LNG in Greece and beyond

Angeliki D. Mourtzikou, Head of Oil & Gas Dept.

Regulatory Authority for Energy

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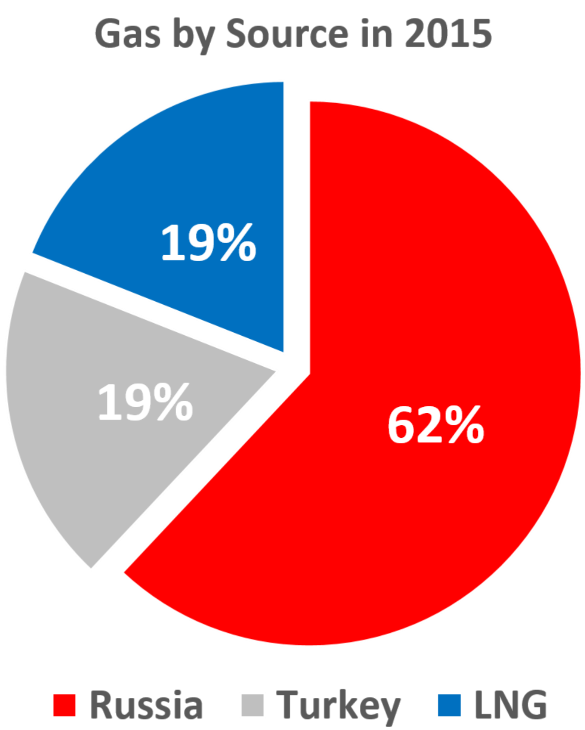
Greek Gas Market at a glance



- Natural gas introduced as a fuel comparatively late (1997-1998)
- Imports via pipeline and LNG (total consumption ~3 bcma in 2015).
- No physical exports of gas (sole example of physical gas export, in 2009 GR->BG).
- LNG Terminal in operation since 2000.
- Consumption profile in 2015: 58% (electricity generation), 22% (EPA areas), 20% (others).
- No organised wholesale market yet.
- Fifty (50) registered shippers.
- Twenty three (23) authorized suppliers for eligible customers.

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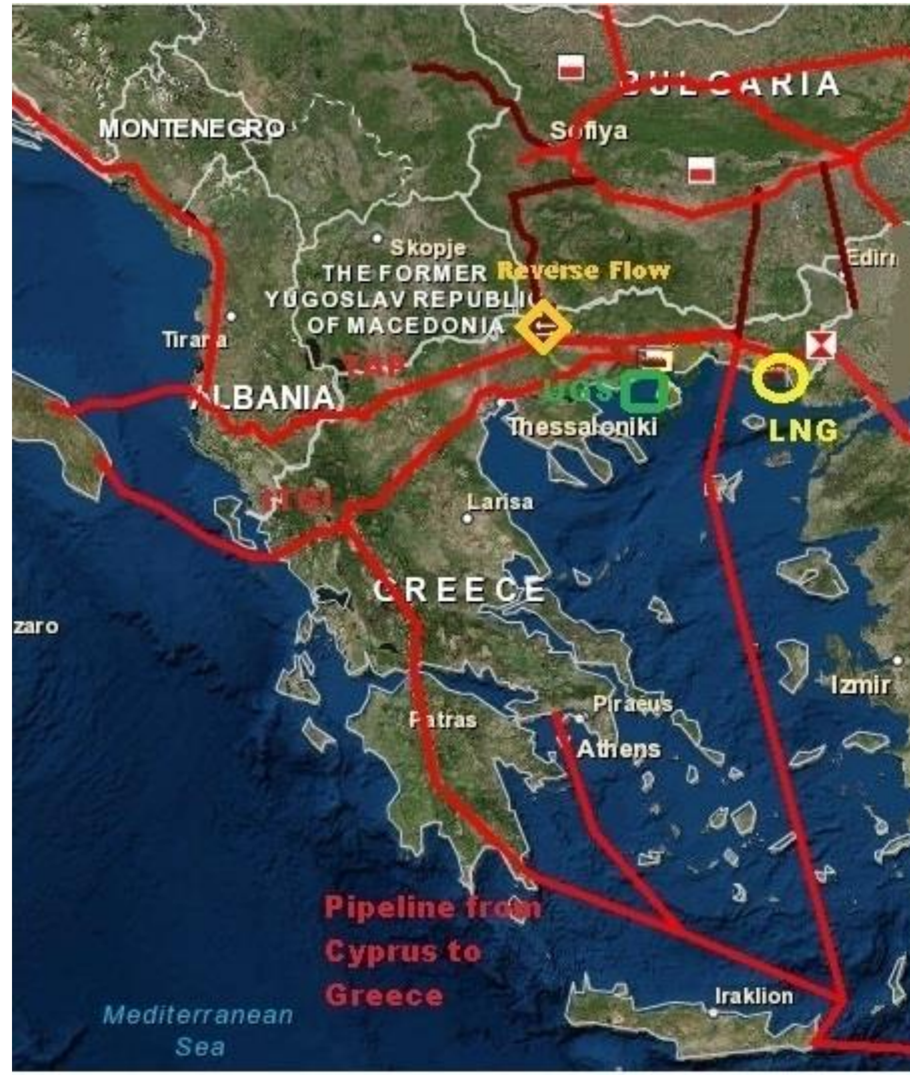
Major interest for new infrastructure

