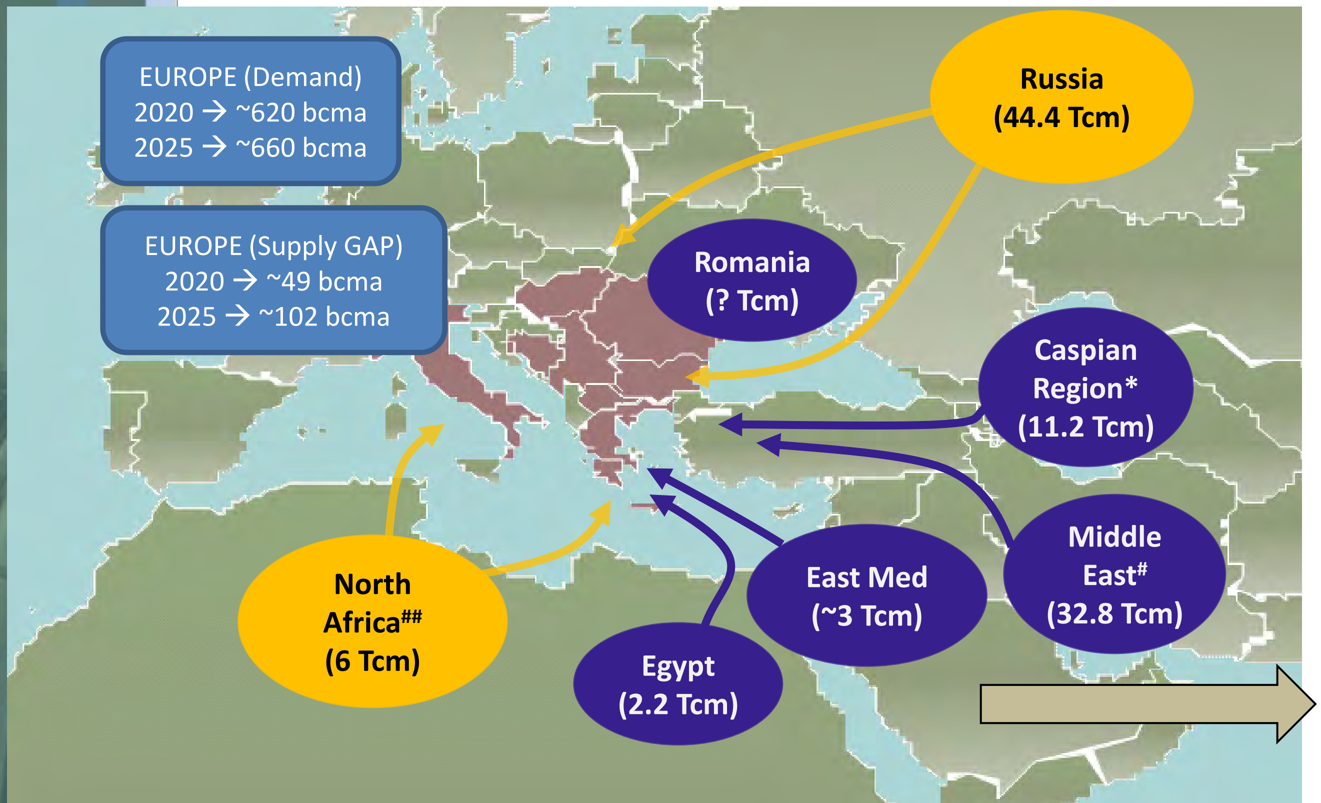
East Mediterranean Gas
Greece - The Gateway to Europe

Dr. Konstantinos Karayannakos,
International Projects Division Head,
DEPA S.A. (Public Gas Corporation of Greece)

6th South East Europe Energy Dialogue (6th SEEED)
Thessaloniki, 31 May 2012

ΔΕΠΑ
PUBLIC GAS CORPORATION S.A

Supply and Demand in to Europe



Specifically for SEE gas demand will grow to 96 bcma in 2010
↓
~117 bcma in 2025.

Supply Gap in SEE will be over 20 bcma in 2025.

East Med may provide another diversified source of natural gas to the EU by 2017.

Source: BP Statistical Review of World Energy 2011

Traditional external supply sources

Potential new supply sources

* Azerbaijan, Kazakhstan, Turkmenistan

Iran, Iraq

Algeria, Libya

Eastern Mediterranean gas Reserves

Tamar, Leviathan and Block 12 are three of the top five world's largest discoveries of the decade.

