

Southern Gas Corridor

From where to where?

That is the question

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



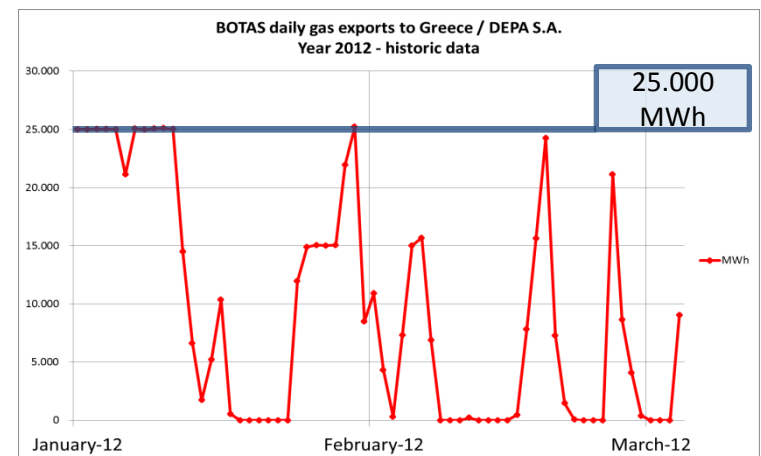
To where? Through Turkey

Turkey will undertake a key role as a transit AND a target country in the opening of the Southern Gas Corridor. (Already 6 bcma from the 16 bcma total from SD2 are allocated to Turkey)

There is currently no transit agreement in place for deliveries through Turkey.

The Turkish supply route has not been totally reliable.

Forecasts predict that a gas deficit of ~7bcm in Turkey 2014 (PFC Energy) will exacerbate the situation.



To where?

EU-30 Growing Supply Demand Imbalance

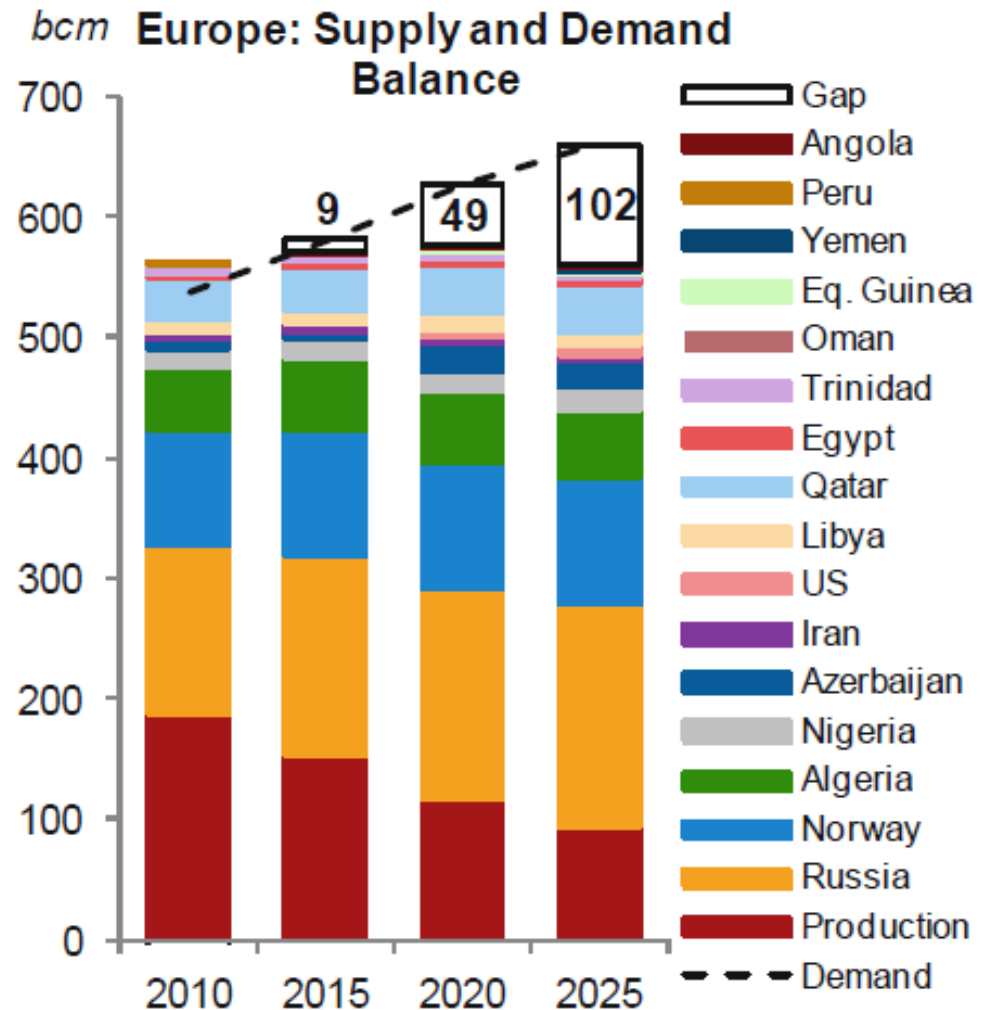
Europe needs to replace ~100 bcma from declining production by 2025.

