



# ΕΝΕΡΓΕΙΑ & ΑΝΑΠΤΥΞΗ 2013

Αθήνα 3 & 4 Δεκεμβρίου 2013

## *"Mediterranean Gas to Europe"*

Challenges and prospects for Greece and SE Europe

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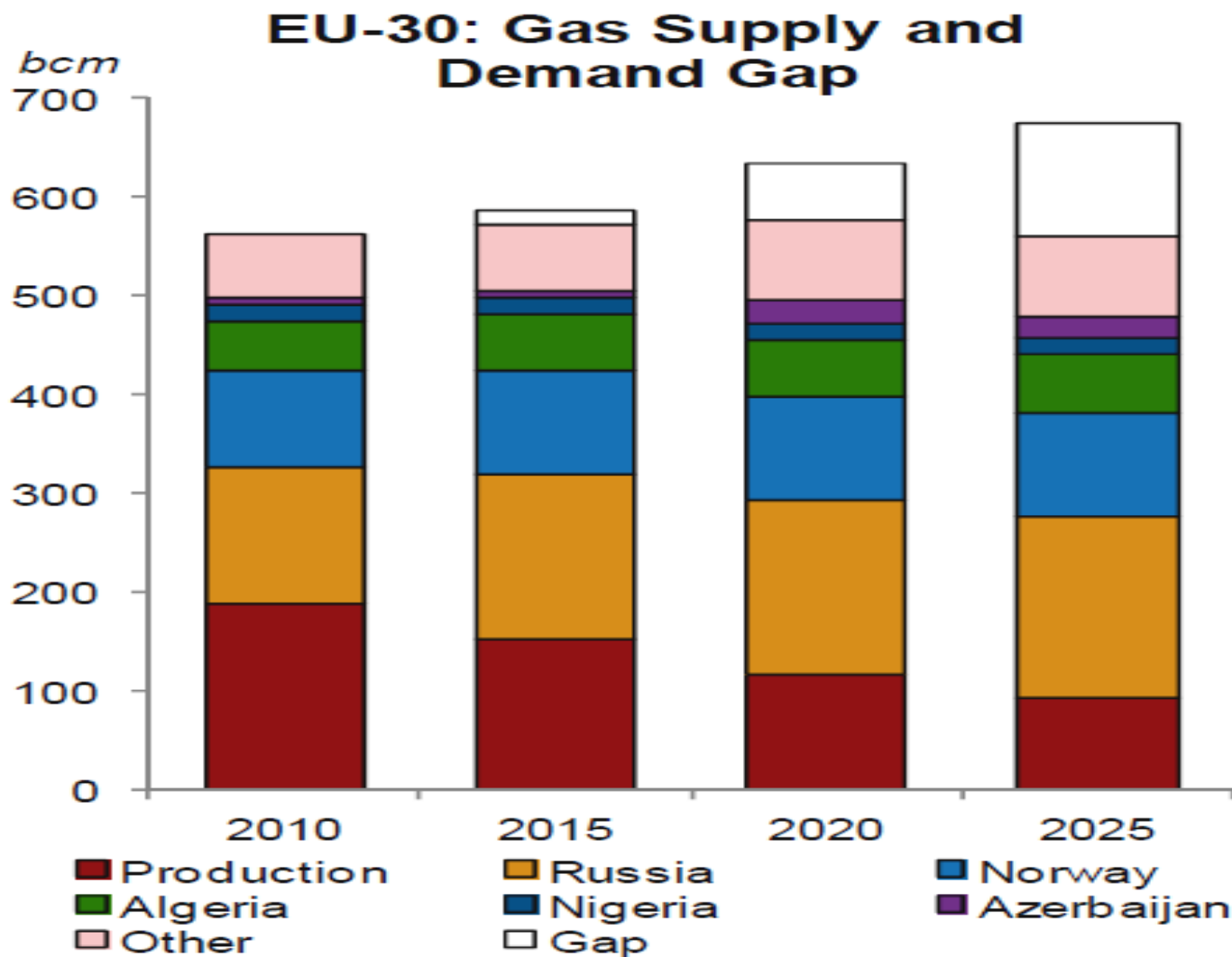


# Realities and challenges for the European Gas Market

Europe as a major energy consumer faces a number of realities and challenges when addressing its future needs for natural gas:

- ✓ Rising gas import dependency mainly due to declining indigenous production
- ✓ Increasing competition for new gas sources (both conventional and unconventional ones) from emerging economies (i.e. China and India)
- ✓ Persisting instability in neighboring gas producing countries (in Middle East and North Africa)
- ✓ Gas market liberalization/integration issues
- ✓ Climate change and energy sustainability policies