Tamar	2009	Israel	257bcm
Leviathan	2010	Israel	481bcm
Block 12	2011	Cyprus	198bcm

According to the USGS (United States Geological Survey) total reserves at the Levantine basin could be three times more than what has already been discovered.

And there may be even more gas in Greece south of Crete.

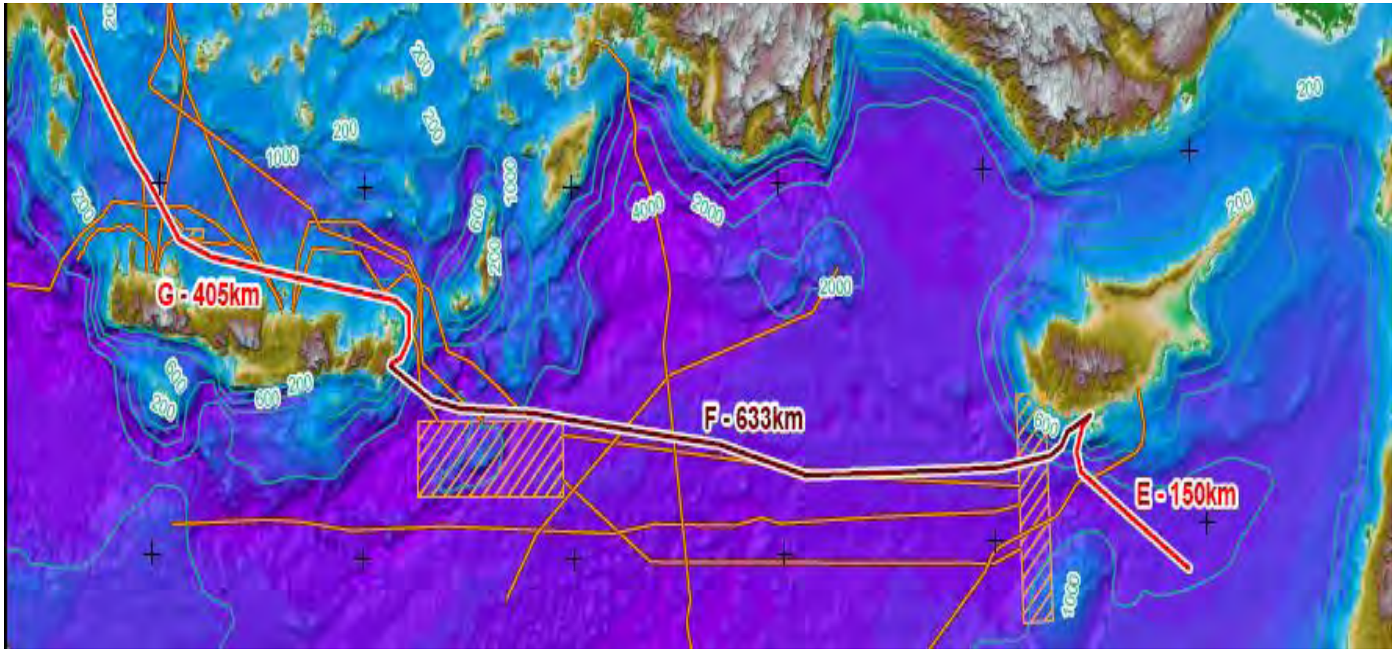
Estimates are that more than 16 bcma will be exported, which necessitates exports both in LNG form and through a pipeline.

Offshore pipeline from the East Med to Greece

Several scenarios have been considered by DEPA to carry East Med gas to Europe.

The pipeline comprises:

- **A pipeline from the field to Cyprus;**
- **A pipeline connecting Cyprus with Crete;**
- **A pipeline from Crete to mainland Greece.**



