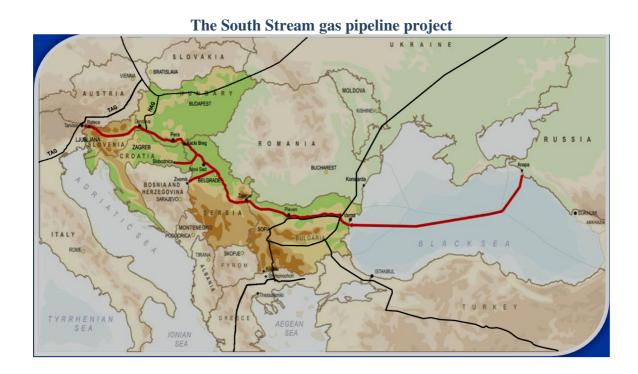
Current discussions on the Southern Gas Corridor tend to overlook one of the European regions which will benefit from it the most: South Eastern Europe. Countries throughout this region depend heavily on Russian gas imports. For example, Bosnia and the Former Yugoslav Republic of Macedonia (FYROM) although their gas consumption is limited, they rely 100% on Russia, Serbia for 88%, and Croatia 39%. But dependency on a single supplier is only one of the region's challenges. Other countries such as Albania, Montenegro and Kosovo are not yet connected to the gas grid and are entirely reliant on oil and coal or hydro for their primary energy supply.

The South Corridor options initially included the EU-backed Nabucco, the Italy-Turkey-Greece Interconnector (ITGI), the Azerbaijan-Georgia-Romania Interconnector (AGRI), the Trans Adriatic Pipeline (TAP), the South East Europe Pipeline (SEEP) and White Stream. It was initially thought that the SEEP and TAP options were the most likely contenders, however the Nabucco West (which has substituted the original Nabucco) and TAP emerged as more realistic. Thus in March 2012 the Shah Deniz II consortium in Azerbaijan decided to retain both West Nabucco and TAP projects as viable co-tenders with a final decision by the Shah Deniz Consortium (SDC) as to which export route will be selected for Azerbaijan's gas scheduled for June 2013. Eventually a decision was made and announced in late June in favour of TAP as it is explained in detail further on.

### Main existing gas pipeline POLAND Planned/proposed gas pipeline UKRAINE RUSSIA AUSTRI HUNGARY KAZAKHSTAN NABUCCO ROMANIA South East CROATIA European Turkmenistangas pipeline SOUTH-China pipeline STREAM Caspian GEORGIA Coastal UZBEKISTAN Upgrade of the BOTAS pipeline ITALY network Trans-Anatorian gas pipeline TURKMENISTAN Trans-East West TAJIKISTAN Caspian ITGI TURKEY options pipeline TAPI option SYRIA Turkmenistan-LEBANON Iran pipeline Arab gas pipeline IRAQ IRAN Appropriate 1 ISRAEL LIBYA **EGYPT** PAKISTAN SAUDI

**The South Corridor Pipeline Projects** 

Russia's answer to TAP and Nabucco is the South Stream project, a 2.950 km pipeline. According to initial estimates, the total project implementation cost, including the infrastructure in Russia, will reach approximately 26.6 billion euros. The pipeline is scheduled to be completed by 2015, and it will run under the Black Sea from Russia to Bulgaria and then north, through Serbia and Hungary towards northern Italy. South Stream will be capable of carrying 63 billion cubic metres (bcm) per year.



Gazprom's decision to remove entirely Greece and South Italy from the construction plans of the South Stream pipeline, with the official but grossly inadequate explanation that these countries do not offer significant consumption prospects, has altered completely the natural gas prospects of the entire SE European region. South Stream's north-western route is expected now to run towards Slovenia and Italy via Bulgaria, Serbia and Hungary.

Kremlin's latest decision marks a shift of emphasis towards the northern part. It is also very important to note that the South Stream pipeline will bypass most of the West Balkan countries (Albania, Montenegro, Bosnia and Herzegovina) leaving without a gas most of Western Balkans. Gazprom's attempted takeover of the Austrian gas terminal in Baumgarten through the original routing of the pipeline to Austria unsuccessful due to objections from the European Commission. This resulted in plans to route South Stream through Austria being to be abandoned. This means that the pipeline will end in Treviso on the Slovenian-Italian border. Gazprom is now considering the possibility of supplying gas from South Stream to Austria using the TAG gas pipeline (this was built in the 1970s for

sending Russian gas via Slovakia and Austria to Italy). If the direction of this route is reversed, gas could be transported from Italy to Austria.