# Europe needs to secure some 100 bcma of gas by 2025



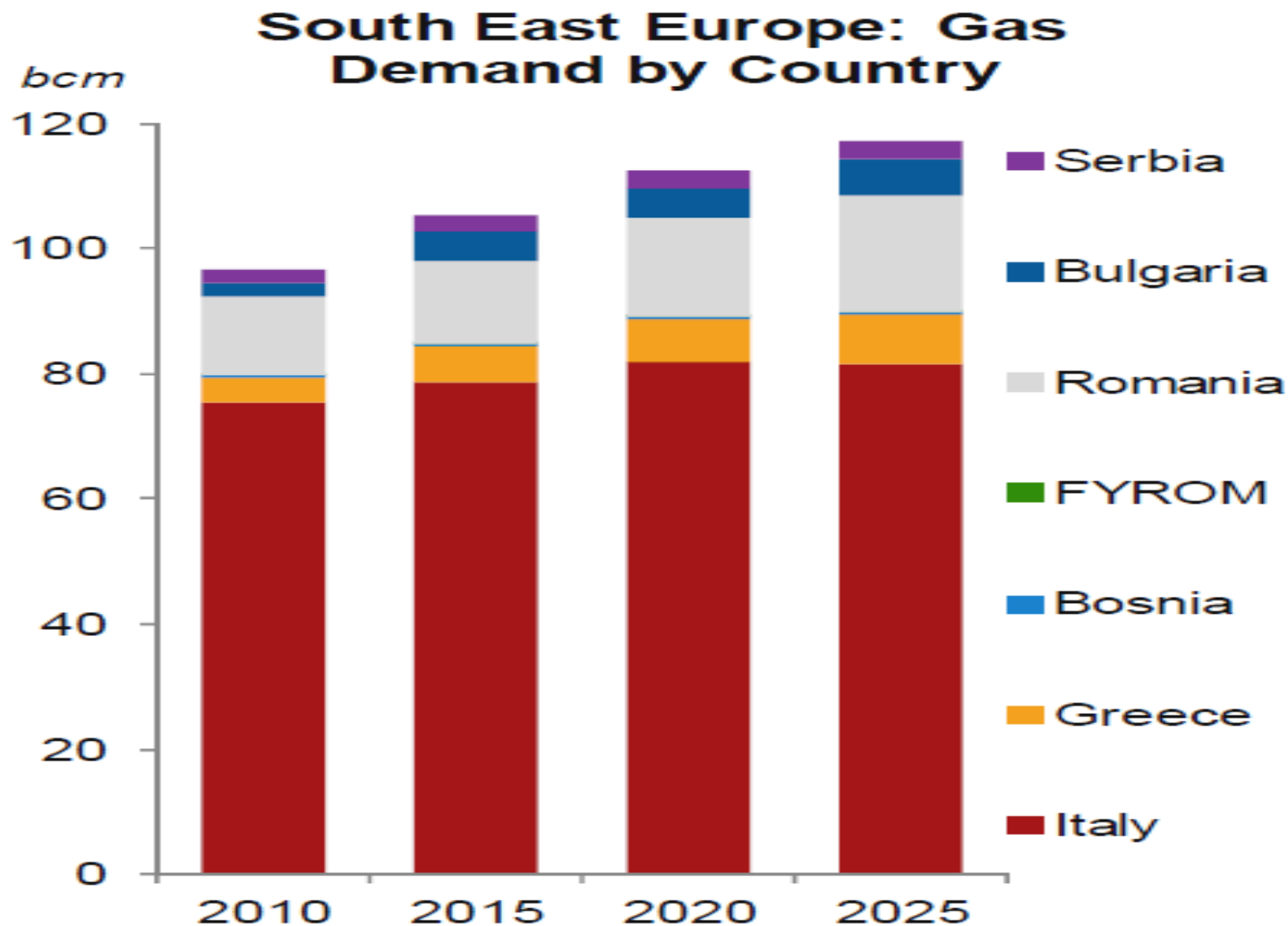


## SE Europe in particular faces very similar and even more complicated challenges

- Gas markets in the Balkans remain still national with limited integration and lack of gas-to-gas competition
- Moreover, low level of gas interconnections and insufficient LNG and UGS capacity curtail cross borders trade and gas flows
- Indigenous gas production is unable to meet regional demand and will decline further in the coming years
- Nearly all countries in the region have high import dependency on Russian gas