Entry Capacities (bcma)(*)			
		2016	2018
Existing Infrastructure	IP Greece - Turkey (NNGS)	1,4	1,4
	IP Greece Bulgaria	3,5	3,5
	LNG - Revithousa	4,1	6,3
TOTAL		9,1	11,3

(*) LF=90%

PCI Projects

- TAP (10-20 bcma)
- IGB (3-5 bcma)
- IGI (10 bcma)
- LNG Northern Greece (5-6 bcma)
- EastMed (8 bcma)
- CS Kipi



Source: PCI Interactive map

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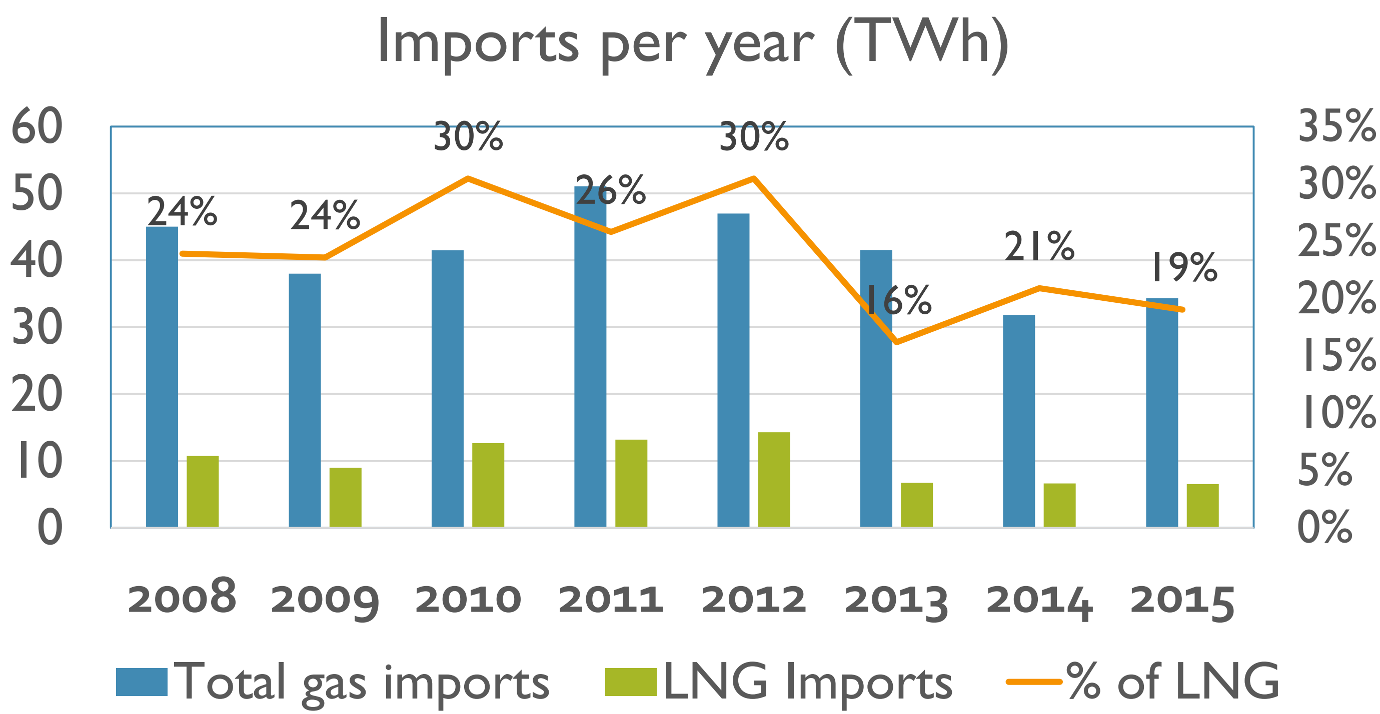
LNG Weight in Gas Imports