The implementation of South Stream will yield tangible benefits to the transit states located along South Stream's route (Bulgaria, Serbia, Hungary and Slovenia). In the short term, these countries will receive various kinds of preferences (price preferences, soft loans, etc.) from Gazprom. In the long term, they may expect profits from transit fees and other Russian investments. The implementation of this project may also contribute to an increase in the political significance of the transit states. The negative consequences might include a higher energy dependence on Russia and possible legal problems in relation to the European Commission (e.g non-compliance with the third energy package and the bilateral agreements between the transit states and Russia).

Over the years Russia has been making consistent efforts to preserve its status as Europe's key gas supplier (or even as the sole eastern gas supplier to the EU, in the case of the maximalist approach). While pushing through its own infrastructure projects (Nord Stream and South Stream), Moscow is also trying to prevent the creation of other gas pipelines whose competition could challenge the Russian position on the European gas market. As a minimum plan, Russia is attempting to prevent or impede access to Central Asian gas for alternative projects (which are part of the Southern Gas Corridor).

## **TAP**

## (i) The Project

The Trans Adriatic Pipeline (TAP) will connect existing and planned grids for natural gas transport in Southeast Europe with gas systems in Western Europe via Italy, the Adriatic Sea and Albania. The pipeline will therefore give Europe better access to the major reserves of natural gas located mainly in the Caspian region. The pipeline is designed with an initial 10 bcm/y transport capacity and will be 48 – inch in diameter. It will have a combined lentgth of 682 kms onshore and 105 kms offshore. It is estimated that the construction of the pipeline will cost about 1.7 billion euro. In February 13, 2013, the governments of Greece, Italy and Albania have confirmed, their full support for and commitment to the Trans Adriatic Pipeline (TAP) project by signing in Athens a tri-lateral intergovernmental agreement (IGA).

**The TAP Project** 



The natural gas reverse flow feature of TAP is a EU requirement set out in Regulation (EU) No. 994/2010 concerning measures to safeguard security of gas supply. It will also enable the region to connect to new gas sources such as those in northern Africa as well as to other more diverse sources such as the partially liquid gas market in Italy. TAP is the only gas project, after the exclusion of ITGI by the Shach Deniz II consortium and the Russian refusal to supply Greece and Albania with gas quantities via the south branch of South Stream, destined to bring new gas supplies to the region. In a second stage there are plans for pipeline extension to West Balkan countries (Bosnia and Croatia) via the TAP pipeline. TAP as a Project of Common Interest has the support of European Union while the USA has shown interest in the progress of the project and if finally qualified by the consortium of Shach Deniz instead of Nabucco West, the TAP pipeline will become one of its strategic priorities in the region.

On May 17, 2013 following the approval from the relevant regulatory authorities in Italy, Greece and Albania, the European Commission formally approved the Trans Adriatic Pipeline's (TAP) application for Third Party Access (TPA) exemption for the initial capacity of 10bcm. The decision means that TAP can offer capacity for export of gas volumes from Azerbaijan to Europe for a period of 25 years. In addition, the Commission has approved exemptions from regulated tariffs on both TAP's initial and expansion capacity, as well as exemption from ownership unbundling for 25 years.

European Union internal market regulation typically requires third party access to all energy infrastructure, including gas pipelines. However, national regulators can grant exemptions to this rule for a limited period of time, in order to facilitate major infrastructure projects such as international pipelines. Provided that all conditions have been met, the European Union then corroborates the decision, offering an exemption from certain provisions in the regulatory framework.

### (II) TAP Project Selection

Following an official announcement by the Shah Deniz Consortium on June 27, 2013 the Trans Adriatic Pipeline (TAP) was finally selected as the pipeline preferred project to supply natural gas from Azerbaijan to the central European markets, in what is viewed by many as a game changer for the Central Asian country's natural gas fortunes. The TAP project was chosen instead of its competitor the EC backed Nabucco West. The two pipelines were hoping to win over the backers of Azerbaijan's Shah Deniz field, located in the Caspian Sea and considered one of the world's largest gas-condensate plays. The field is operated by BP and Statoil, which own 25.5% each in the development, and includes also SOCAR, the State Oil Company of Azerbaijan Republic (10%), Russia's Lukoil (10%), France's Total (10%), Iran's Naftiran Intertrade Company (10%) and Turkish Petroleum Association (9%) as key partners in the project. Sponsors of TAP include Axpo of Switzerland (42.5%), Norway's Statoil (42.5%) and E.ON Ruhrgas of Germany (15%).

