

# CONSÉQUENCES DE LA RÉVOLUTION DU GAZ DE SCHISTE AMÉRICAIN

Université de Genève

21 Novembre

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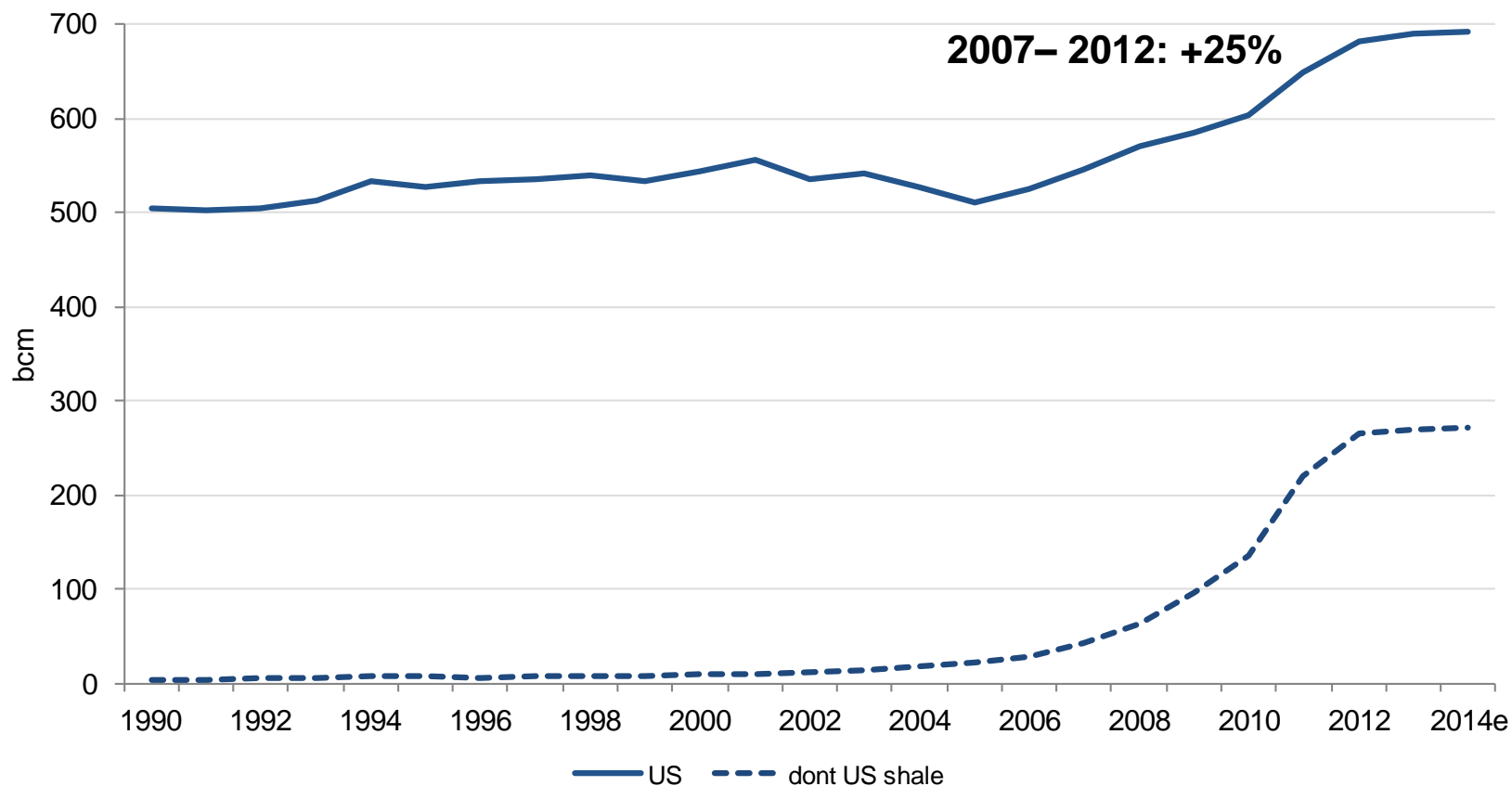
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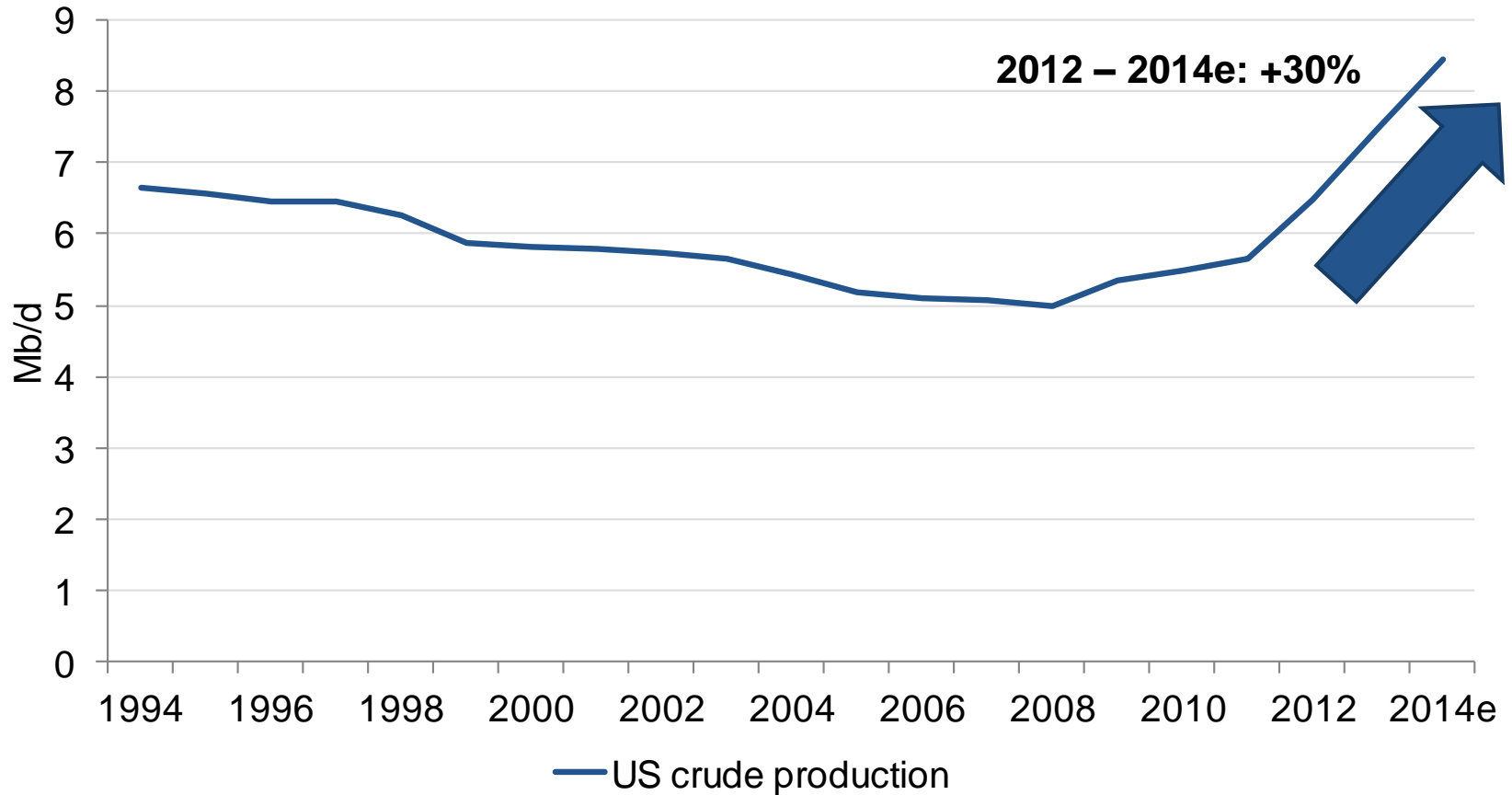
**SOCIÉTÉ GÉNÉRALE**  
Cross Asset Research