Past 2012, LNG weight to total gas imports dropped from 25-30% p.a. to 15-20% p.a. following the pattern observed across the EU.

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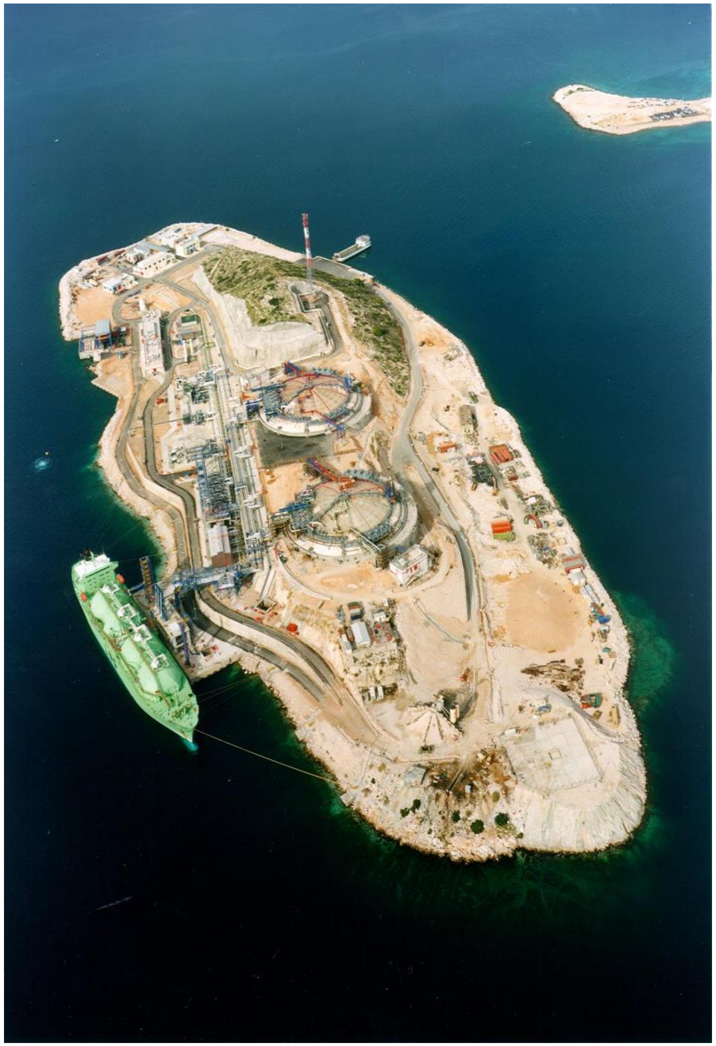
LNG effect on competition



- The establishment of the TPA Regime in the year 2010 and favorable LNG price dynamics resulted in the incumbent losing 12% of market share in 2011-2012.
- From 2013 onwards the dynamics has changed and competition eroded.
- At the most five (5) shippers have contracted capacity in one year in the terminal.
- The last two years only two-three (2-3) shippers have used the LNG terminal in Revithoussa.