# Differential gas demand in SEE may exceed 15 bcm by 2025

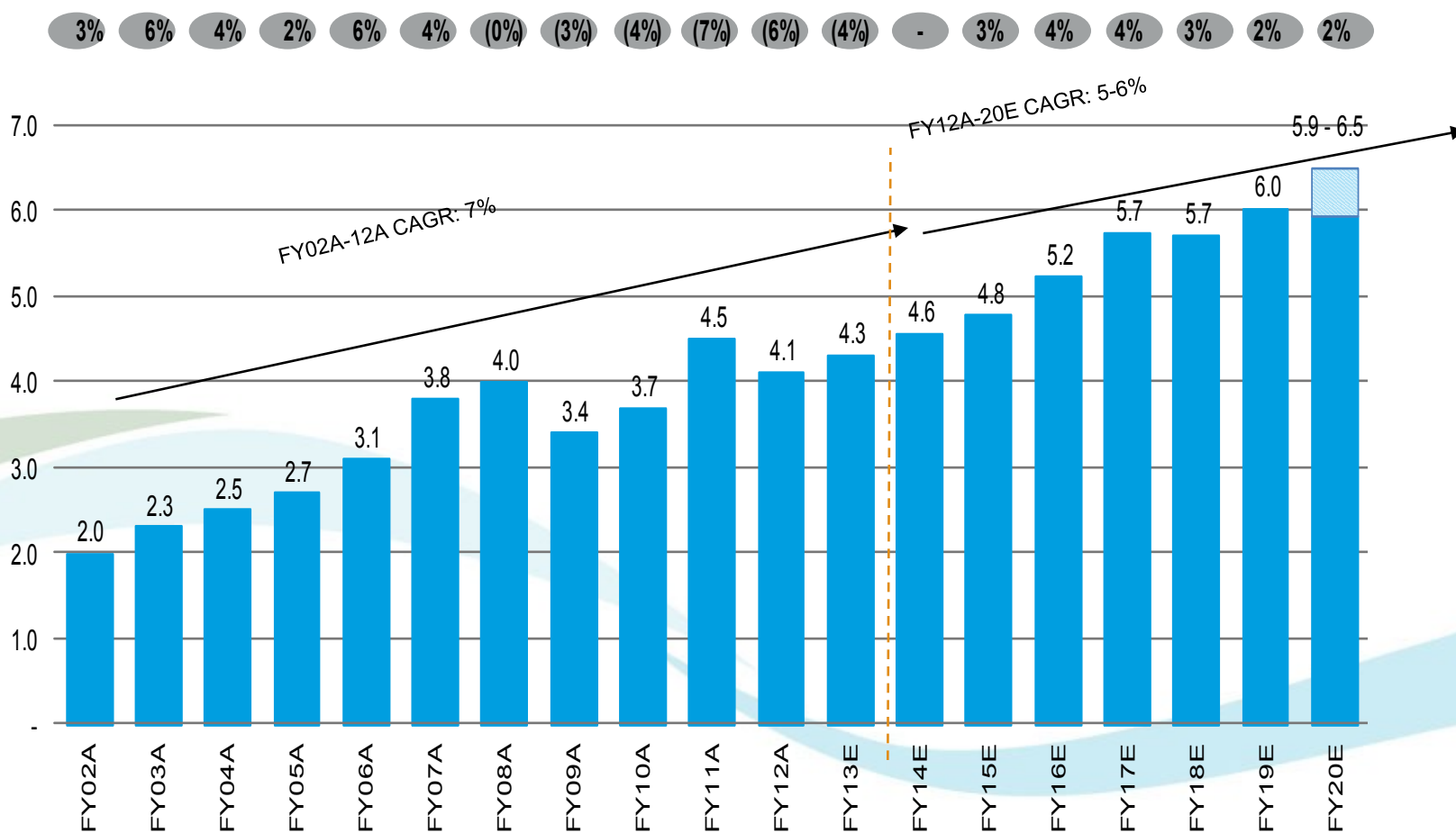


Source: PFC Energy



# ...out of which 2-2,5 bcm will come from Greece

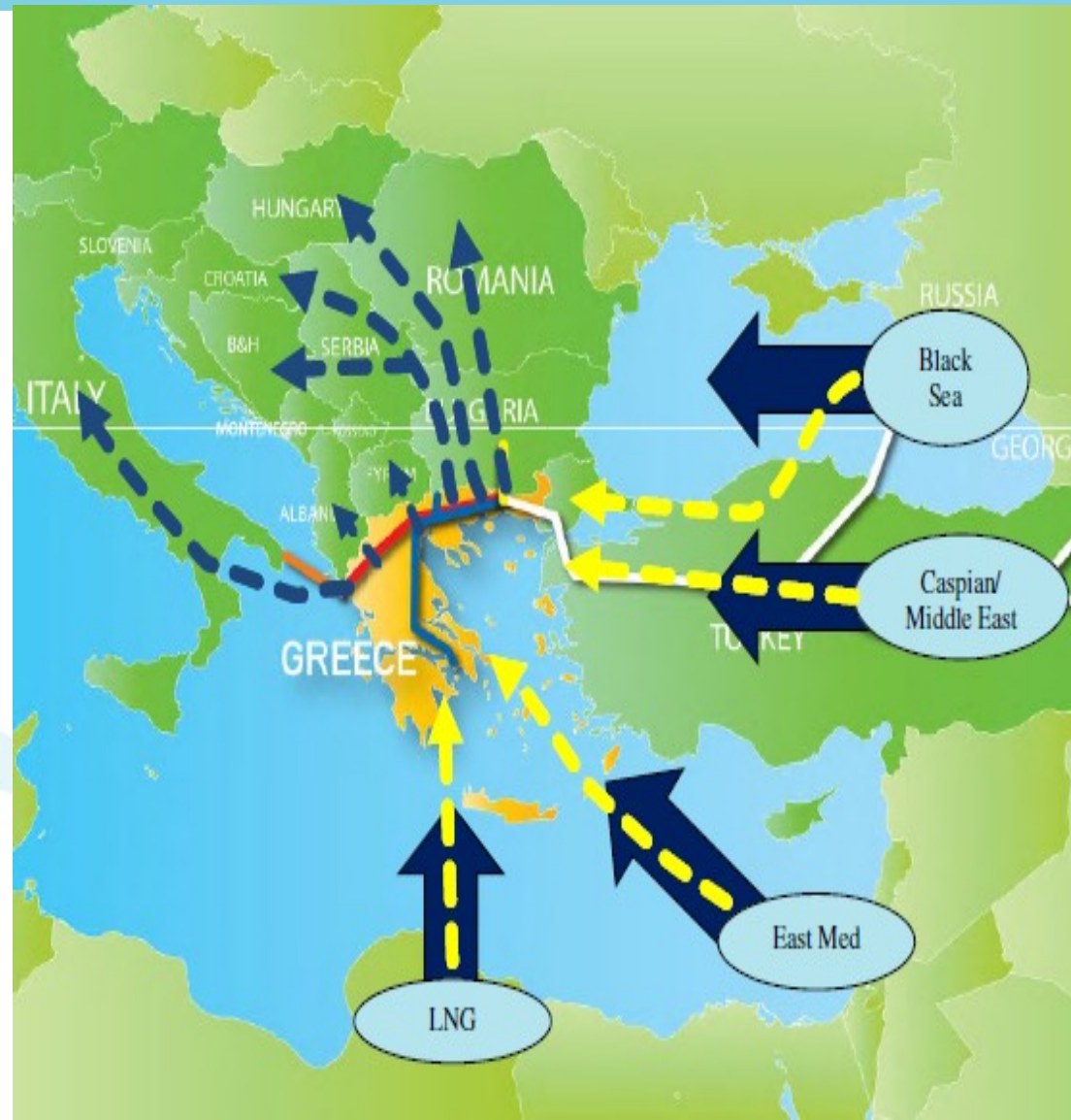
## GDP Growth



# SEE is an attractive market for Caspian, Middle East and Mediterranean gas

SEE's market is:

