

# Energy security in the wider global context

## The Future Of Eastern Mediterranean Gas

**PRIO Cyprus Center Conference: The Future of East Mediterranean Gas**

Nicosia, 21 November 2016

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**The Gas Value Chain Company GmbH**



# Agenda

- ▶ **General commercial aspects of energy security**
- ▶ **The unfolding LNG “revolution” & its implications**
- ▶ **European gas market: capable of sending demand side price signals?**
- ▶ **Global LNG market: supply side flexible to respond to price signals?**
- ▶ **Europe able to absorb flexible LNG?**
- ▶ **Implications for European security of supply**
- ▶ **Implications for Eastern Mediterranean Gas**
- ▶ **Outlook: the role of gas post COP21**

## General commercial aspects of energy security

- **Diversity of supply: sources & routes (ideally redundant & competing)**
- **Integrated, liquid market („European Henry Hub“)**
- **Market capable of demand sending price signals**
- **Market where (competing) supplies will respond to price signals**

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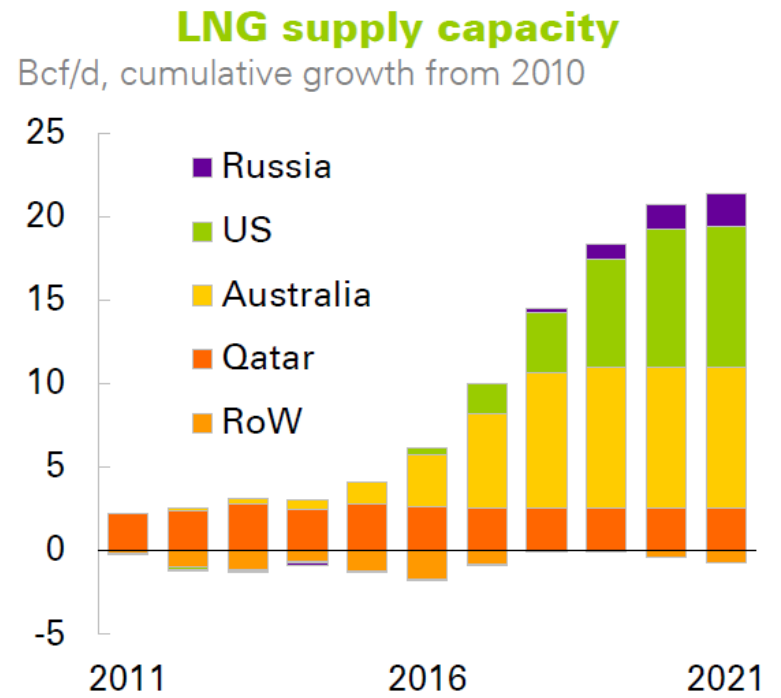
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# The unfolding LNG “revolution”

**LNG supply capacities ramping up massively**

**Note: R/P ratio from ~60 to >200 years**

## Global LNG supplies



Source: BP Energy Outlook 2016

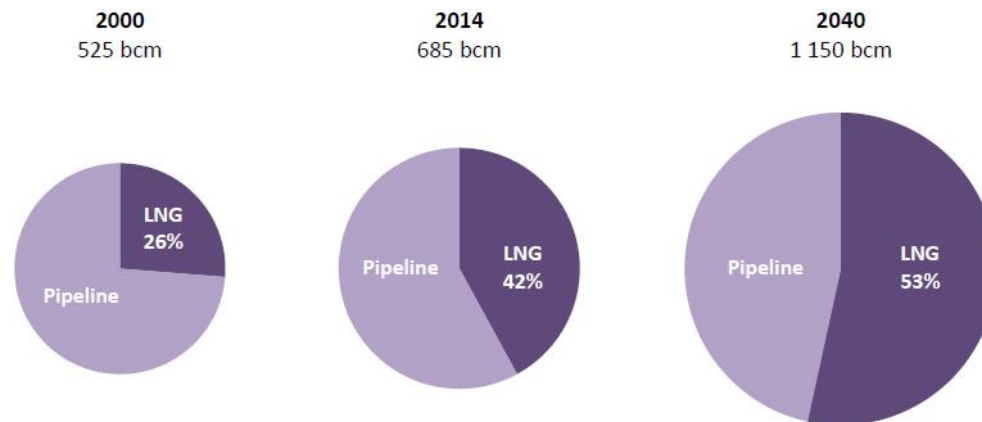
# The unfolding LNG “revolution”