Increasing demand
(just in Greece and despite the crisis, demand rose from 3.6bcm in 2010 to 4.5bcm in 2011 and approximately an additional 30% in the first two months of 2012).

Most of its existing suppliers will not increase exports.

Europe faces a supply-demand gap by 2020 and it grows larger by 2025.

Around 20 bcma of the supply gap stems from the growth in SEE region, the closest market to the Southern Gas Corridor.





To where? Italy and SEE Developments in the region

Romanian domestic gas production is expected to decline by 2-3 bcma by 2025.

There are new potentially significant discoveries offshore Romania and Bulgaria.

North Africa is not expected to deliver much additional gas into Europe through 2025.

Algeria's Sonatrach's efforts will largely enable it to merely sustain mid term gas production.

Egypt's domestic demand will force a decrease in the current gas exports to Europe.

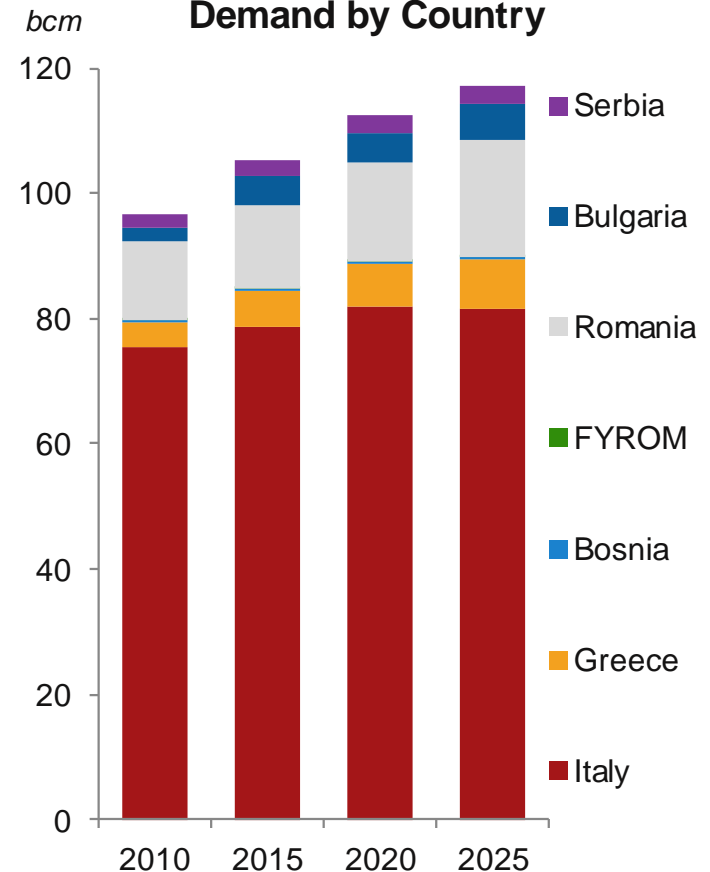
Libya has taken a hit in its production and exports due to political upheaval and it is not expected to reach previous export levels before 2025.

Italy has planned regasification terminals but few developments will actually move forward.

Domestic

Imports

South East Europe: Gas Demand by Country



Source: PFC Energy

To where?

Italy and SEE

Market State of play

Gas demand will grow by 1% p.a. through 2025 in SE Europe (growth of 19bcma, from 96 bcma in 2010 to 117 bcma in 2025).