- the closest market to new sources, including LNG through Greece;
- a growing market with competitive prices;
- in urgent need to diversify its supply sources and increase its energy security.





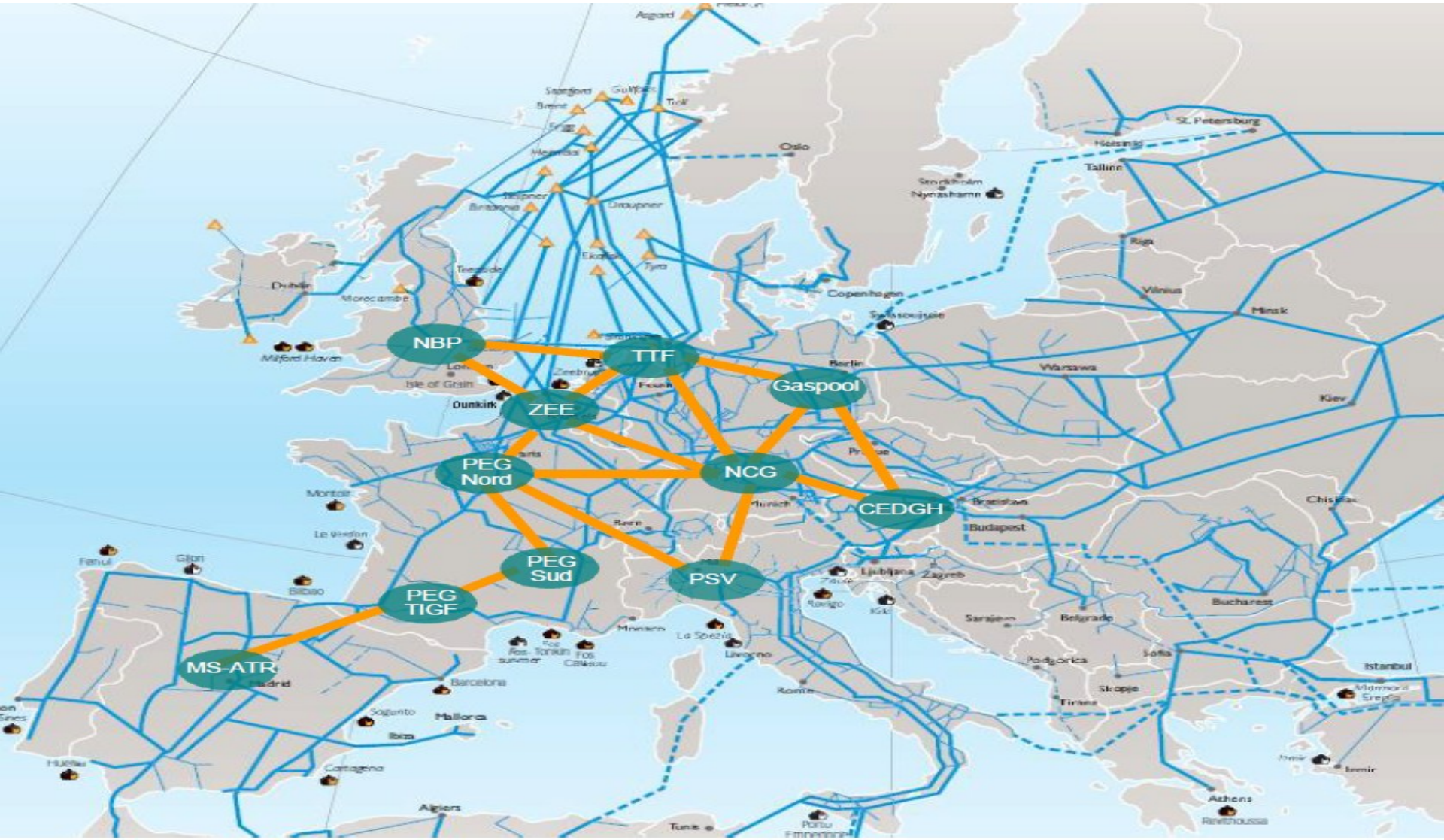
# Public Gas Corporation of Greece (DEPA SA)