TAP had sweetened the deal by offering Shah Deniz consortium members the option to take a stake in TAP if the bid was secured - a move which was crucial in clinching the deal to carry 10 billion cubic meters of natural gas per year to Italy. Indeed, there are plans to build reverse flow capacity in Northern Italy, linking to other countries in Northern Europe, according to energy consultants Wood Mackenzie. TAP also plans to target Greece and Albania, as well as connections to other markets, including Bulgaria and the Balkan region. "The decision concludes a lengthy selection process," said Massimo Di-Odoardo, senior European gas and power research analyst for Wood Mackenzie.

Meanwhile, the Nabucco West pipeline sponsors Austria's OMV Gas & Power, Bulgaria's Energy Holding, Petroleum Pipeline Corporation of Turkey, Hungary's FGSZ Natural Gas Transmission, and Romania's Transgaz said the Nabuco "project is over for us." This is a major blow for Nabucco which had initially emerged as the early favourite to win the two-pipeline race, and there were even hopes that both pipelines could come to life eventually. During the Nabucco-TAP contest, the European Commission had insisted that the winning project would 'open' the Southern Corridor, strongly implying that the other project would be implemented next, said Jamestown Foundation analyst Vladimir Socor, who had predicted that TAP would win in an April note to clients. "According to this logic, the two projects could be sequenced; the contest over Shah Deniz gas would merely determine the order of sequencing Nabucco-West and TAP; and they would coexist in the future, each supplying Caspian gas to different parts of the European market, once a Trans-Caspian pipeline from Turkmenistan materializes." The cancellation of the Nabucco pipeline could also upset Turkmenistan's plan to transport its natural gas to European markets.

The TAP pipeline certainly does not have the capacity or the inclination to carry Turkmen gas. "Ashgabat would almost certainly welcome a credible post-Nabucco pipeline route to

Central Europe," said Jamestown. "Turkmenistani gas could then flow to that market through the planned Trans-Anatolia pipeline, an Azerbaijani-led project."

When Gazprom froze plans to build the southern branch of South Stream last summer it became clearer that TAP could benefit from such a move. The driving force for TAP was Azerbaijan as Baku wanted to get into the European market as part of its programme of diversifying its customer base and its energy routes. Since South Stream is focused on the route to northern Europe, almost doubling Nabucco's route, Nabucco's market was undermined and TAP was more likely to get built because it faced less competition for Azeri gas in the South European markets, including Italy. "Once the construction of South Stream commenced in December 2012, Nabucco's fate was more or less sealed. The vast gas volumes of South Stream and the various incentives offered by Gazprom to the local companies in East Balkans and Central Europe, made any fair price comparison irrelevant", note gas industry sources in Sofia.

Comments made on July 5 by European Energy Commissioner Guenther Oettinger threw some light on latest EU thinking. Mr. Oettinger said that the route planned by the Nabucco West pipeline project is not dead despite losing out in bidding to carry Azeri natural gas to Western Europe. "This is just the beginning. The decision to build TAP and later to deliver more gas also means that the supply path to Austria - Nabucco West at the moment - is still on the table," he said. Gas from Azerbaijan's vast Shah Deniz 2 gas field and eventually other Azeri fields will flow to Europe. Both routes (TAP and Nabucco West) will be needed in the medium term to help secure gas supplies for Europe, Oettinger wrote in Austria's WirtschaftsBlatt.

Nabucco sponsors also hold out hope that there may be some takers for the pipeline given the long-term energy import challenges facing Europe. "The need for diversification remains a challenge for the European market, in particular in the countries of Central and South Eastern Europe," according to the Nabucco pipeline website. "We remain convinced that the Nabucco route offers the only possibility to answer these needs. Nabucco is confident of developing opportunities based on alternative gas sources."