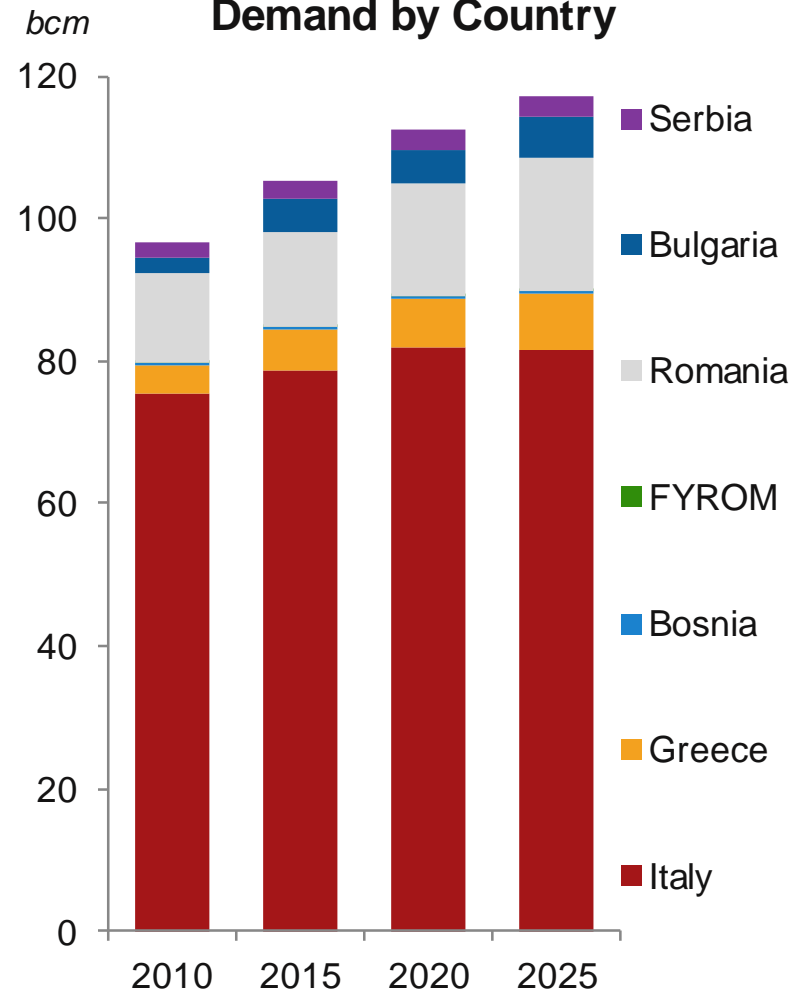
Italy, Romania and Greece remain the biggest markets in 2025.

Considering the few options for meeting this supply gap, around 12 bcma are left to be met by different sources.

The region may be open to sales from new suppliers to enhance energy security due to its dependence on pipeline gas from Russia.