# An integrated, liquid and well functioning regional gas market is absolutely necessary for cross-border trading



# DEPA's vision is to create conditions for a new gas gate to SE Europe in Greece ....



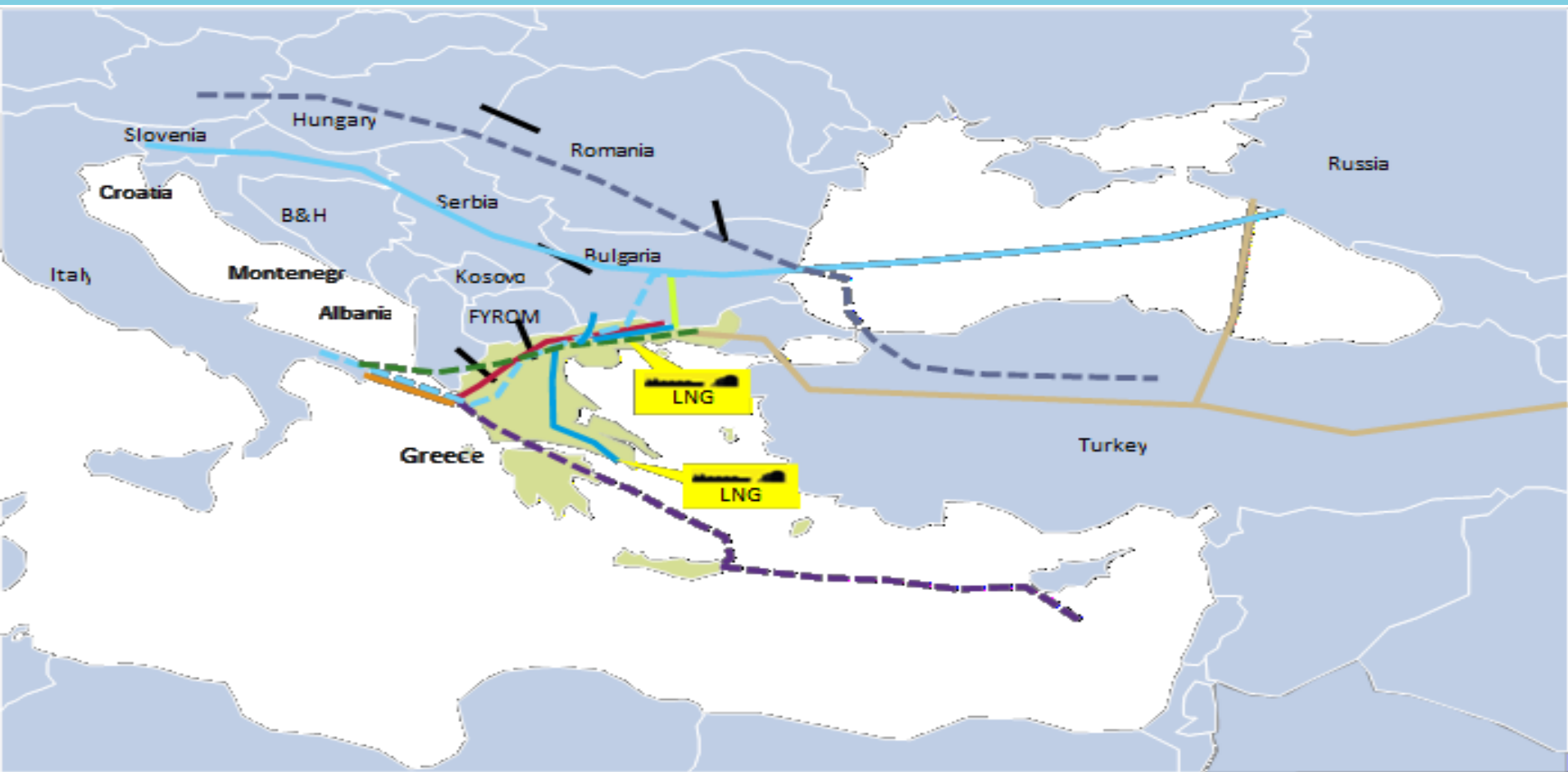