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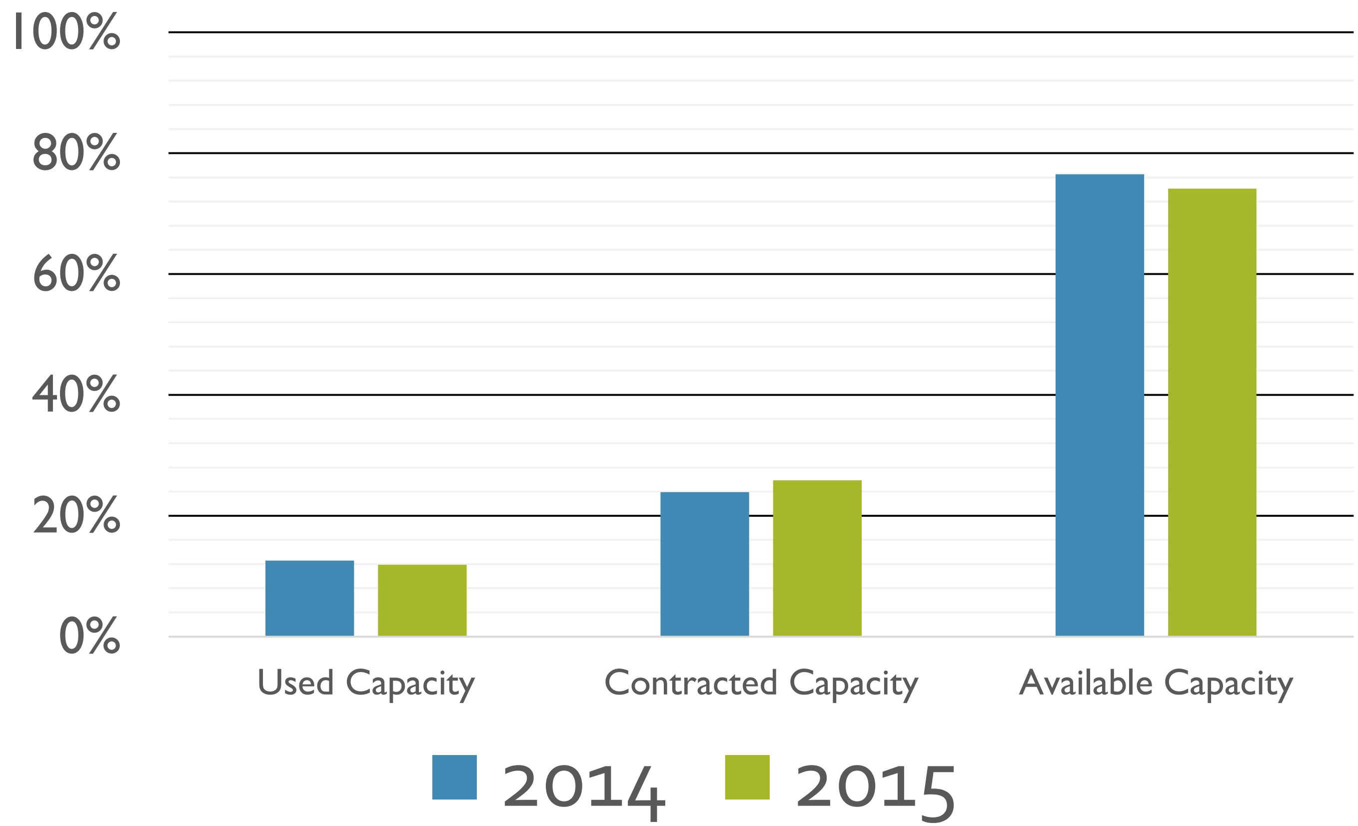
LNG Terminal Use