Meanwhile, a final investment decision (FID) on Shah Deniz Phase 2 is expected to be taken before the end of the year, with gas sales agreements (GSAs) finalized before then, with first gas to be delivered by 2019, notes Wood Mackenzie. "The initial 10 bcm capacity of TAP is strategically significant but represents only a small percentage of current European gas demand. SOCAR, Azerbaijan's state energy company, has consistently emphasized the importance of scalability as it seeks to become an influential supplier to Europe in future. To this end, future TAP expansion to greater than 20 bcm will be important." In addition, the proposed Trans-Anatolian Pipeline (TANAP), taking natural gas across Turkey, could also be linked with TAP at the Greek border. "TANAP cost estimates remain to be confirmed. The pipeline's construction has major political support, but will be expensive. If progress is delayed, Shah Deniz Phase 2 gas could reach western Turkey via

expansion of the existing BOTAS network. This would be a lower cost, albeit less scalable, option."

### (iii) Greece, Albania and West Balkans to Benefit from TAP selection

Although the TAP project has been conceived as primary serving the transit of exported Azeri gas to European markets there are some distinct advantages from its crossing of the host countries. A number of factors are involved which will result in net economic and social benefits. These factors combined will have an overall positive economic impact on Greece and Albania, as they will contribute towards:

- (a) The creation of employment during the construction and operation phase.
- **(b)** Generation of net income for the operating companies from transit fees.
- (c) Net income to the Greek and Albanian governments from associated taxes.
- (d) The introduction of natural gas to Albania
- **(e)** Flow of additional gas quantities to the Greek system which translates into further income for the operating company and the government (through taxes).
- (f) An increase, although marginal, of Greek and Albanian GDP.

For Greece, TAP constitutes a foreign direct investment worth 1.5 billion euros according to TAP consortium press releases. The impact to the economy from the construction of the pipelines can be assessed at two levels. Firstly from the economic benefits that will accrue during the construction phase, and secondly from the business activity that will follow during the operation stage and will span over a number of years.

According to industry norms the laying of one kilometre of gas pipeline, in the rather smooth terrain of northern Greece, is likely to result 1,8 jobs per kilometre for a 30 month period that construction will take. That means that in the case of TAP 860 jobs will be created in Greece with 50-80 permanent jobs created during its operation stage. According to the IENE's study "Europe's Natural Gas Supply Prospects, The south Corridor and the Role of Greece" (Athens, January 2012), the TAP project will create 375 million euros of net added value for the Greek economy.

The West Balkan countries (Albania, Montenegro, Bosnia & Herzegovina and Croatia) are also expected to benefit from TAP through the planned Ionian-Adriatic Pipeline (IAP). That would give all four countries access to a new supply of gas, reducing their dependence, in the case of Croatia, on Russian imports. The Ionian Adriatic Pipeline (IAP) is a proposed natural gas pipeline in Western Balkans. It would run from Fier in Albania though Montenegro, and Bosnia and Herzegovina, to Split in Croatia. The length of pipeline would be 516 kilometres. The pipeline would be bi-directional and its capacity would be 5 Bcm of natural gas per year. The ministerial declaration on the IAP project was signed on 25 September 2007 in the framework of the Energy Community

Because of its limited energy resources, Croatia is heavily dependent on imported oil and gas: 64% of demand is satisfied domestically, while 34% is imported from Russia. Around 10% comes from Croatia's four main hydroelectric plants. The country is keen to reduce its dependence on Russian energy, and sees the IAP pipeline as its main hope of doing so. The government has been vocal in its support for the IAP-TAP link. Vesna Pusic, the foreign minister, recently confirmed Croatia's interest in TAP, and the country's gas transmission operator, Plinacro, was the first company to sign a memorandum of understanding with TAP, in 2011. "For IAP, the most logical connection is with TAP," says Michael Hoffmann, director of external affairs at TAP. "Our southern route means that TAP is the only pipeline in the southern gas corridor with the capability to connect to IAP."

## Nabucco West

The Nabucco gas pipeline project was initiated in 2002 and was actively promoted by the EU under its Trans-European Energy Networks initiative. The pipeline was initially projected to carry 8-13 bcm of gas per year, with the volumes rising to 31 bcm per annum by 2020. In May 2008 the construction cost of the Nabucco pipeline was estimated at €7.9 billion (\$12.3 billion). The initial project was conceived to run 3,893 kilometres (km) from the Georgian-Turkish boder to Baumgarten in Austria. The original Nabucco project was eventually scrapped due to fast rising costs but also the failure to secure adequate gas quantities in addition to those from Azerbaijan. Where as 'Nabucco West' is a revised version of the original Nabucco pipeline, and was chosen by the BP-led consortium operating the Shah Deniz Gas Field as the 'northern-route' candidate for the pipeline, to compete head-to-head with the 'southern route' option, the Trans-Adriatic Pipeline.