**LNG about to overtake piped gas in global trade**

**Waterborne commodity > 50% fit to facilitate global price benchmark**



Share of LNG in global long-distance gas trade



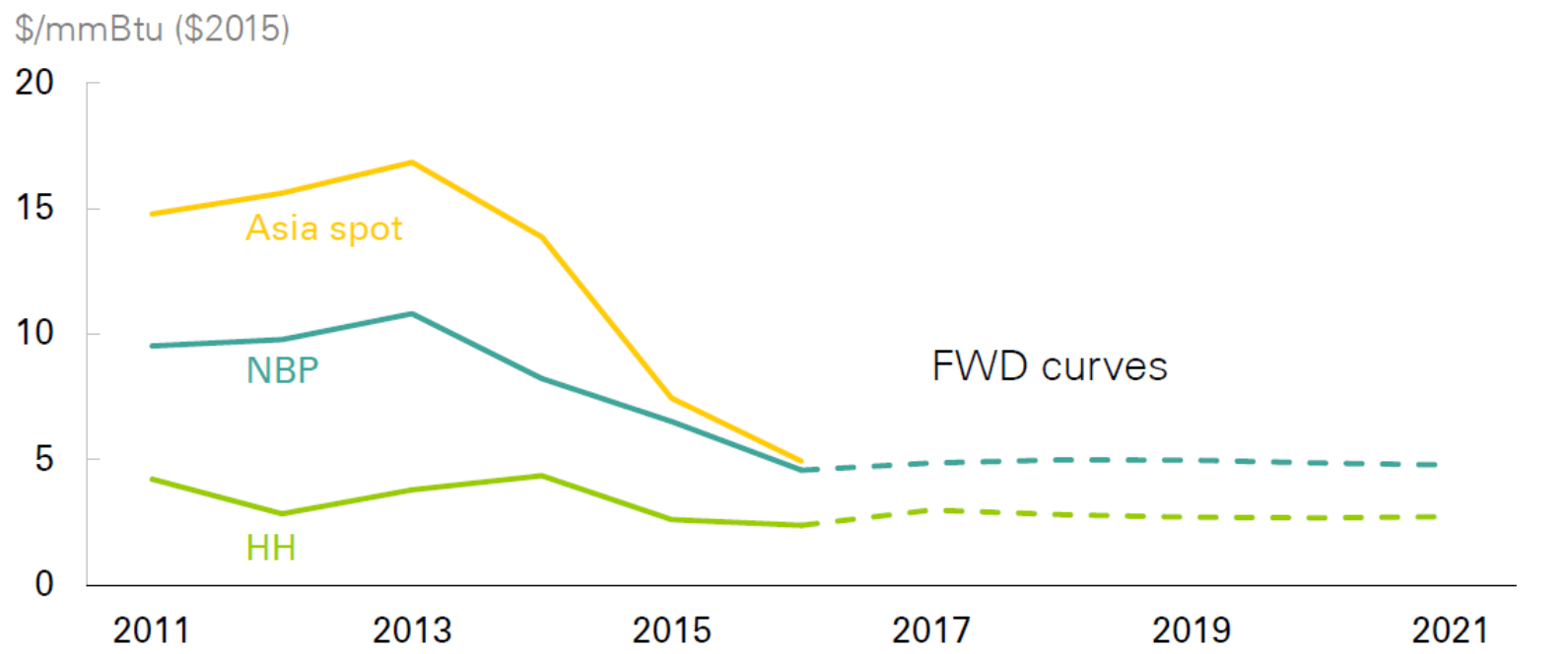
*Contractual terms and pricing arrangements are all being tested as new LNG from Australia, the US & others collides into an already well-supplied market*

Source: IEA WEO 2016

# The unfolding LNG “revolution”

**Global price convergence through waterborne LNG trade underway**

**Helped by low crude prices & increasing LNG spot share**



Source: BP Energy Outlook 2016

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# European market capable of sending demand side price signals?

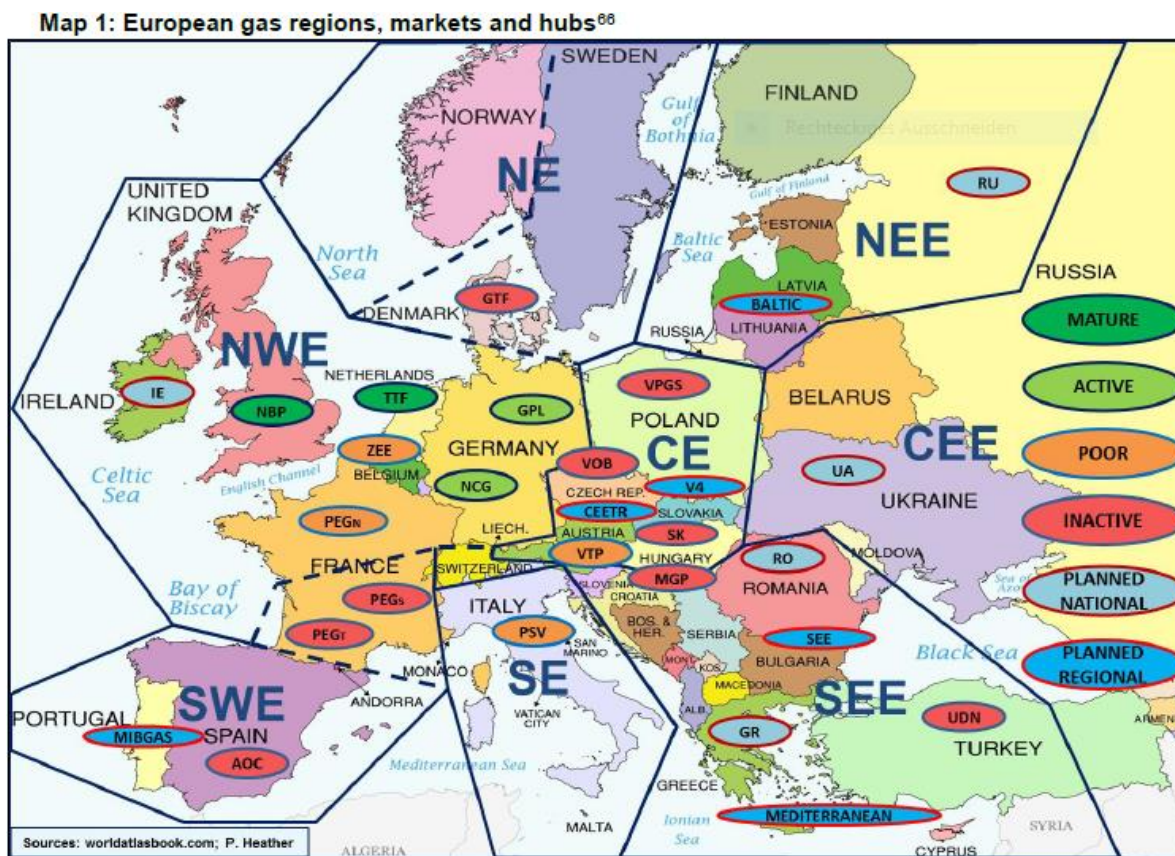
**1998: European Gas Regions around 2000: Fragmented national markets; import pipeline regime = “prisoner transport”**