Source: JP Kenny

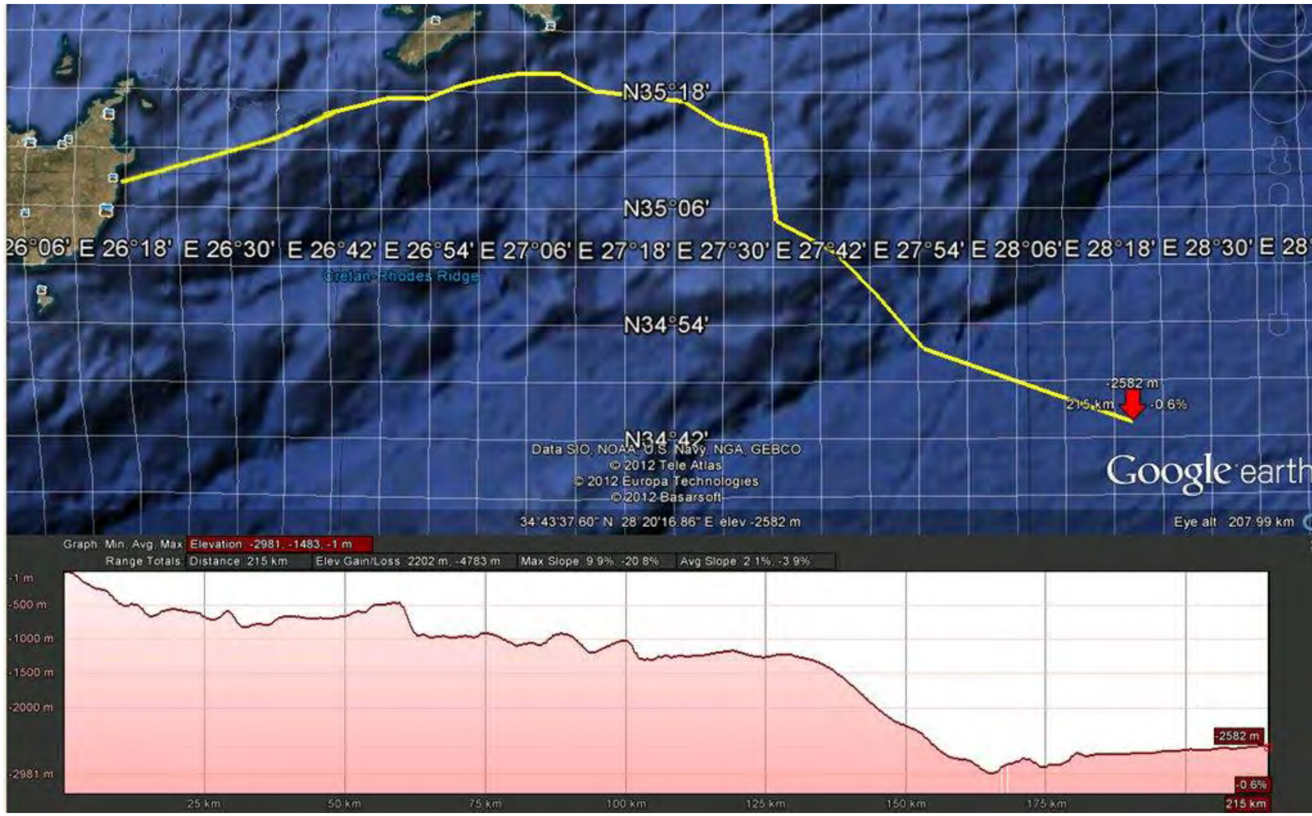
Offshore pipeline from the East Med to Greece

The pipeline will be able to carry around 8bcma and will have a total length of around ~1150km.

None of the constructability challenges are insurmountable based on experience from similar projects (Galsi, Medgaz).

The pipeline is <u>technically feasible</u>.