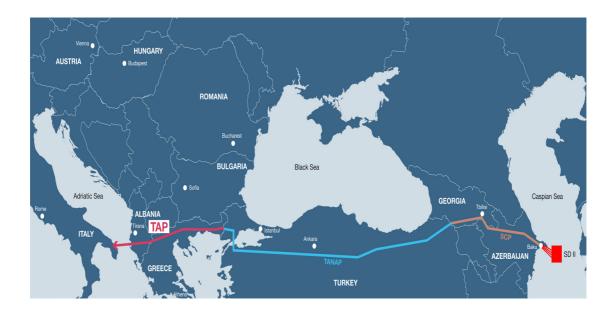
**The Nabucco West Pipeline Project** 

The consortium's decision for a smaller and more compact project gave a boost to Nabucco West, which in its original form was unable to attract sufficient gas supplies and was deemed too expensive. Over its lifetime the project faced repeated delays that Gerhard Roiss, CEO of OMV commented and false start ups.

Nabucco's West revised route will instead begin at the Bulgarian-Turkish border and run 1,312km to Baumgarten, carrying 10 bcm per year. The segment of the original Nabucco route crossing Turkey was made unnecessary when Azerbaijan and Turkey agreed in late 2011 to build the Trans-Anatolian Pipeline (TAGP/TANAP). Nabucco West partners include Turkish BOTAS, Bulgarian Energy Holding, Hungarian FGSZ, Austrian OMV, Germany RWE and Romanian Transgaz.

## **TANAP**

The Trans Anadolu Gas Pipeline (TANAP) is a joint Azeri – Turkish project and aims to bring gas from Azerbaijan to the European edge of Turkey, and could be connected with TAP pipeline. The TANAP project envisages the construction of a pipeline from the eastern border of Turkey to the country's western border to supply gas from the Shah Deniz gas condensate field in the Caspian Sea. Initial capacity of the pipeline is expected to be 16 billion cubic meters per year. Around 6 billion cubic meters will be delivered to Turkey, while the rest will be transported to European markets. Construction of the Trans-Anatolian gas pipeline (TANAP) will start in 2014, the head of Azerbaijan's state energy company SOCAR Rovnag Abdullayev told reporters on June 15, 2013.



In December 2011 Azerbaijan and Turkey signed the memorandum on mutual understanding to create the consortium to build TANAP. In June 2012 the intergovernmental agreement on TANAP was concluded. The pipeline about 1,242-mile (2000 km) long is planned to be laid from Azerbaijan to Turkey via Georgia and further to Europe. At the first stage its carrying capacity will be 16 billion cub.m. of gas a year, of which 565 billion cubic feet Bcf (6 billion cubic meters (Bcm)) will be consumed by the

Turkish consumers and 353 Bcf (10 Bcm) will be delivered to the European countries. At the second stage it is planned to increase deliveries up to 847 Bcf (24 Bcm). The gas pipeline is planned to be put into operation in 2018 and will be devoted from the beginning of gas production from the Shah-Deniz Phase-2. According to preliminary estimates the cost of the project is likely to reach \$8-10 billion.

According to Abdullayev, by the end of 2013 the second phase of development of the Shah Deniz field as well as the expansion of the South Caucasus Pipeline as part of providing export of Azerbaijani gas to Europe will be confirmed. "After choosing the gas pipeline project, the partners of the Shah Deniz project will become its shareholders and in fact will take part in its construction," Abdullayev said. That means that SDII shareholders will participate also as shareholders in TAP alongside with Statoil, E.ON and AXPO.

The 700 kilometer South Caucasus Pipeline, a section of the Baku-Tbilisi-Erzurum (BTE) pipeline, transports gas produced from the Shah Deniz field and supplies it to neighbouring Georgia and Turkey. Azerbaijan is a buyer of gas as well. In 2012, daily throughput capacity of the pipeline reached 11.1 million cubic meters of gas or 68,000 barrels in the oil equivalent, and gas transit is expected to increase to 16 billion cubic meters as a result of the pipeline's expansion. Abdullayev said also that first gas is to be transported through TANAP is scheduled for 2019.