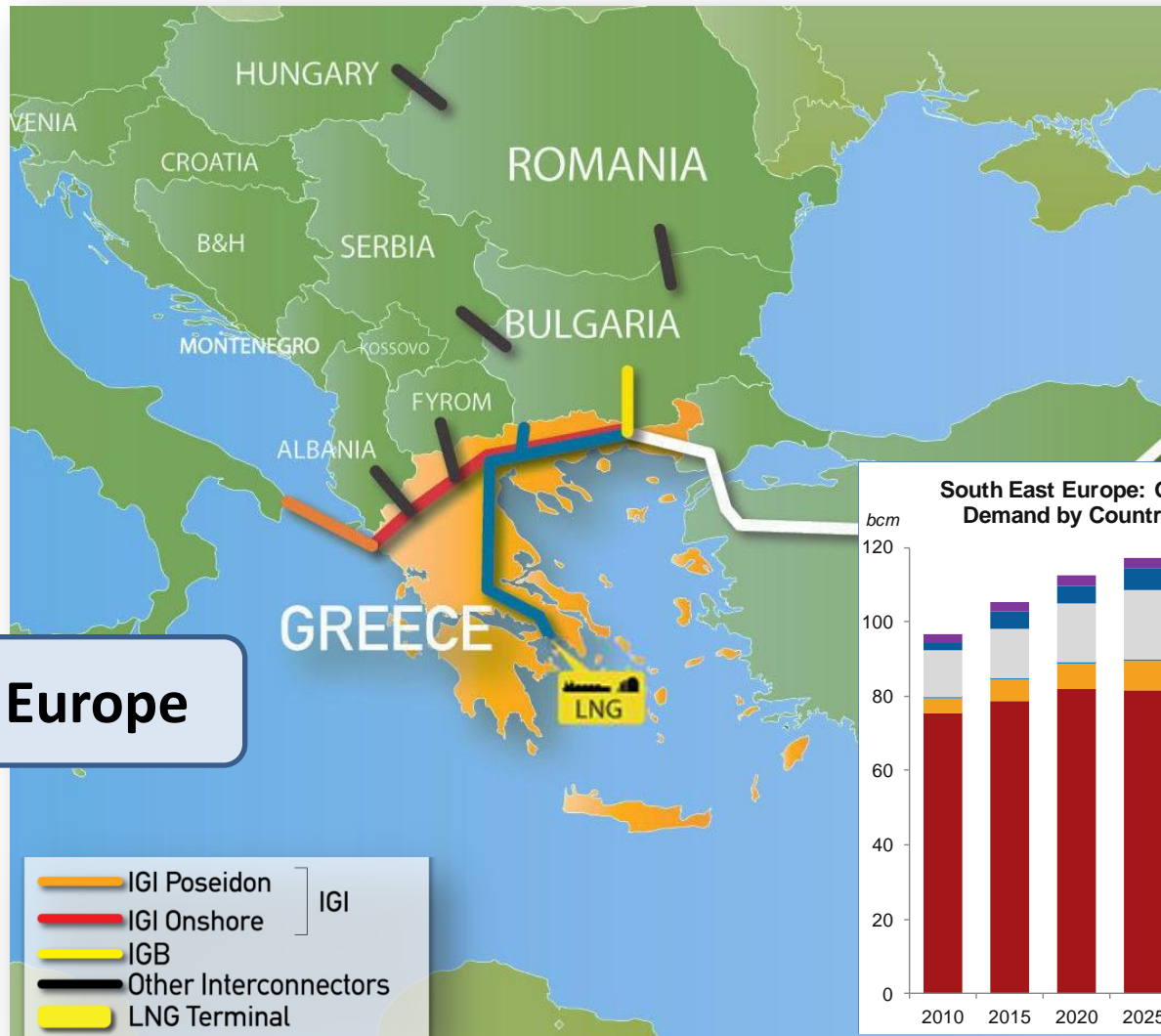
Italy is currently oversupplied with natural gas and this trend will likely continue in the long term.

South East Europe: Gas Demand by Country



Source: PFC Energy

To where?



To South East Europe

From where? Caspian Region/Middle East

Azerbaijan's development of the Shah Deniz field (1st and 2nd phase) will eventually supply Europe with more than the initial 10bcma.

Turkmenistan has considerable reserves, however the need of the Trans-Caspian pipeline significantly reduces the chances of exports to Europe by 2025.

Caspian
Region

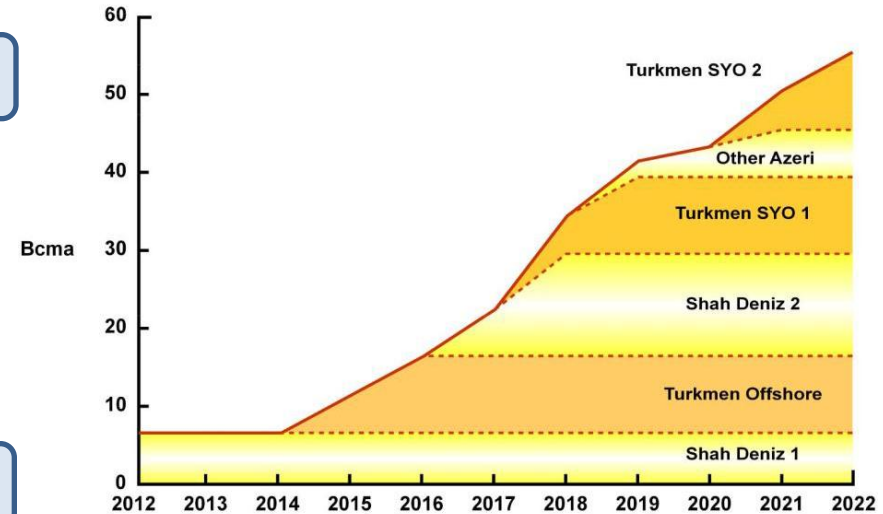
Iran will not be able to export to Europe due to political reasons - sanctions issued in 2011 apply to the energy sector as well.