Approach to Crete – Route Profile

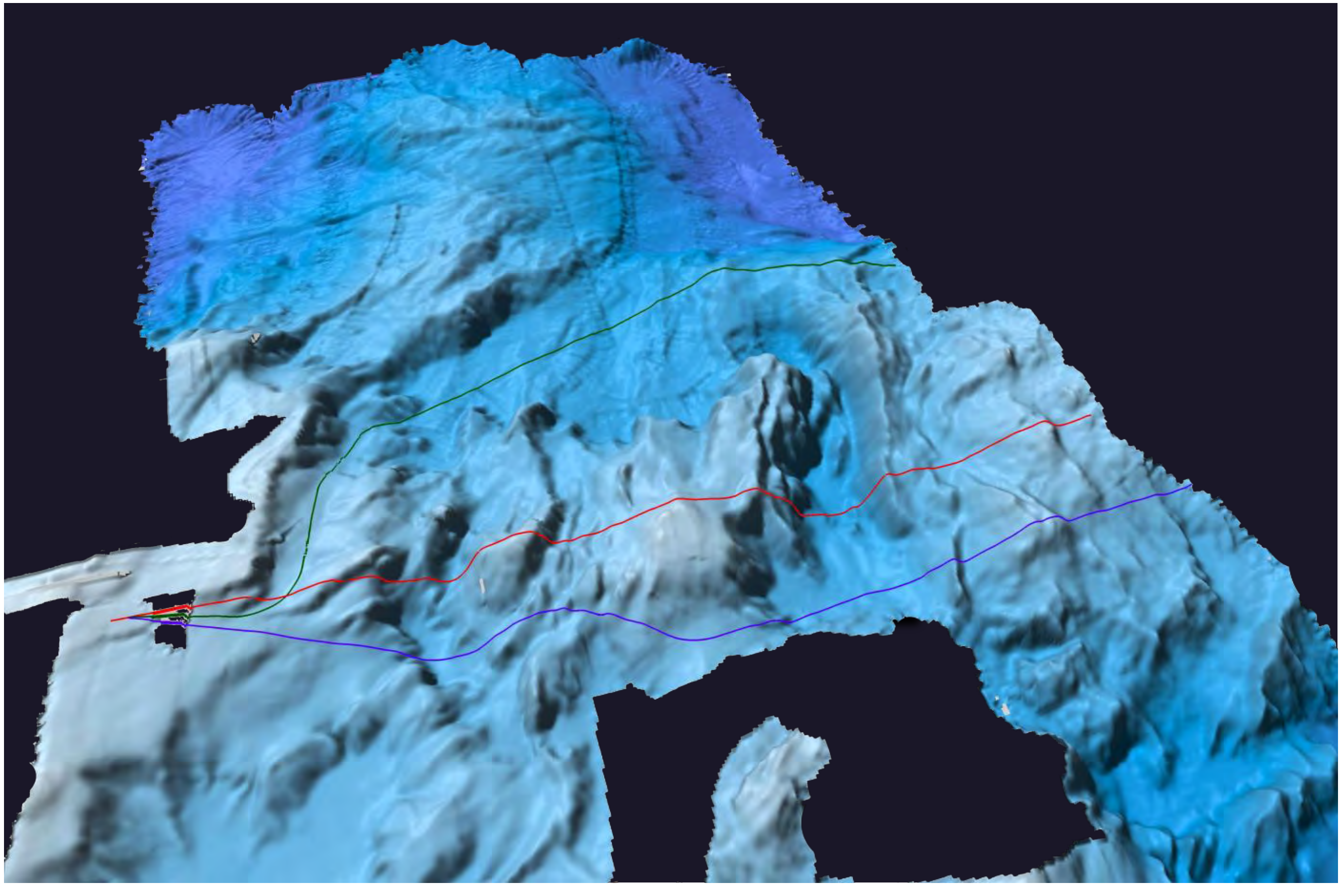


Source: JP Kenny

Offshore pipeline from the East Med to Greece

The challenging approach to Crete has been looked into in more detail in a way that will minimize the technical challenges.