# FOR GAS, THE US SHALE REVOLUTION IS BEHIND US...



Source: SG Cross Asset Research, US DoE

## ...AND PICKING UP IN OIL!



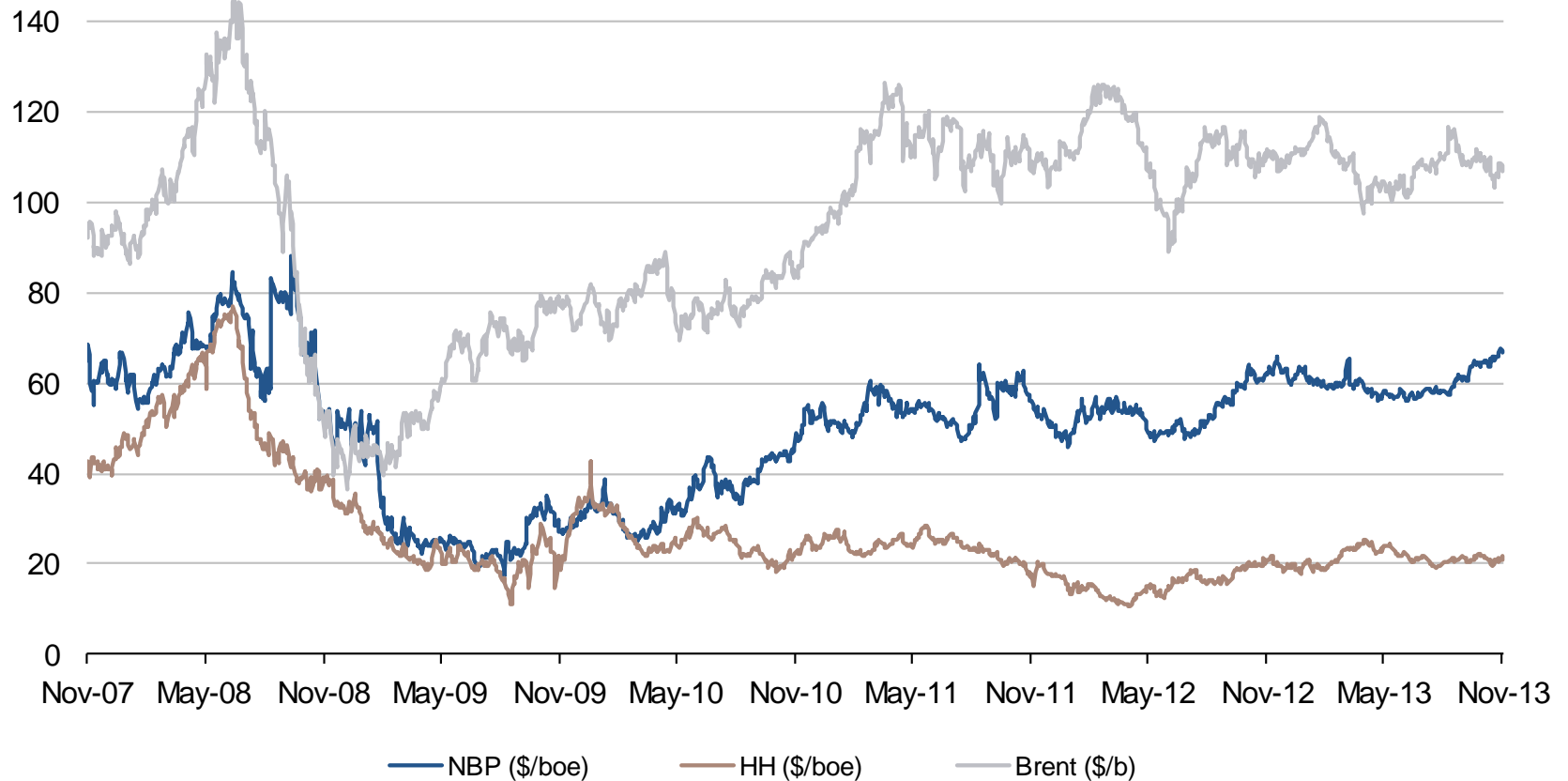
Source: SG Cross Asset Research, US DoE

# OVERVIEW OF THE OLD GAS MARKETS



Source: SG Cross Asset Research