Iraq is currently bogged down due to domestic political reasons and no export potentials to Europe are foreseen by 2025.

Middle
East

The only realistic source of natural gas to Europe to come online before 2025 is Azerbaijan. A source which will continue to develop through new fields (eg. Absheron) increasing its export capacity to Europe.

Build-up of Turkmen and Azerbaijan Gas Production
IHS CERA Reference Case
(Westbound Export Volumes Only)



Source: IHS CERA.
Notes: SYO = South Yolotan/Osman.
01214-19



From where? East Mediterranean

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.



From where? Italy?

Even though Italy is considered as a target market, recent trends raise questions.

Italy is currently undergoing a crisis in the gas-fired power generation sector.

The priority of renewable sources in power generation in conjunction with the high prices of gas have resulted in a situation where Italy is oversupplied with gas.

This trend will persist long term, in effect maintaining the state of oversupply of natural gas in Italy.

The link between Greece and Italy would provide SEE with access to alternatives sources, leveraging gas supply from Italy, including North Africa gas.



From where? South Stream

Gazprom has indicated that there is greater demand for the Northern Branch of South Stream and may delay the implementation of the Southern Branch of South Stream.

This further supports the view that Italy is oversupplied.

Russian gas could also supply SEE with small additional quantities, supplementing the redirected gas through South Stream.



From where to where? The SEE market

The SEE market is:

- the closest market to ALL of those sources;
- a booming market with competitive prices;
- in urgent need to diversify its supply sources and increase its energy security.

The SEE Market may yet prove to be the most important and decisive factor in how the new game is shaping up to be.

Who will be first to the SEE market?



From where to where? A race to the closest market



It's a Race to SEE

From where to where?



**How do we access SEE?
Is there a natural gateway?**

What are our options?

Infrastructure

Interconnector Greece-Bulgaria (IGB) will supply up to 5bcma by the end of 2014.

Nabucco West, the new scaled down proposal which will utilise the TANAP (Socar/Botas pipeline crossing Turkey). Nabucco's West route from Bulgaria to Austria remains the same.

South East European Pipeline – SEEP, BP's proposal of 10 bcma.

Interconnector Greece-Italy (IGI), a pipeline which supports reverse flow and will create a link between an oversupplied Italy to Greece and beyond.



What are our options?

1st Phase Shah Deniz

IGB including other SEE infrastructure may source gas from:

- **2014**
Azerbaijan, from the first phase of Shah Deniz, pending the transit agreement through Turkey;



What are our options?

LNG terminal in Revythousa

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- 2014
Azerbaijan, from the first phase of Shah Deniz, pending the transit agreement through Turkey;
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Worldwide LNG using existing Terminal in Revythousa;



What are our options?

Floating LNG

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- 2014-2015
Floating LNG in Northern Greece;



What are our options?

Reverse flow from oversupplied Italy

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- 2014-2015
Floating LNG in Northern Greece;
- 2016-2017
Through IGI reverse flow from Italy/Algeria;



What are our options?

2nd Phase Shah Deniz

IGB including other SEE infrastructure may source gas from:

- 2014
Azerbaijan, from the first phase of Shah Deniz, pending the transit agreement through Turkey;
- 2014
Worldwide LNG using existing Terminal in Revythousa;
- 2014-2015
Floating LNG in Northern Greece;
- 2016-2017
Through IGI reverse flow from Italy/Algeria;
- 2017-2018
Azerbaijan, second phase of Shah Deniz;



What are our options? Eastern Mediterranean

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- **2014-2015**
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- **2016-2017**
Through IGI reverse flow from Italy/Algeria;
- **2017-2018**
Azerbaijan, second phase of Shah Deniz;
- **2017-2018**
Eastern Mediterranean. Timing is based on political decisions of producers.



What are our options? Answers/Conclusions

The SEE market is the most attractive target market because:

- it's booming;
- it is in urgent need for diversification, and
- it is closer to the new sources.