Approach to Crete - Bathymetry

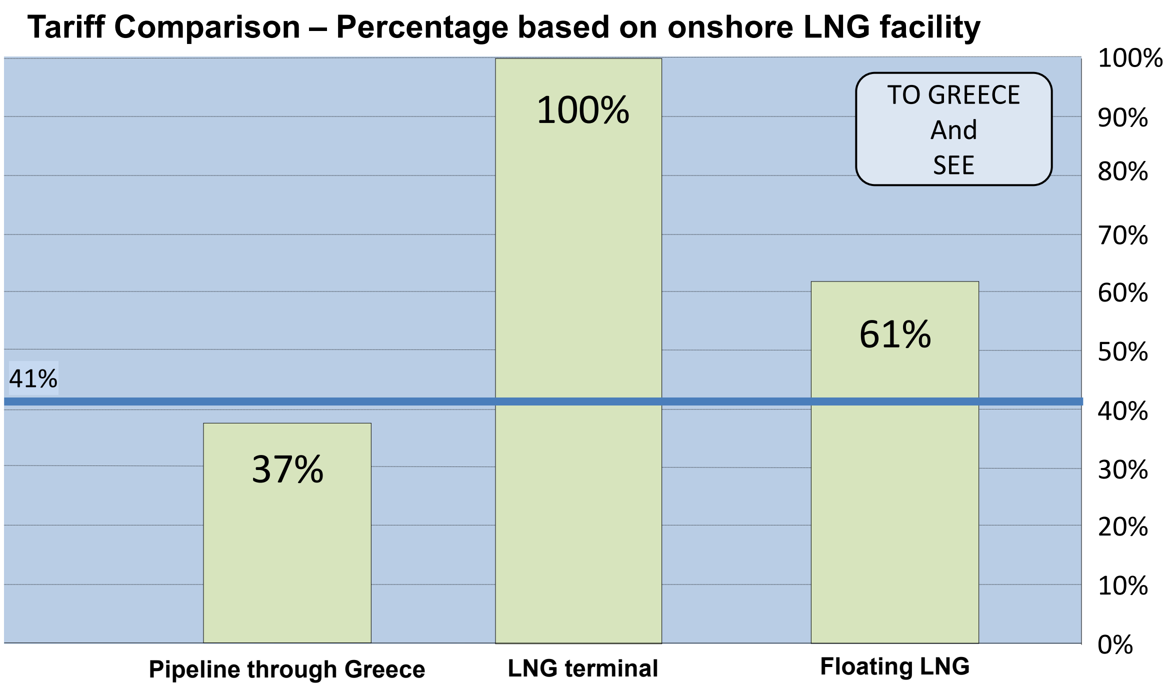


Source: JP Kenny

Offshore pipeline from the East Med to Greece

The estimated transportation tariff of the pipeline is almost one third of the respective tariff for an LNG terminal.

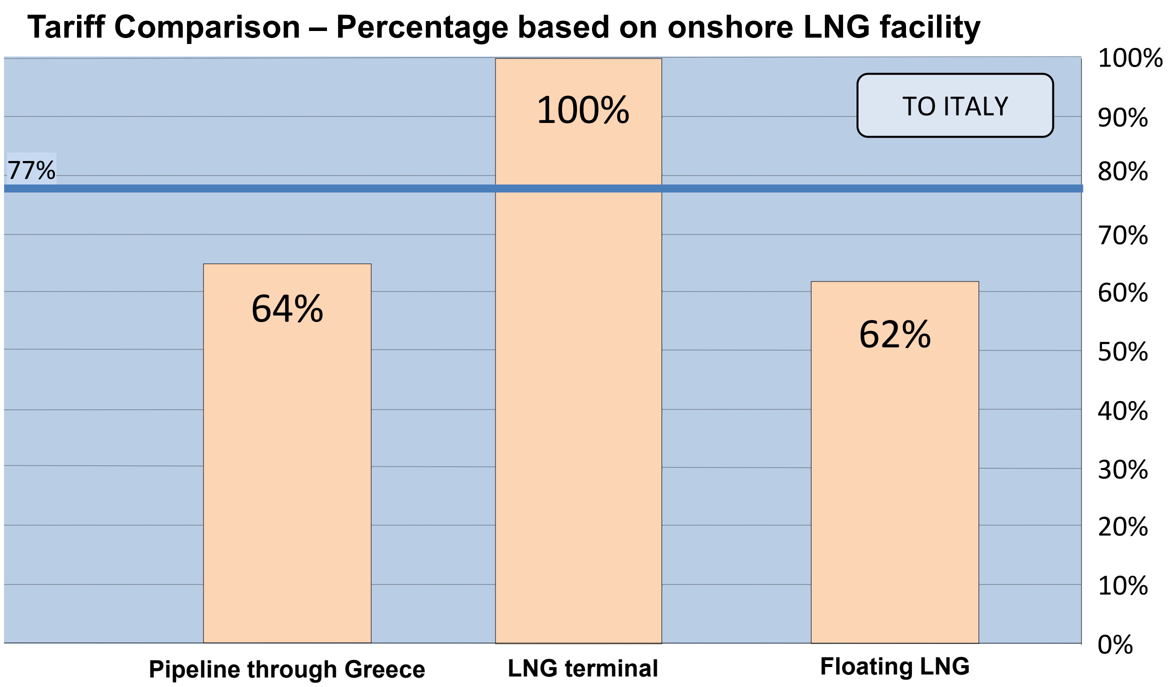
Transportation tariffs remain much lower even for delivery of gas to Italy and SEE.



Offshore pipeline from the East Med to Greece

The estimated transportation tariff of the pipeline is almost one third of the respective tariff for an LNG terminal.

Transportation tariffs remain much lower even for delivery of gas to Italy and SEE.



Offshore pipeline from the East Med to Greece

The future Asian LNG market will be very competitive, with players from Australia, N. America and even E. Africa.

Gas demand in SE Europe will create a supply window of over 20bcm by 2025.

A pipeline option would be more likely to secure European buyer participation through long-term contracts.

The pipeline will supply natural gas to Crete spurring development in new markets.

East Mediterranean gas will play an important role as the EU incorporates this newly found source into its energy policy.

EU funding will make the pipeline option an even more attractive solution.