# ... and gradually to establish the country as a physical and pricing gas hub in the region

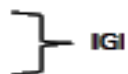




# Greece/DEPA support certain gas pipeline & LNG projects of regional and European interest



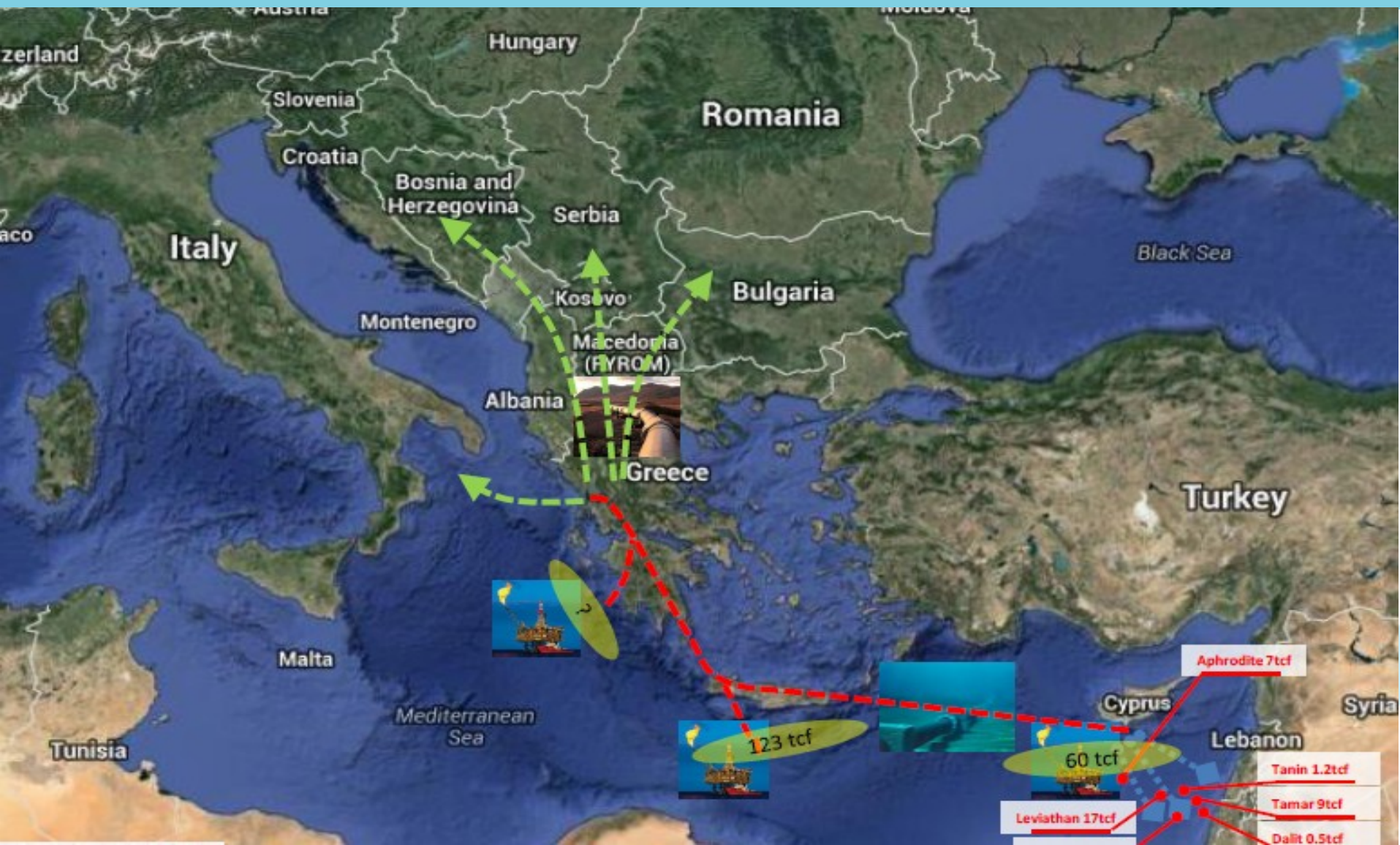
TAP  
South Stream  
Nabucco West  
East Med  
IGI Poseidon