Source: Ruhrgas 1998

# European market capable of sending demand side price signals?

**2016:** Multitude of national hubs; from “mature” to “poor”; price wise highly correlated; European Henry Hub almost complete



Source: P. Heather, OIES 2015

# European market capable of sending demand side price signals?

**Price Formation 2005 – 2015: Hubs price setter (varying by region); NWE oil indexation near vanished: 92% GOG, 8% OPE**

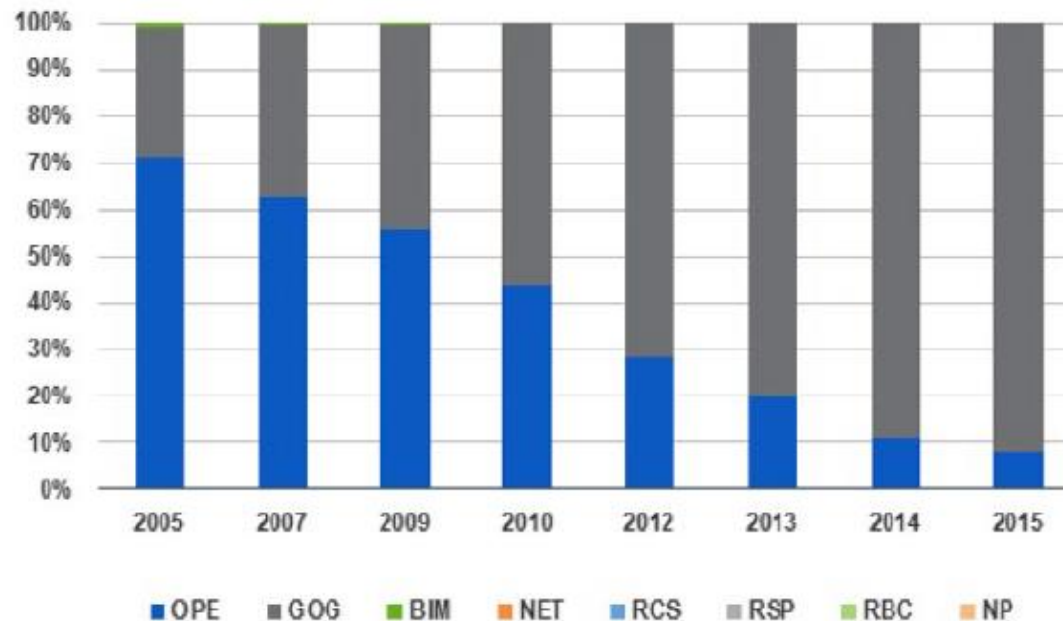


Figure 5.5: Northwest Europe Price Formation 2005 to 2015

Source: IGU Wholesale Price Survey 2016

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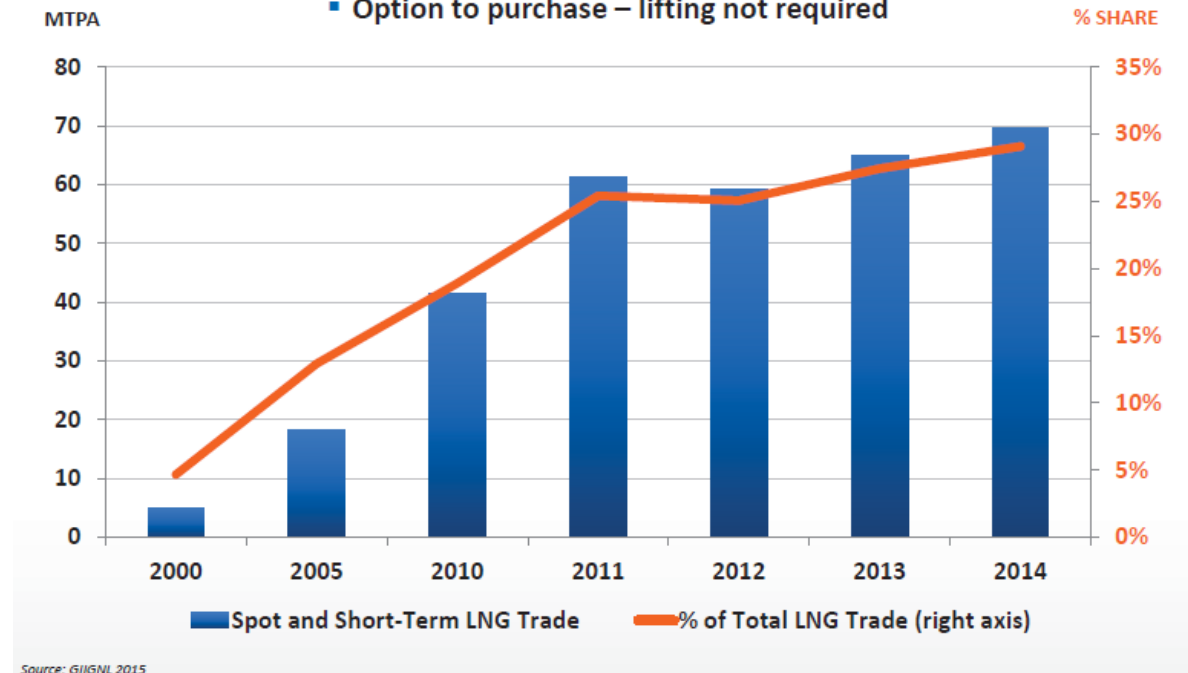
# Global LNG market: supply side flexible to respond to price signals?