Ukrainian Premier Nikolai Azarov announced Ukraine's intention to be involved in construction of the Trans-Anadolu gas pipeline last summer. Ukrainian Minister of Energy Yuri Boyko of that time said Ukraine negotiated its participation in TANAP together with Turkey and Azerbaijan as well as delivery of gas via the pipeline to Bulgaria and then through Romania and Ukraine. "We have convincing arguments, because almost all infrastructure from Turkey to our borders is ready. Ukraine has gas storages on the border with the EU, which could be the basis for the future gas pipeline," said Boyko.

However Azerbaijan Minister of Industry and Energy Natig Aliyev said on June 19, 2013 that Azerbaijan is not interested in Ukraine's participation in the construction of the trans-Anadolu gas pipeline. "TANAP is the gas pipeline of the countries-partners and gas makers. I do not think it is advisable that Ukraine participates in this project. Ukraine does not produce any gas and the gas pipeline will not be built through its territory," he explained.

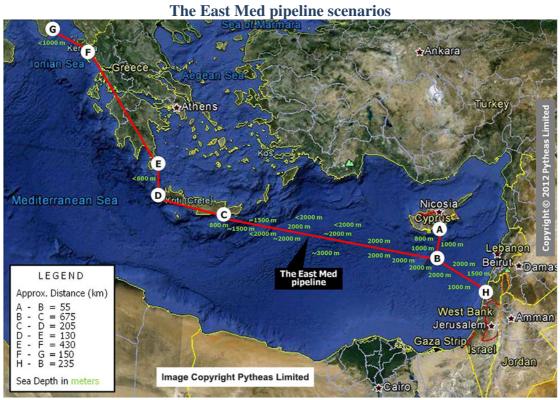
# East Med

Although strictly speaking the East Med is not a Southern Corridor pipeline project (and therefore it does not appears in the pipeline Table) this pipeline is a interesting alternative proposal which can help is diversity European gas supply.

The broad concept developed by-Greece's Public Gas Corporation DEPA- is for a new gas corridor in the East Mediterranean based on an underwater gas pipeline connecting Israel/Cyprus to Greece. Although several scenarios have been considered by DEPA to

carry East Med gas to Europe the pipeline scenario appears more advanced in terms of analysis, design work and financial engineering. The pipeline project considered by DEPA comprises, (i) a pipeline from the offshore fields to Cyprus, (ii) a pipeline connecting Cyprus to Crete and (iii) a pipeline from Crete to Peloponnese and (or) through the Aegean Sea to Northern Greece where the pipeline will be connected with the IGB interconnector

According to a latest DEPA study, the pipeline will be able to carry around 8 bcma and will have a total length of around 1150 kms. The initial design of the pipeline foresees a first leg of 150 kms connecting the Cyprus/ Israeli gas fields to Cyprus, a second leg from Cyprus to Crete of 633 kms and a third leg from Crete to mainland Greece of 405 kms, i.e. a total of 1188 kms. There are two further options for the third leg. The first one foresees that the pipeline from Crete lands in the South Peloponnese from where a 460 kms onshore pipeline will connect it to the IGI Poseidon starting point at Thesprotia. The second one, which is less developed from a design point of view, will transcend the Aegean Sea, connecting the east part of Crete to Komotini in Northern Greece (from where the IGB will start), i.e., a total distance of approx 700 kms.



Source: Public Gas Corporation, DEPA S.A.

The East Med pipeline is expected to operate in tandem with the ITGI system which comprises the IGI and IBG and thereby constitutes a powerful combination which can provide for the needs of the whole SE Europe. IGI is considered as one of the most technically mature projects of the region while the construction of IGB will provide up to

5.0 bcma of either LNG or pipeline gas to SE Europe as early as 2014. The expansion of the existing LNG terminal in Revithousa, already underway, in conjunction with a proposed FSRU terminal in Alexandroupolis and the planned Aegean FSRU terminal off Kavala, are expected to feed the IGB. Therefore the proposed East Med pipeline will create strong synergies with the ITGI system and will in effect connect the Eastern Mediterranean to the European grid. In case of an emergency, reverse flow would allow gas from Russia, Italy or even North Africa to reach the East Mediterranean countries.

If Greece succeeds in implementing the necessary infrastructure, such as Floating Storage and Regasification Units, underground gas storage in the Prinos basin, the ITGI system (IGI, IGB) Greece could then emerge as an important natural gas player in SE Europe and indeed see its aspirations for becoming a regional gas hub come true.