Source: DESFA Terminal transparency template

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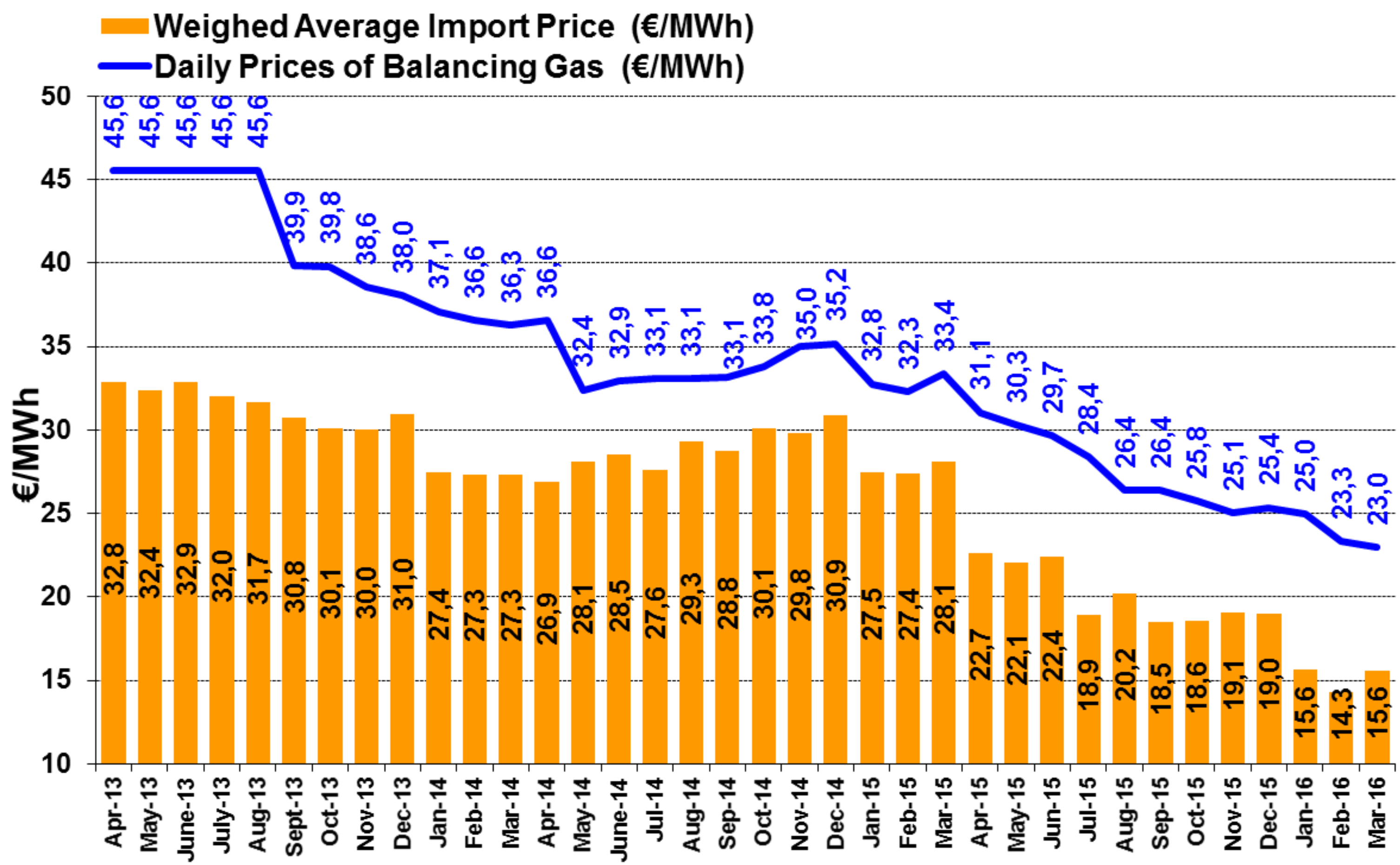
A pricing index is in place