**U.S. LNG (Cheniere & others) offer LNG at non-traditional terms: no ToP; no lifting obligation; FoB ./. DES (i.e. no destination)**

**Note: Liquefaction: “toll or pay”**

## U.S. Supplies to Create More Market Liquidity

- Flexible destination clauses
- New pricing index – Henry Hub
- Option to purchase – lifting not required



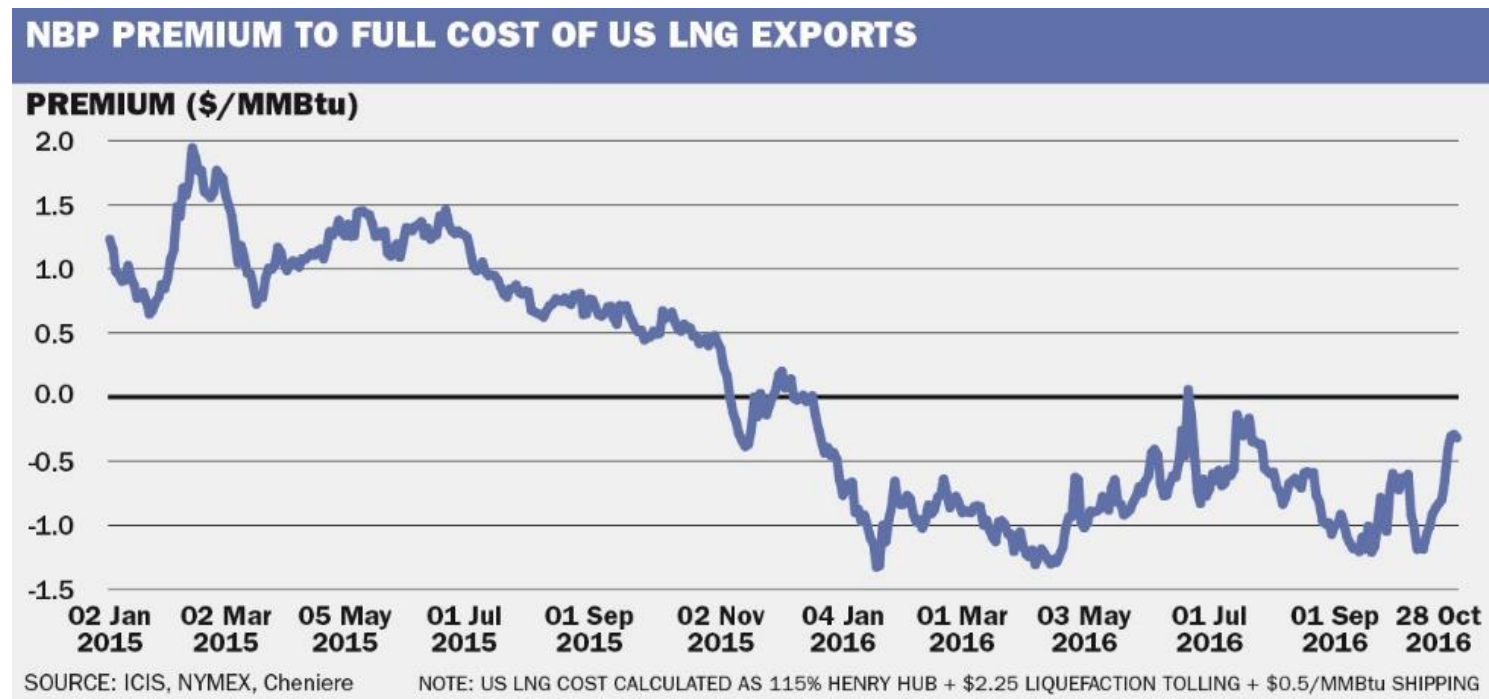
Source: Cheniere 2015

# Global LNG market: supply side flexible to respond to price signals?

## Premium NBP over HH required

Full cost: 15% HH + ~\$2.25 liquefaction + 0.50 shipping + \$ 0.50 regas = ~\$3.70/MMBtu