Connecting to Europe
The ITGI System (IGI+IGB)

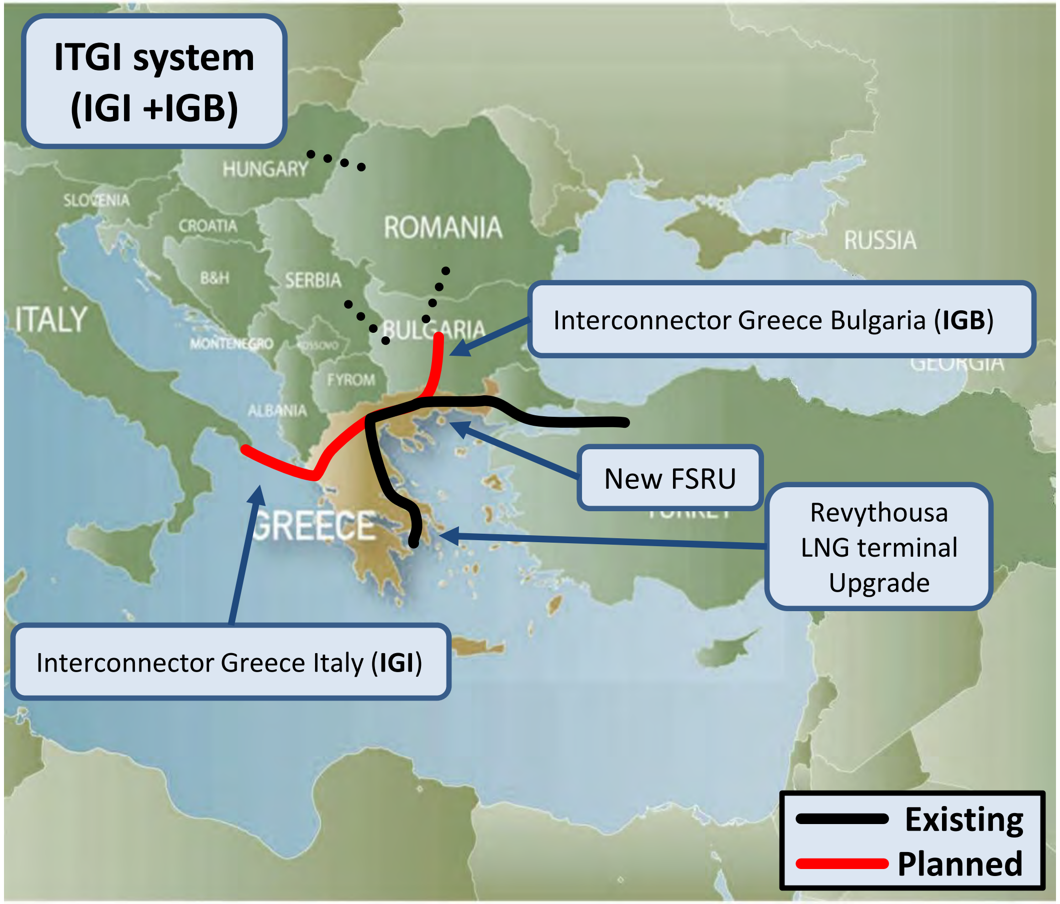
The ITGI System comprises IGB and IGI, a powerful combination which provides for the needs of SEE.

The ITGI System will connect Greece's grid to Italy, Bulgaria and beyond.

IGI is the most technically mature project of its kind in the region.

Construction of IGB will provide up to 5bcm of either LNG or pipeline gas to SEE by 2014.

Expansion of existing LNG terminal in Revythousa and new FSRU to feed IGB.



Connecting to Europe
Pipeline From East Mediterranean

The ITGI System comprises IGB and IGI, a powerful combination which provides for the needs of SEE.