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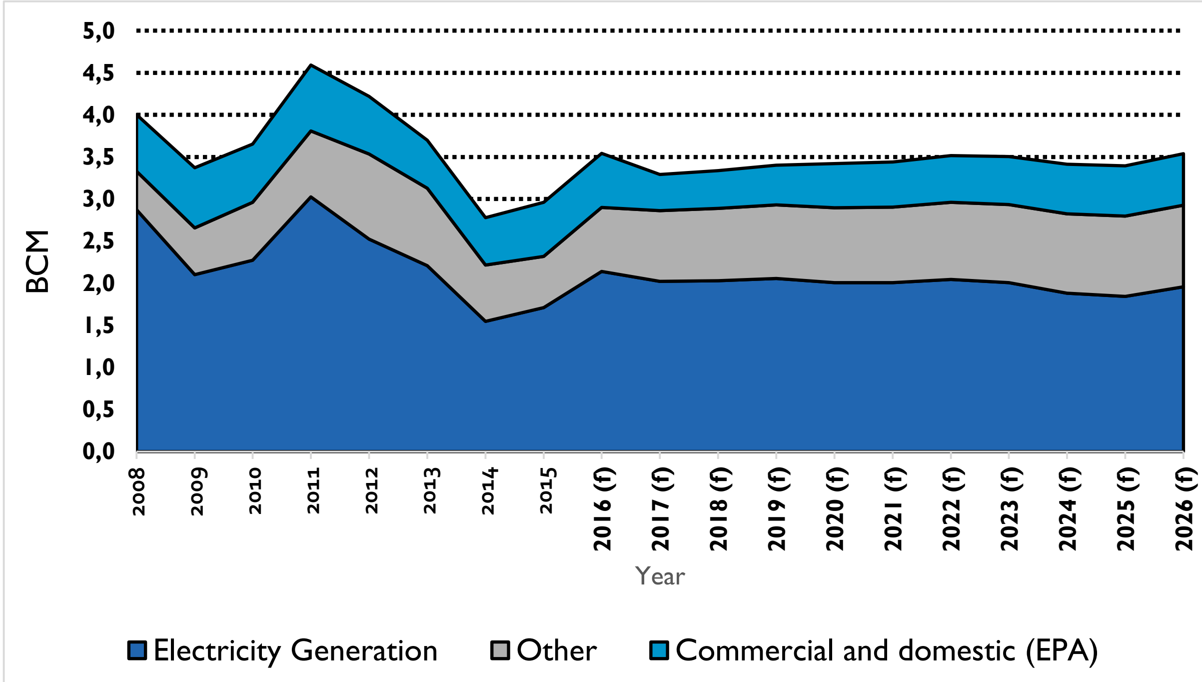
Current gas demand outlook



Source: DESFA S.A., National Natural Gas Development Studies (2016-2025, 2017-2026)

Gas demand has decreased significantly since 2011, when it reached a historical high level (4.5 bcm). According to the ten-year forecast demand is expected to reach 3.5 bcm past 2020.

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What is the goal?

Gas supplies which are or will be available to Southern Europe through Greece such as in particular the Southern Gas Corridor and LNG will open opportunities for diversification of gas supply for Ukraine and other CESEC countries.

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Major step completed

- The Interconnection Agreement for the IP "Kulata (BG)-Sidirokastro (GR) signed in June 2016 between the TSOs of Greece and Bulgaria, with the active support of RAE and EWRC and active guidance by the Commission, enabled commercial gas flow from Greece to Bulgaria starting the 1st of July 2016.
- The Commission has welcomed the agreement as a crucial step towards implementing EU rules on one of the last cross-border points in Europe where historic transit arrangements, tailored to a single company, prevailed.

https://ec.europa.eu/energy/en/news/new-gas-interconnection-agreement-between-bulgaria-and-Greece

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Greece – Bulgaria Project

Common capacity allocation procedures and bundling of capacity products between Bulgaria and Greece

(Included in the GRI 2015-2018 WP)

- RBP Platform selected
- Bundled products to be offered by DESFA-Bulgartransgaz

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2016-2017

- Flexible TPA regime in place for the use of the existing LNG Terminal and Transmission System/bundling of capacity in the 3rd amendment of the Gas Network Code
- Physical reverse products (up to 11.260 MWh/day) and commercial reverse products (up to121.600 MWh/day)
- Establishment of a Balancing Platform by the TSO/LSO where shippers can trade their imbalance positions and the TSO to buy residual balancing gas.

Ongoing changes in the market

- The remaining 15% percent of the gas market in Greece is gradually opened to competition by 2018 (full market opening).
- New services are planned at the LNG Terminal
  - Truck loading
  - LNG for shipping
- CNG Virtual pipeline is under way for supplying of remote customers.

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CESEC Initiative - Next

An MOU on a Joint approach and action plan to address bi-directional natural gas transportation via the Trans-Balkan pipeline to cope diversification and security of supply challenges is to be signed in Budapest on the 8th of September 2016.

Elaborate by the end of the year a set of options for establishing physical bi-directional flows capabilities with a view to all relevant technical, legal, and commercial aspects.