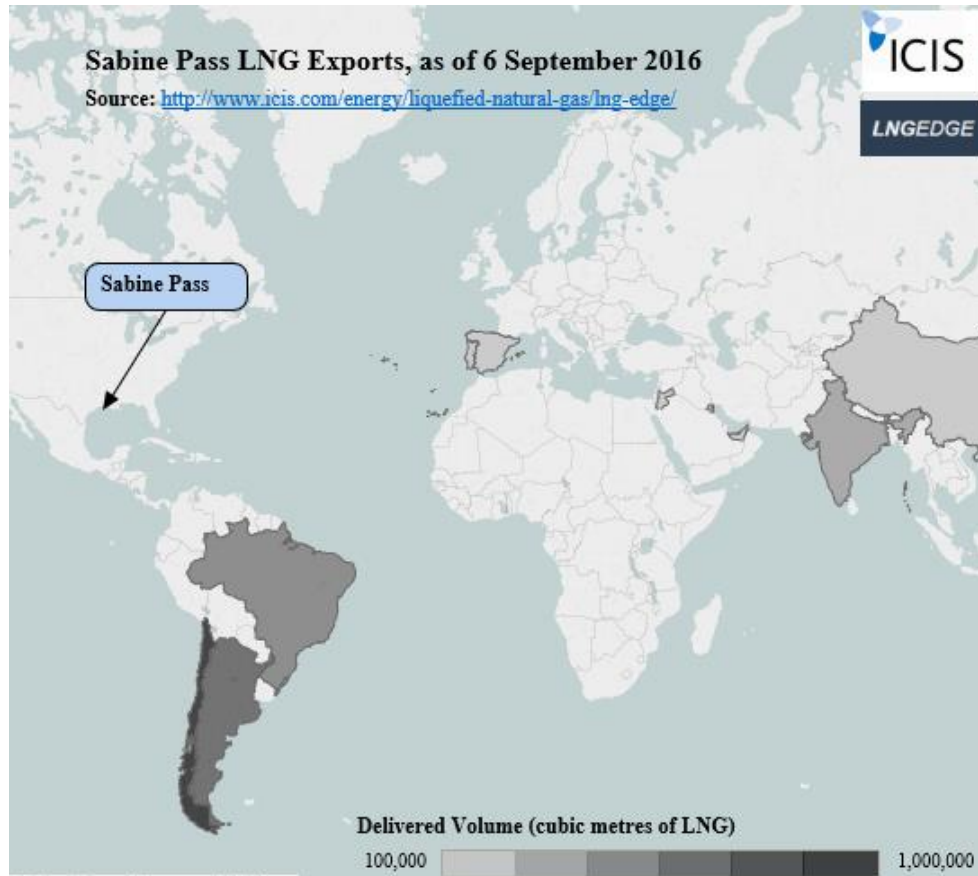
Marginal cost (liquefaction sunk): ~\$1.45/MMBtu