# OVERVIEW OF PRICES

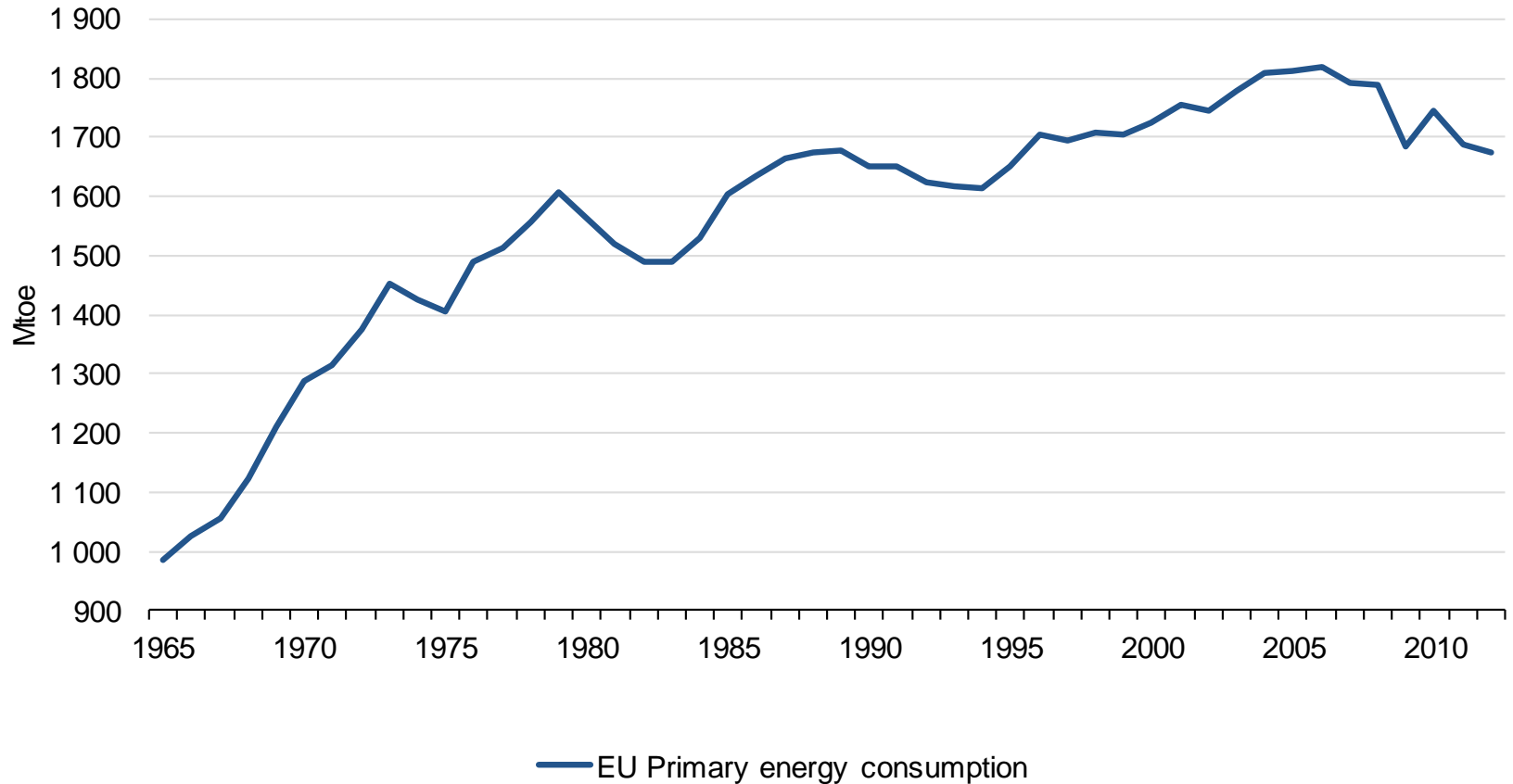


Source: Datastream, SG Cross Asset Research

# CONSEQUENCE #1

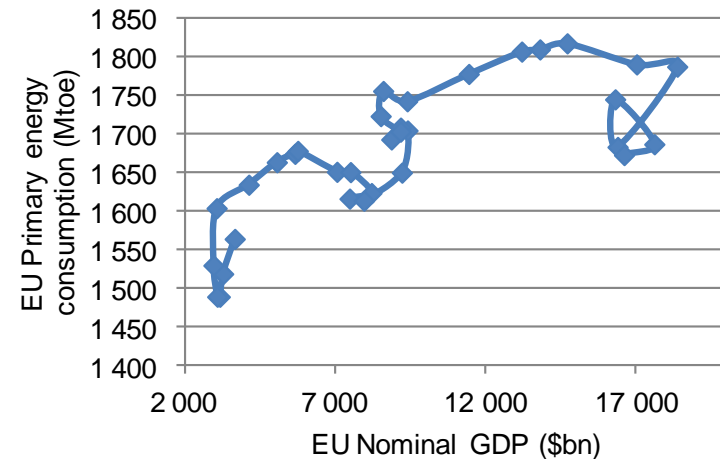
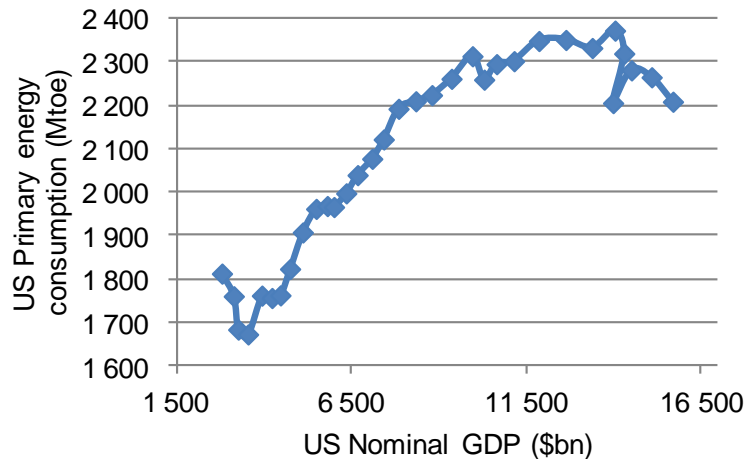
US coal is displacing Russian gas in Europe