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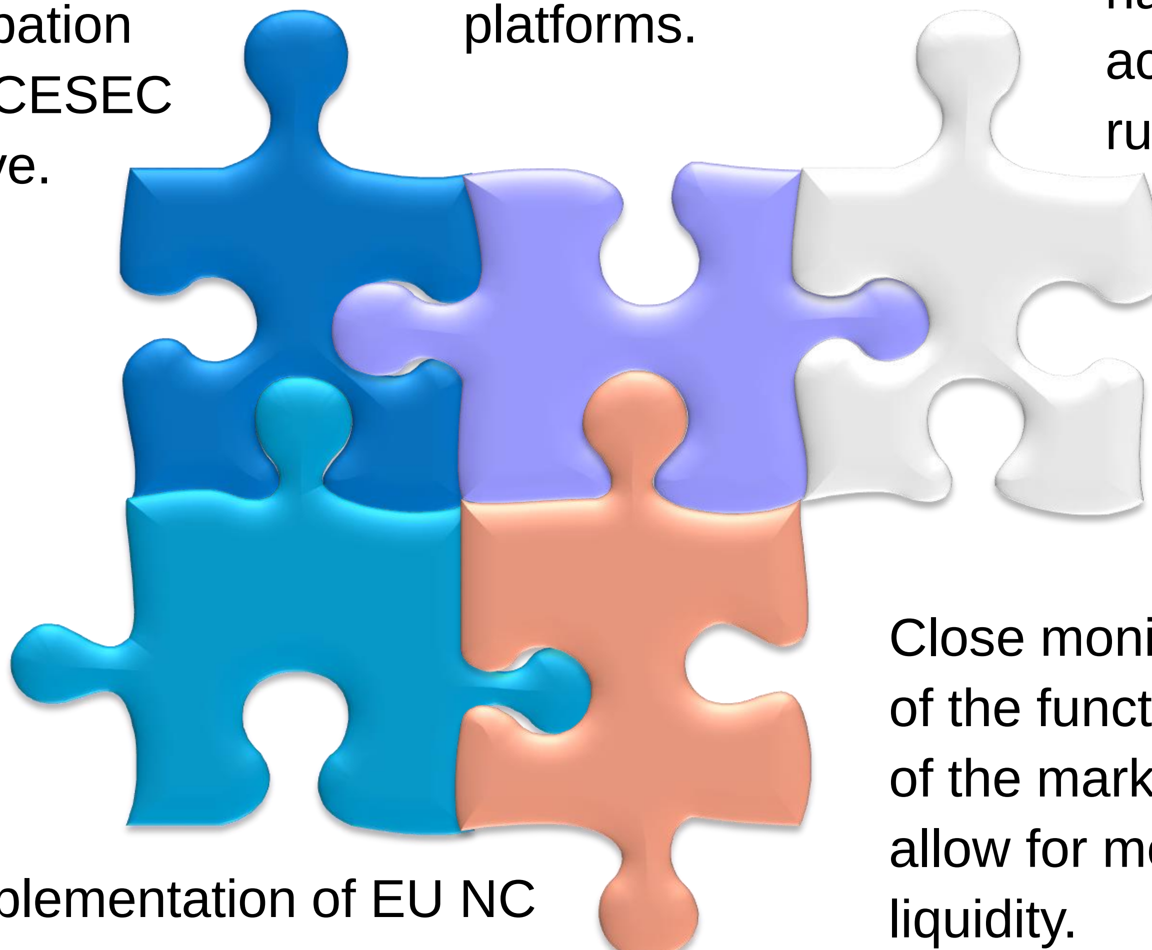
Way forward

Working on a more coordinated approach to regional gas trade and the corresponding platforms.

Implementation of harmonized access rules.

Active participation in the CESEC initiative.