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Greece is the natural gateway into SEE allowing several diversification choices and energy security to SEE;



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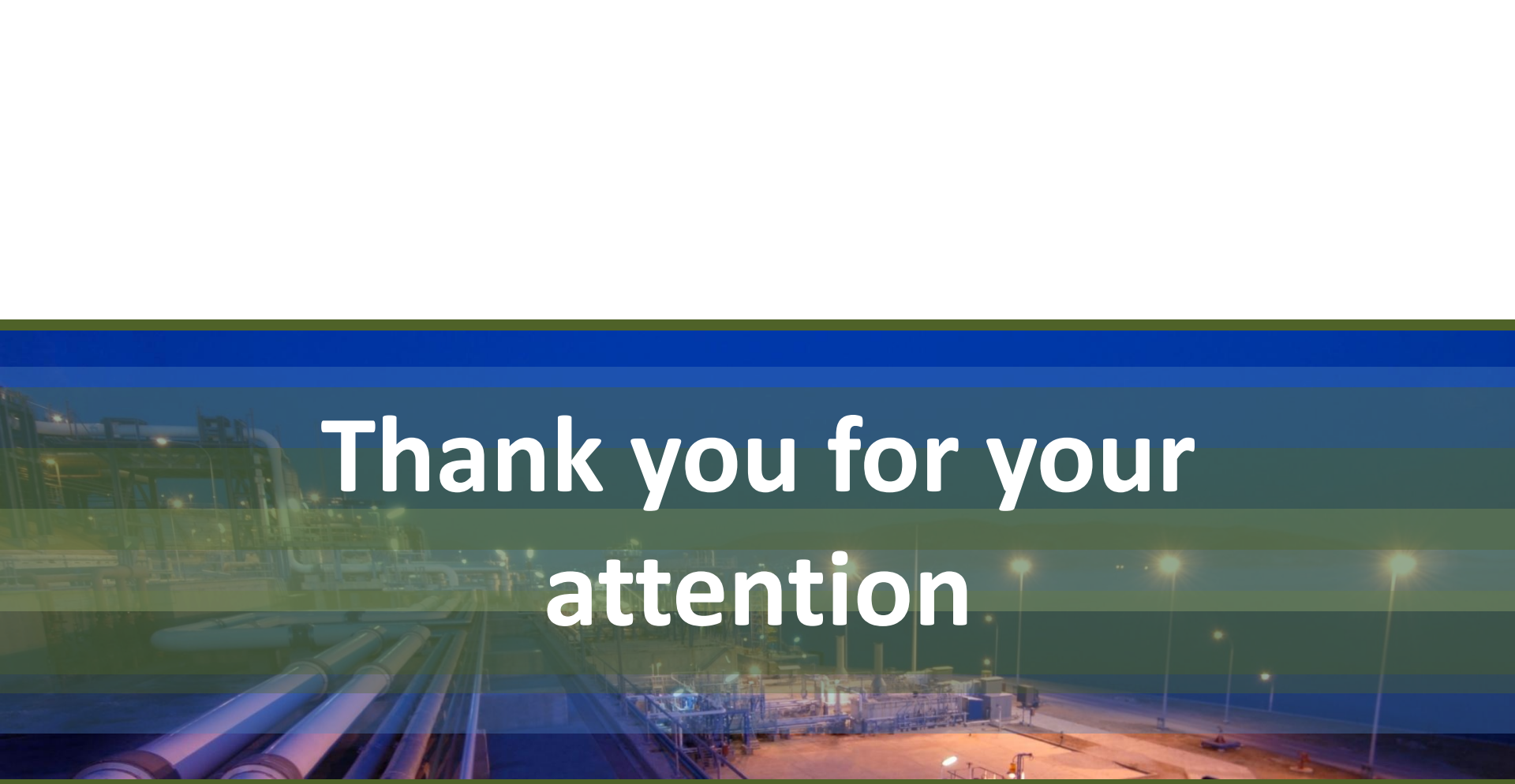
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Eastern Mediterranean gas may be the late comer which wins the race, provided that prompt political decisions are taken.



A photograph of an industrial facility at night, featuring large pipes in the foreground and various structures and lights in the background. The image is overlaid with a semi-transparent blue and green banner.

**Thank you for your
attention**