IGB  
Other Interconnectors  
LNG Terminal



# Med gas would redefine energy supply dynamics in SE Europe





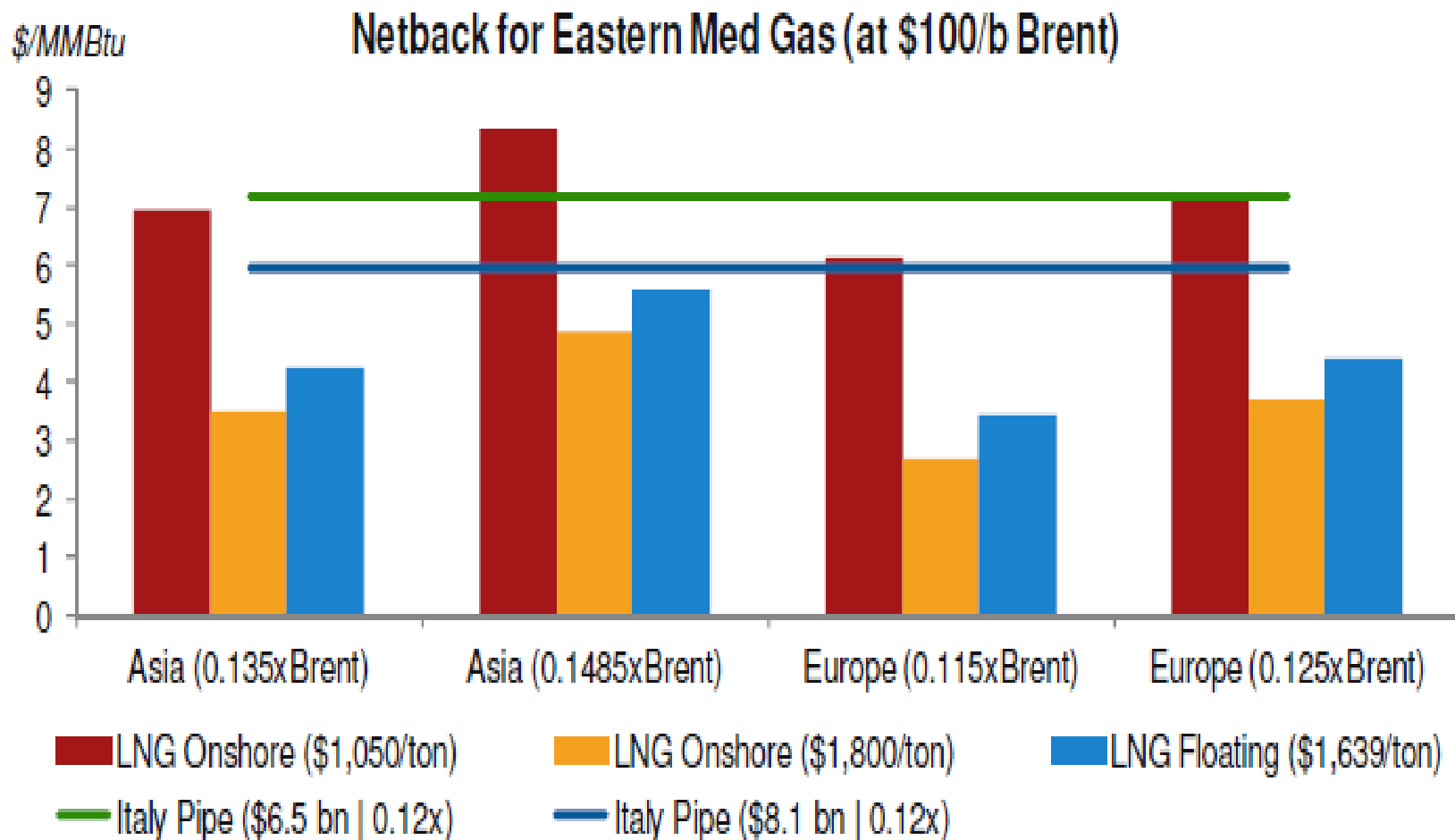
# Preliminary Netback Calculation for East Med gas/LNG deliveries to Balkans

(at \$100/bbl Brent, 10% discount rate and 25% corporate tax,  
5 bcm/y throughput in the Aegean LNG and IGB)