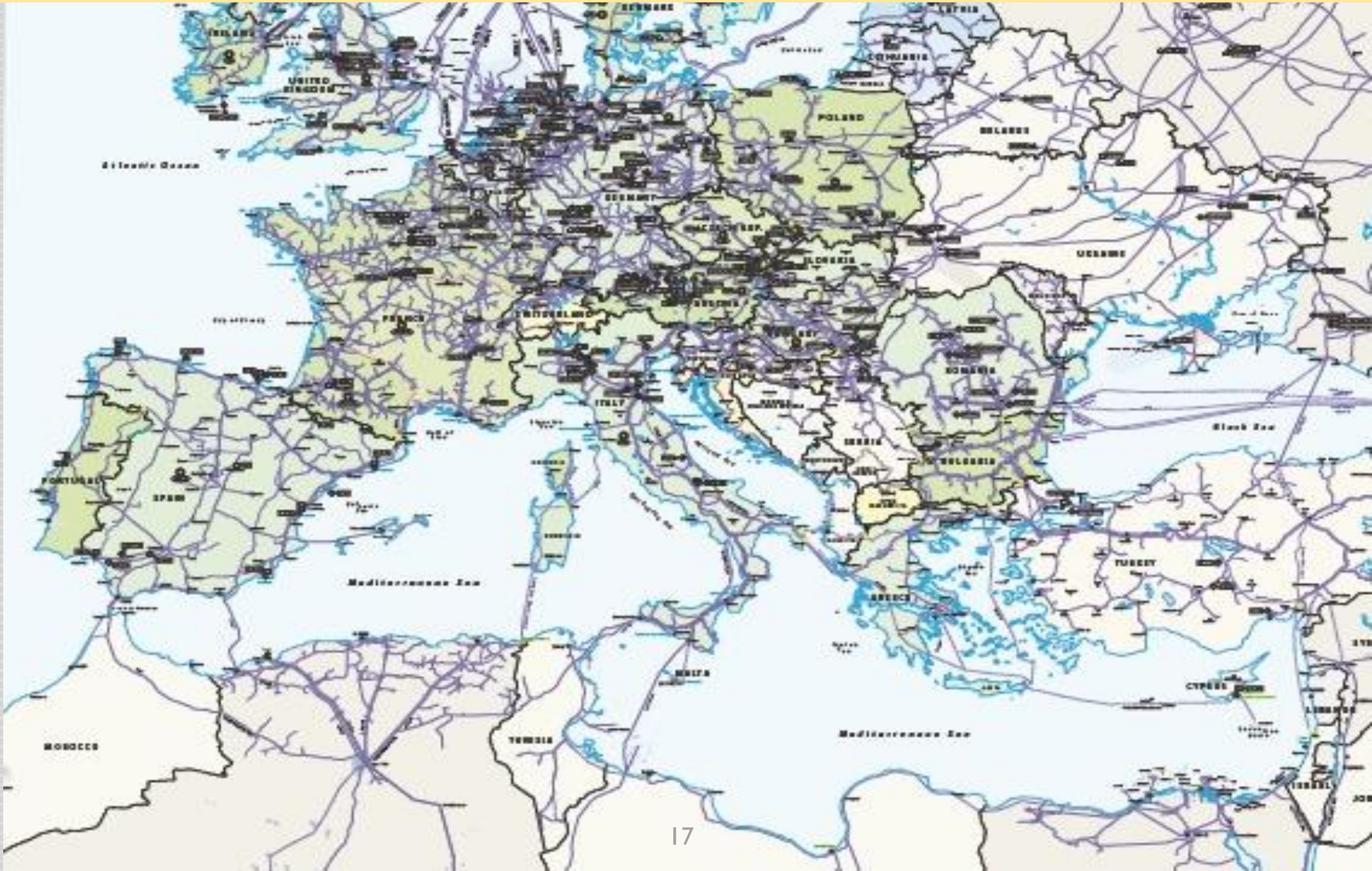
Close monitoring of the functioning of the market to allow for more liquidity.

Full implementation of EU NC provisions.

Conclusions

- There is abundant capacity in the existing infrastructure and an increased interest for building new capacity to move gas from Greece to SEE and beyond.
- The opening up of the IP Kulata-Sidirokastro along with associated next steps opens up the existing pipeline to reverse flow to cater neighboring markets.
- The creation of a gas hub in Greece is of utmost importance and a priority for the market.

The vision: Gas flows freely from any location in Europe to any location in Europe, fully competitive, functioning liquid markets and ensuring security of supply



Thank you for your attention!

Angeliki Mourtzikou
Head, Oil & Gas Department
Tel: +30-210-3727012
Fax: +30-210-3727
Email: amourtzikou@rae.gr

Regulatory Authority for Energy, RAE
132 Pireos St.
GR 11854
Athens, Greece
Tel: +30-210-3727400
Fax: +30-210-3255460
Email: info@rae.gr
www.rae.gr

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