Source: ICIS Heren

# Global LNG market: supply side flexible to respond to price signals?

**Sabine Pass train 1 started earlier this year:  
Only 2 cargoes reached Europe, bulk to South America**



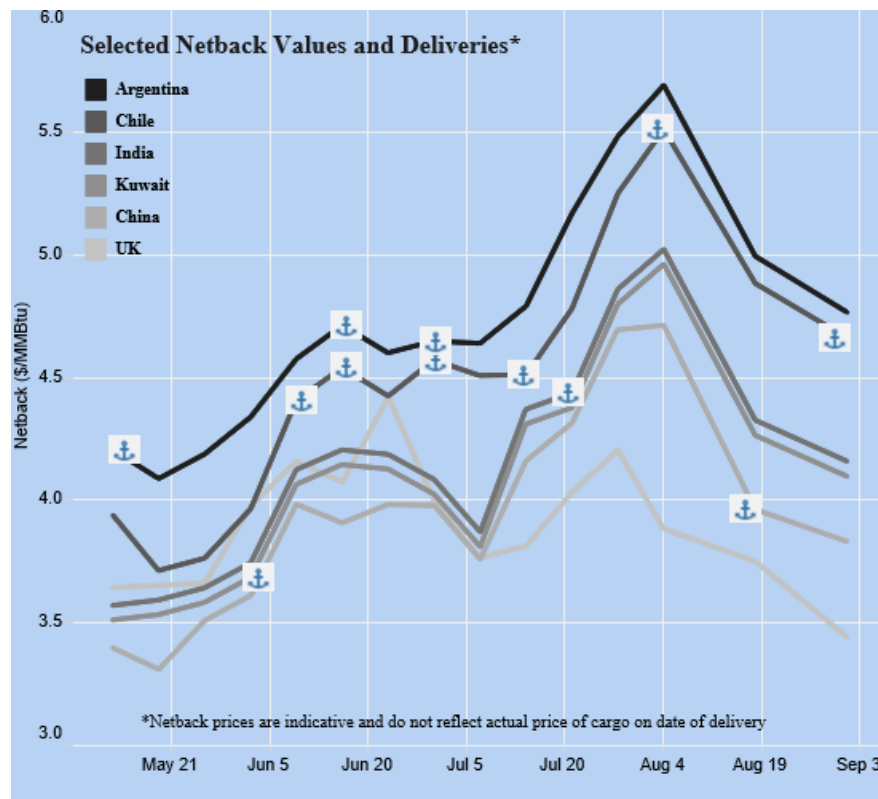
Source: ICIS Heren

# Global LNG market: supply side flexible to respond to price signals?

**Higher netbacks achievable in South America.**

**The goods news: global price signals work!**

**Security of supply Europe: can also rely on price signals**



Source: ICIS Heren

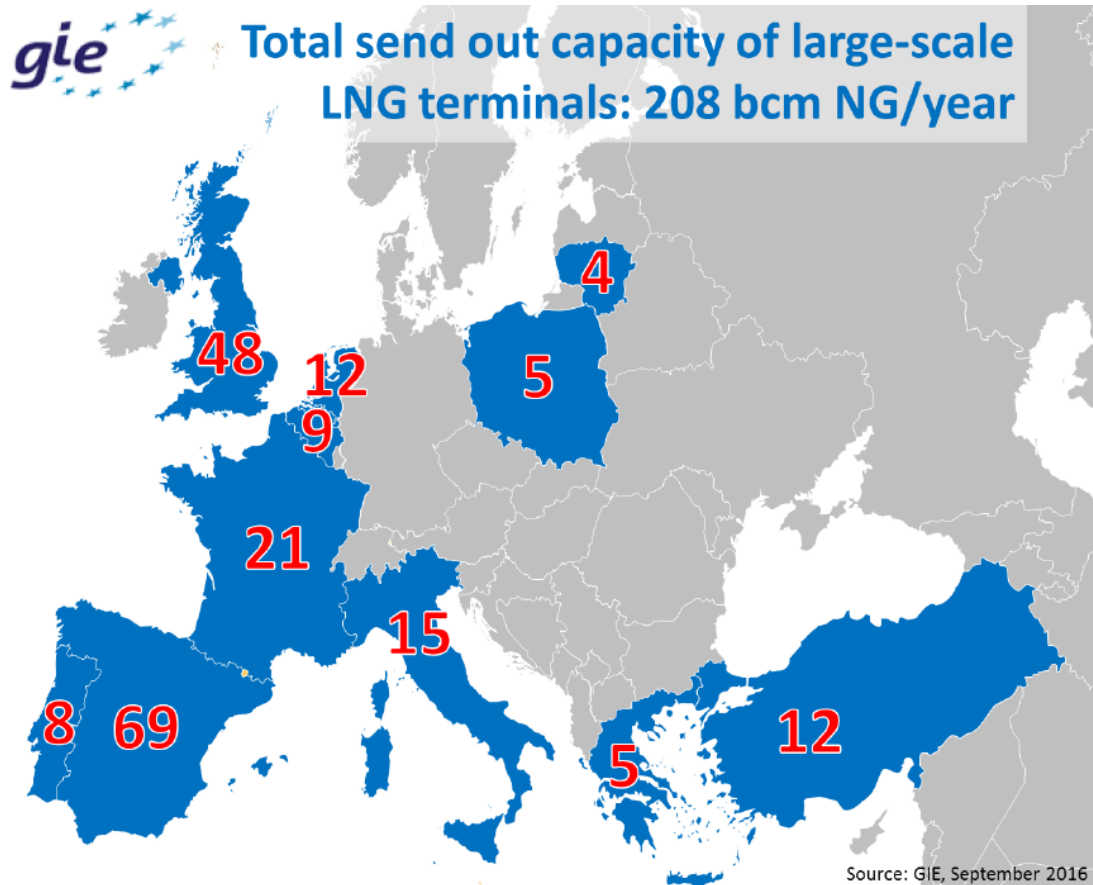


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# Europe able to absorb flexible LNG?

Yes, ~208 bcm/a regas capacity



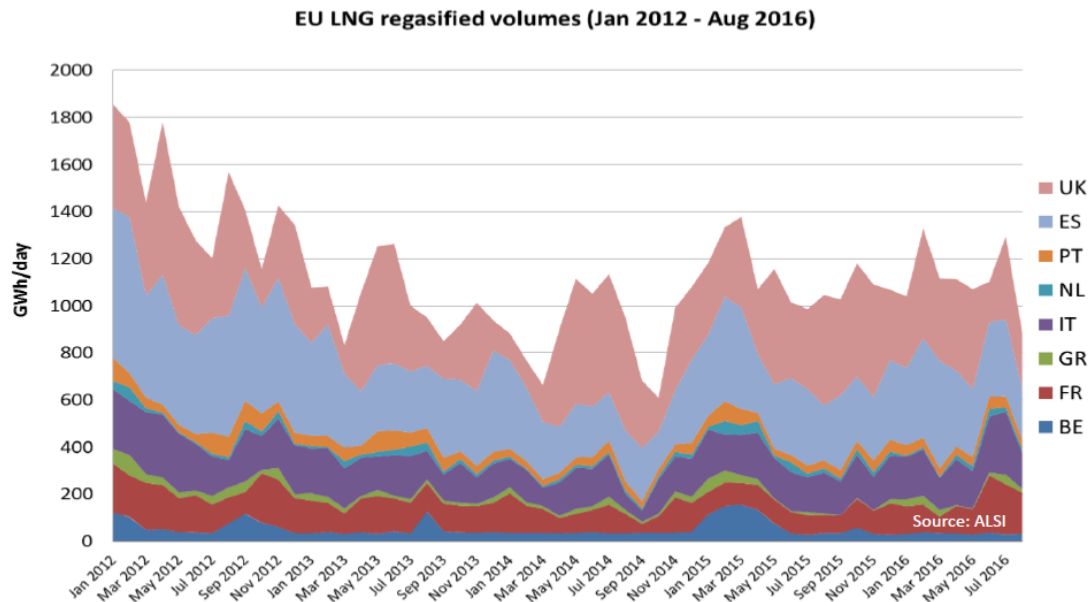
Source: GIE

# Europe able to absorb flexible LNG?

**Regas capacity ~81% (= ~160 bcm/a) idle =>  
~160 bcm/a more than total supplies from Russia  
Redundant import capacity enables supplier competition**