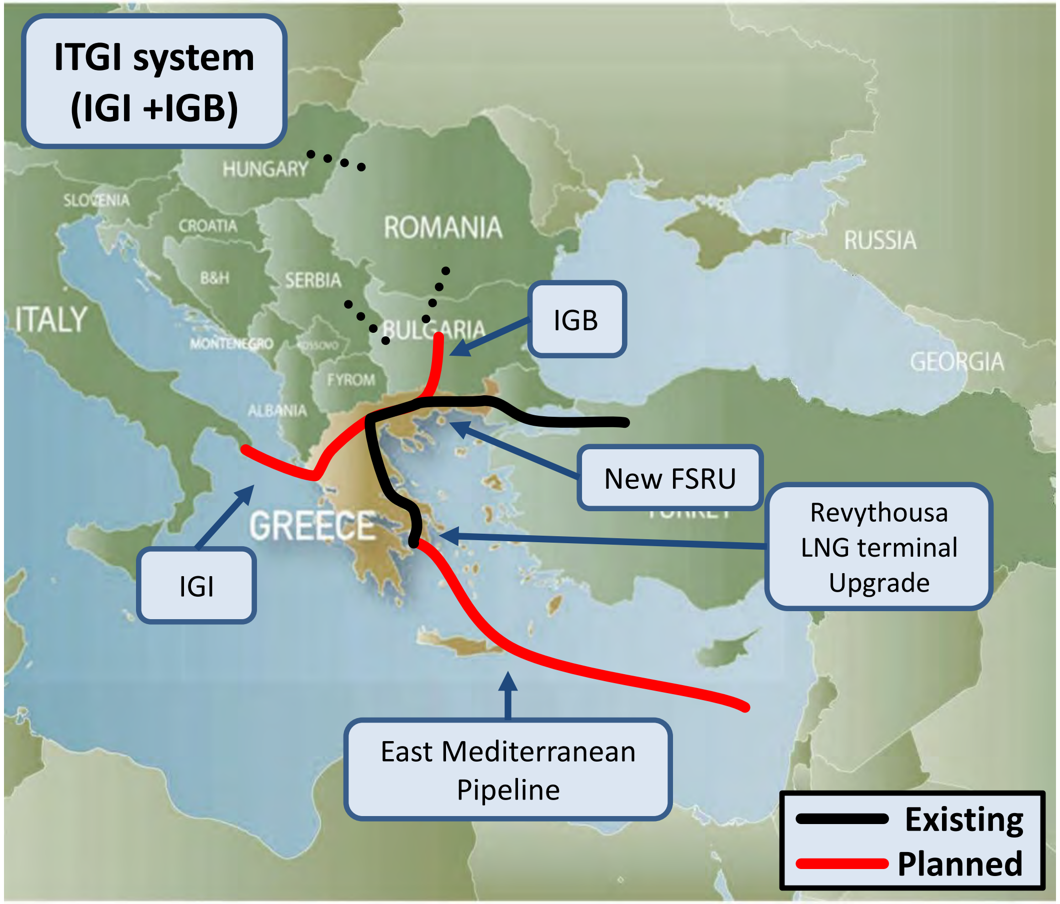
The ITGI System will connect Greece's grid to Italy, Bulgaria and beyond.

IGI is the most technically mature project of its kind in the region.

Construction of IGB will provide up to 5bcm of either LNG or pipeline gas to SEE by 2014.

Expansion of existing LNG terminal in Revythousa and new FSRU to feed IGB.

A pipeline from East Med will create strong synergies with the ITGI system and will connect East Med to the European grid.



Connecting to Europe
Pipeline From East Mediterranean

The ITGI System comprises IGB and IGI, a powerful combination which provides for the needs of SEE.

The ITGI System will connect Greece's grid to Italy, Bulgaria and beyond.

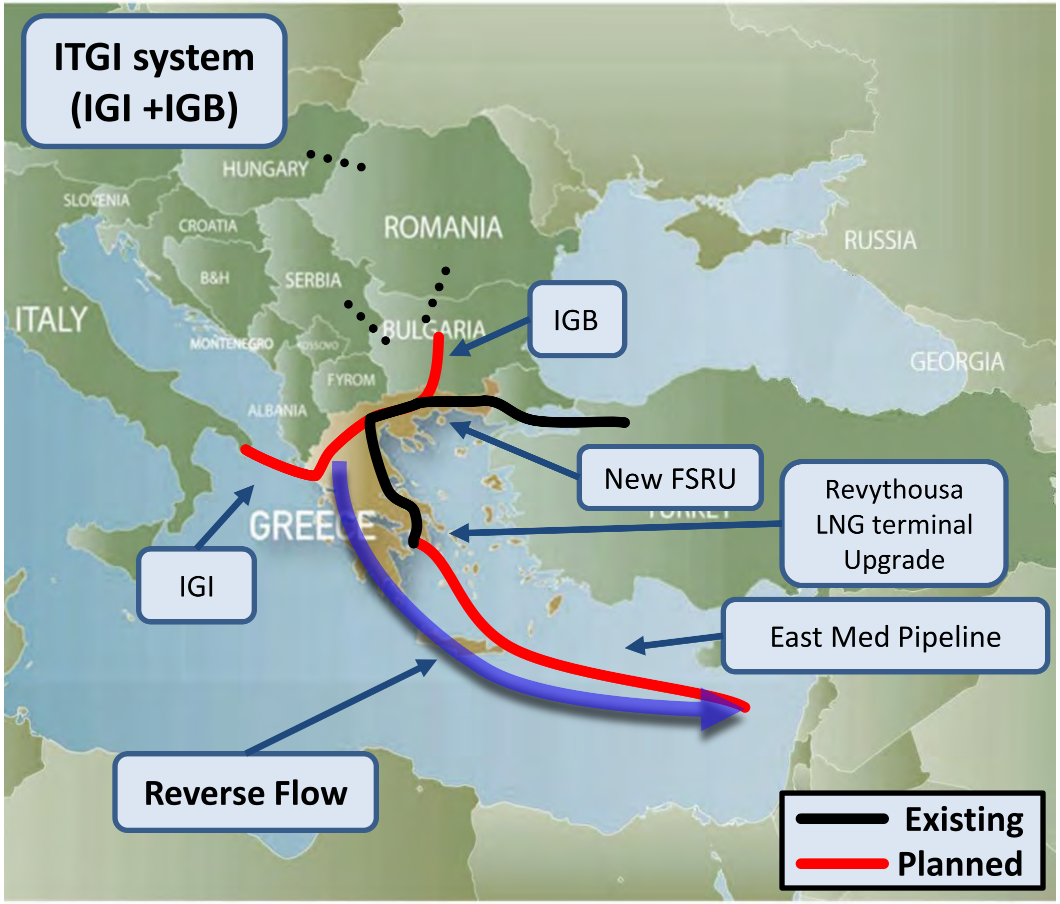
IGI is the most technically mature project of its kind in the region.