	Onshore LNG in Cyprus 6 mmtpa/y (8 bcm/y)		East Med Pipeline 8 bcm/year	
	Base	High	Base	High
<b>CAPEX</b>	\$ 6,6 bn	\$ 9 bn	\$ 5,4 bn	\$ 6,9 bn
<b>OPEX</b>	\$ 400 mio/y		\$ 150 mio/y	
<b>Estimated plant/pipeline tariff</b>	\$ 4,8/MMBTU	\$ 6,4/MMBTU	\$ 4,1/MMBTU	\$ 5,2/MMBTU
<b>Assumed LNG Shipping Cost</b>	\$ 0,50/MMBTU		-	
<b>Estimated Fees for Aegean LNG use</b>	\$ 0,90/MMBTU		-	
<b>Estimated fees for NGTS use</b>	\$ 0,20/MMBTU		\$ 1,0/MMBTU	
<b>Estimated Fees for IGB use</b>	\$ 0,1/MMBTU		\$ 0,1/MMBTU	
<b>Assumed border prices in Bulgaria</b>	0,12 X Brent = 12 \$/MMBTU		0,12 X Brent = 12 \$/MMBTU	
<b>Netback margins</b>	\$ 5,5/MMBTU	\$ 4,0/MMBTU	\$ 6,8/MMBTU	\$ 5,7/MMBTU



# Preliminary Netback Calculation for East Med gas/LNG deliveries to Italy



Source: PFC Energy



## Factors that will define success of Med gas into SEE

**Will gasification of the wider SEE region move forward as planned in order to support expected demand?**

- Multi-billion euro investment is needed in order to develop gas networks and gas-fired power generation infrastructure to provide anchor loads
- Further penetration of gas in the industrial, commercial and residential sectors, as well as use of CNG/LNG as transport and/or marine fuel in SEE will provide additional loads
- Greater connectivity of the region is necessary as a natural gas demand multiplier which legitimises up-front investment costs
- But gasification is not an absolute priority in SEE without support from IFIs and (EU-mandated) greener policies
- Moreover, if the economic recession is to be continued for years in SEE economies, implementation of gas supply infrastructure and other critical gas infrastructure may be proved a difficult story affecting thus also Med gas producer's decisions





## Factors that will define success of Med gas into SEE (cont.)

**Will Med gas prices be competitive with current gas import prices as well as with prices of other energy forms used in SEE?**

- The current import gas prices from Russia and the absence of liquid hubs in the region could be considered as attractive conditions by Med gas producers
- However, it should be kept in mind that large sections of the population in SEE countries may be unable to bear burden of (non-subsidised) international gas prices
- Planned convergence of existing retail prices to cost-reflective levels expected by the end of the decade, but this could erode social and governmental support for gas
- Gasification will not be a priority in SEE if Med gas is by far more expensive than other cheaper energy alternatives (e.g. coal and locally produce lignite)



## Factors that will define success of Med gas into SEE (cont.)

**No doubt that Med pipe gas/LNG has an added value for SEE energy mix and security, but is it enough to become decision qualifier for potential producers?**

- Med pipe gas and/or LNG could be one of the main contributors to the planned diversification of gas supply in the region
- In the case of LNG in particular:
  - a) region's energy security will be dramatically enhanced while
  - b) higher contractual and physical flexibility of LNG can better cover customers needs and seasonal demand variations
- However, geopolitical, regulatory, financial and demand uncertainties may affect final decisions of Med gas producers both for their monetization option and for the selection of the SEE as the preferred market for their gas
- Strong EU backing/support is absolutely necessary both for the implementation of the relevant production and transportation infrastructure and for supplies to Europe



## Factors that will define success of Med gas into SEE (cont.)

### Are there other critical factors for Med gas/LNG to SE Europe?

- As already mentioned Med gas is expected to be competitive with oil linked Russian gas
- But in the longer-term Med gas may face stiff competition from non-Russian pipeline gas including Caspian and Middle East gas
- High coal and CO<sub>2</sub> prices in Europe in the near future would support the use of gas and affect decisions of MED gas producers
- Due to geographic proximity, Med LNG to SEE is expected to have competitive advantage compare with LNG from other sources of similar production costs
- Asian markets however will always be a more attractive option for producers than SEE for Med LNG, due to historically higher prices

## Conclusions I

- **SE Europe faces a number of challenges affecting gas demand/supply equation, energy security and gas market integration and functioning**
- **Countries in the region seek ways to balance their wariness for the increasing gas import dependency and interest to gain access to alternative gas sources and transport routes**
- **The sizeable gas discoveries in Eastern Mediterranean along with grounded expectations for new ones in Cyprus and Greece hold a great promise for SE Europe with potentially far-reaching implications on future gas supplies (from a solely EU source/corridor), energy security and relations with current suppliers**

## Conclusions II

- **DEPA has undertaken strategic initiatives and participate in certain gas pipelines and LNG projects of European and regional interest aiming at gas supply sources and routes diversification, enhancement of energy security and gas market integration in SE Europe**
- **However, despite the obvious benefits that the huge Med gas potential and DEPA's projects would have for Greece and SE Europe, there are many critical factors which will determine producer's decisions to choose SEE as one of the preferred markets for their gas and define success of Mediterranean pipe gas and/or LNG in the region**



**Thank you for your attention**

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