## Send out of EU LNG terminals



In average just 19% of total daily LNG send-out used in 2015

Source: GIE

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# Implications for European security of supply

Exposure to political blackmail concern less relevant

SoS has transformed from bi-lateral physical dependency to a functionality of price signals in an integrated traded market



Ukrainian Crisis 2009: Andrej Budajew, “Putin’s recalcitrant bride”

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# Implications for Eastern Mediterranean gas

**Commercial decision parameter: well-head netback**

**Computation (simplified):**

- **Achievable market price \*)**
- **minus production cost**
- **minus route to market cost**

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**\*) Assess price taker squeeze risk!**

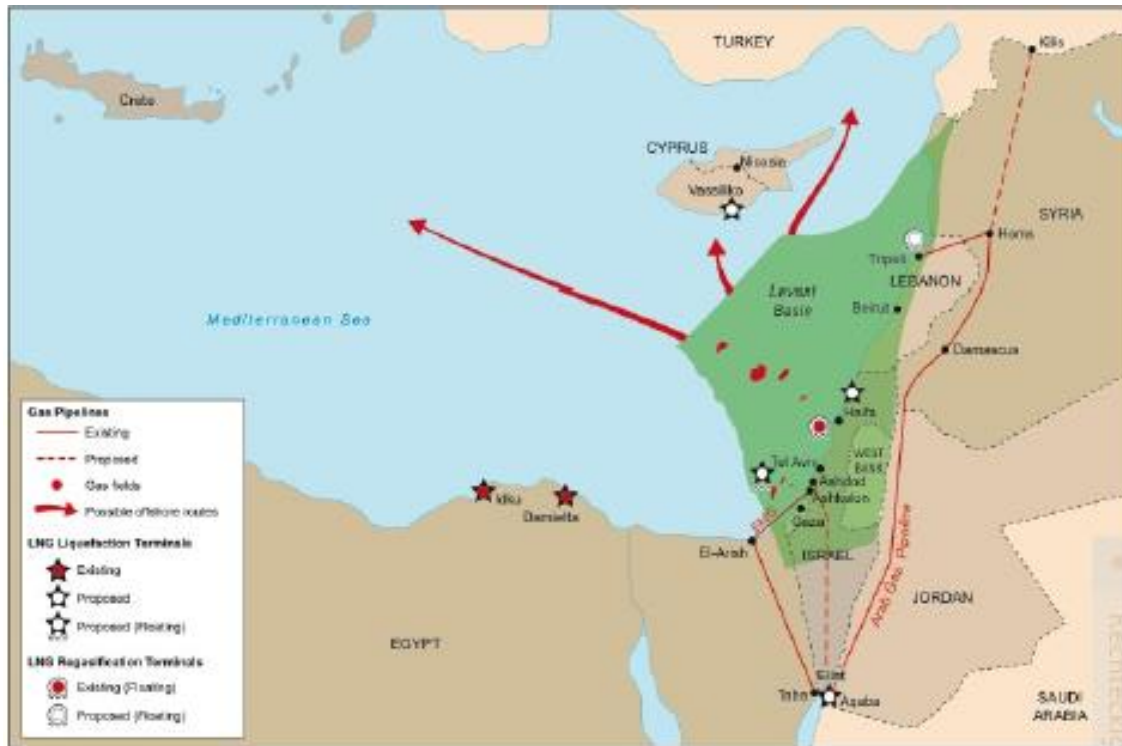


# Implications for Eastern Mediterranean gas

**Pipeline export: exposure to price taker squeeze?**

**LNG export: ensuring highest achievable price?**

**Neither necessarily applicable in increasingly globalized market**



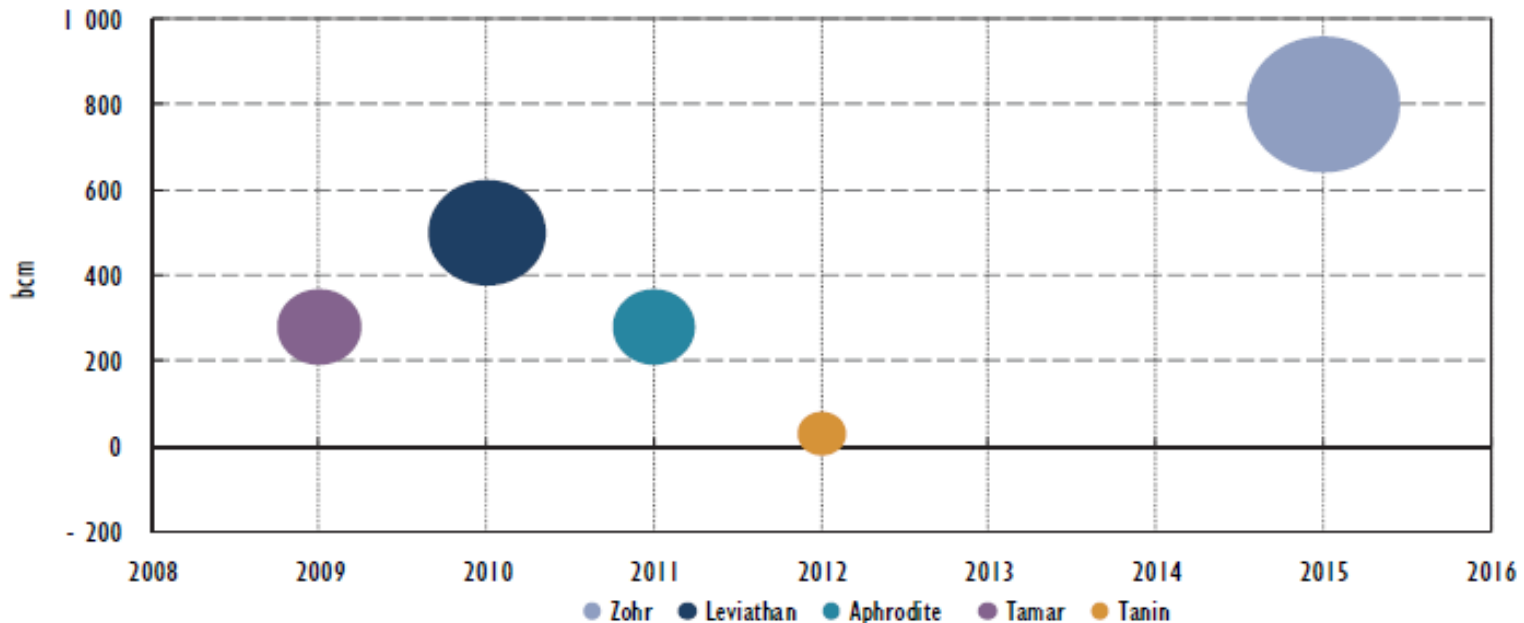
Source: OIES



# Implications for Eastern Mediterranean gas

**Egypt can now be ruled out as “window of opportunity”**  
**Pipe to Turkey: reduce route to market costs by economies of scale through collaboration Israel/Cyprus?**

**Figure 3.5** Discoveries in the Eastern Mediterranean, 2009-16



Notes: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD and/or the IEA is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: IEA Medium Term Gas Market Report 2016

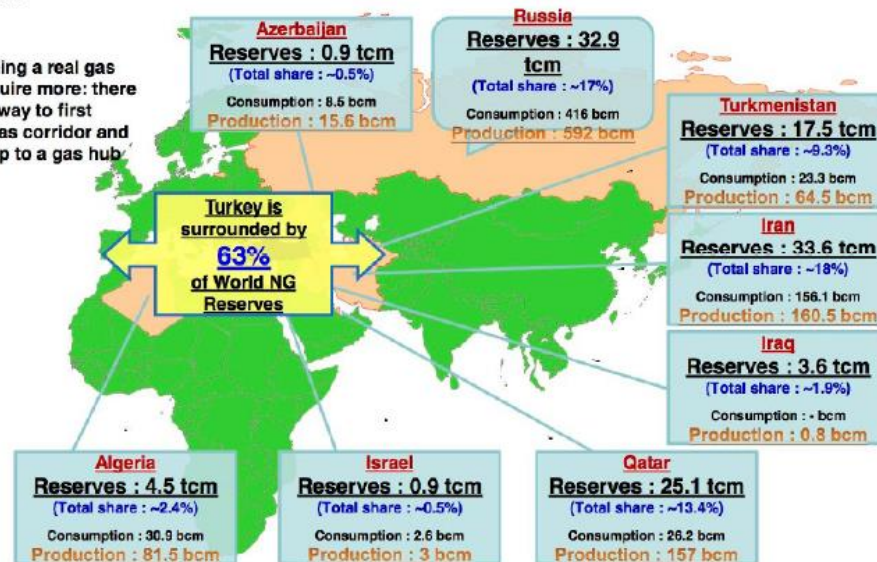
# Implications for Eastern Mediterranean gas

Pipe to Turkey creating price taker squeeze exposure?  