Construction of IGB will provide up to 5bcm of either LNG or pipeline gas to SEE by 2014.

Expansion of existing LNG terminal in Revythousa and new FSRU to feed IGB.

A pipeline from East Med will create strong synergies with the ITGI system and will connect East Med to the European grid.

In case of an emergency, reverse flow would allow gas from Russia, Italy or even N. Africa to reach the East Mediterranean countries.



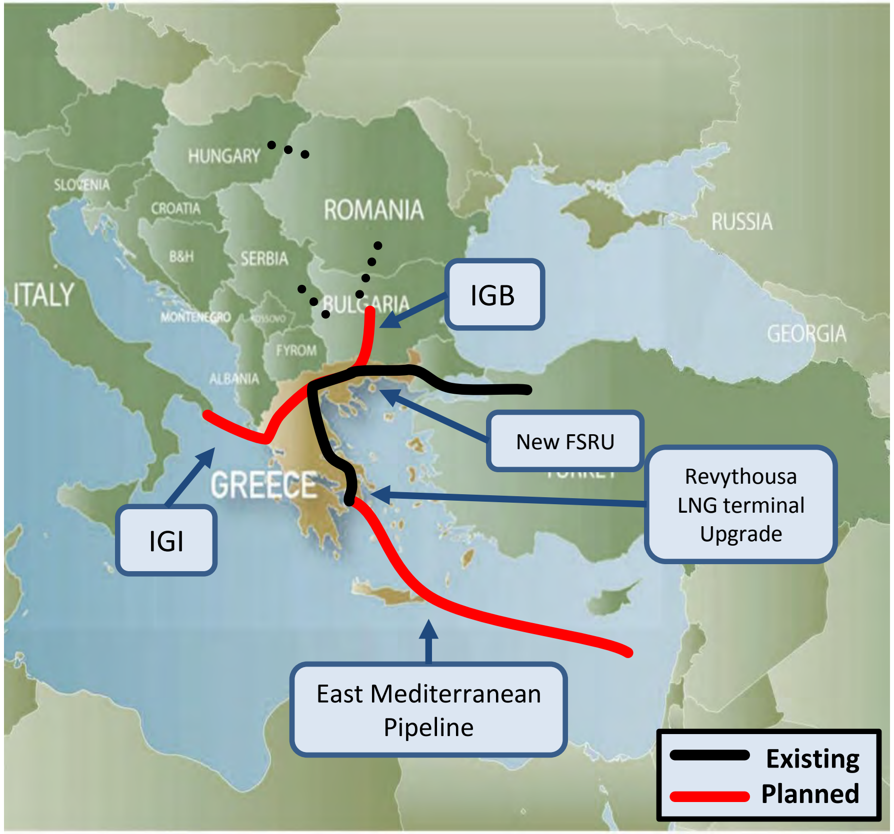
Greece and Southeastern Europe

An offshore pipeline from East Med can:

- **link with the ITGI system;**
- **allow access to the SEE and Italian markets,**
- **at competitive tariffs,**
- **as early as 2017.**

Southeastern Europe is a key market for the new sources of gas in the Eastern Mediterranean because of:

- **its proximity to the source and**
- **its potential for growth.**



Thank you for your attention

ΔΕΠΑ

PUBLIC GAS CORPORATION S.A