Turkish market ideally suited to be part of Eurasian Henry Hub  
Turkey would be both consumer & transit service provider

## Turkey's Excellent Geographical Location on Gas Map

Turkey is surrounded by vast natural gas reserves...

..but becoming a real gas hub will require more: there is a stoney way to first become a gas corridor and then develop to a gas hub



Source: BP Statistical Report 2013

www.userdis.com  
USER HOLDING A.S.

Source: User Holding A.S.

# Implications for Eastern Mediterranean gas

**Pipe to Turkey creating price taker squeeze?**

**Not if traded & unbundled market**

**Ensuring pre-conditions is a MUST**

**If geopolitically not achievable => LNG**

Liberalising Turkish Natural Gas Market is  
Indispensable

## Current Framework

- Subsidized tariffs are set by the government, no market fundamentals/cost reflectiveness
- BOTAŞ controls 80% of wholesale volumes and import points
- Insufficient infrastructure (network and storages)
- Priority given to BOTAŞ

## Major Requirements

- Gas costs to be reflected on prices. Complete abolishment of regulated tariffs
- No restrictions for gas imports for private players independent of the source
- Attractive and reliable legal/regulatory framework to incentivize necessary infrastructure investments
- Non discriminatory access to infrastructure

**Natural Gas Law Amendment: When and How ?**

www.userdis.com  
USER HOLDING A.S.

**Source: User Holding A.S.**

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Article on an important subject we could not cover:

## **THE CASE FOR GAS POST COP21**

**Natural gas is the „low hanging fruit“ for material and immediate reduction of greenhouse gases**

by

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