# EU PRIMARY ENERGY CONSUMPTION PEAKED IN 2006



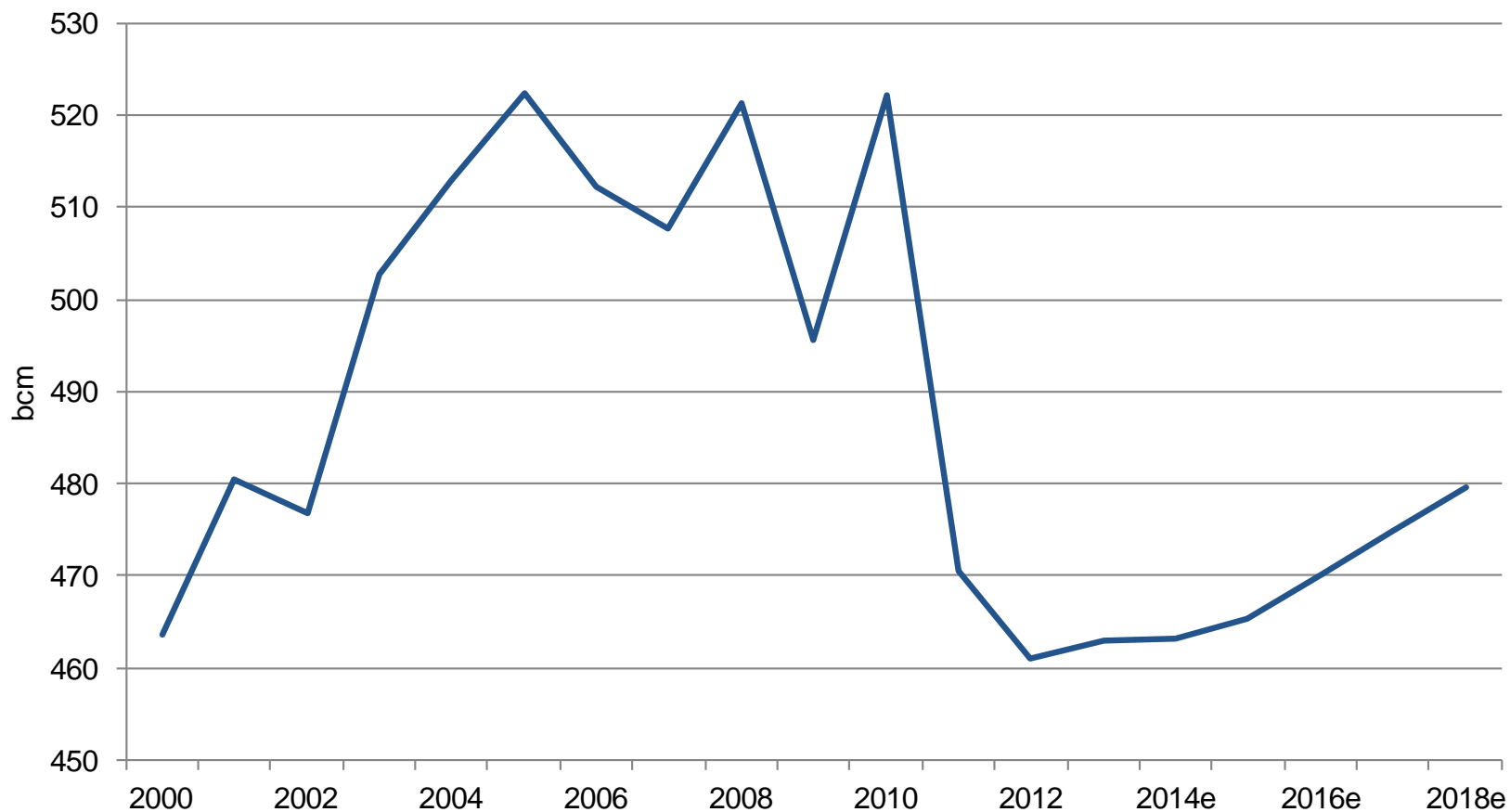
Source: SG Cross Asset Research, BP Statistical Review

# PRIMARY ENERGY CONSUMPTION VS GDP (1980-2012)



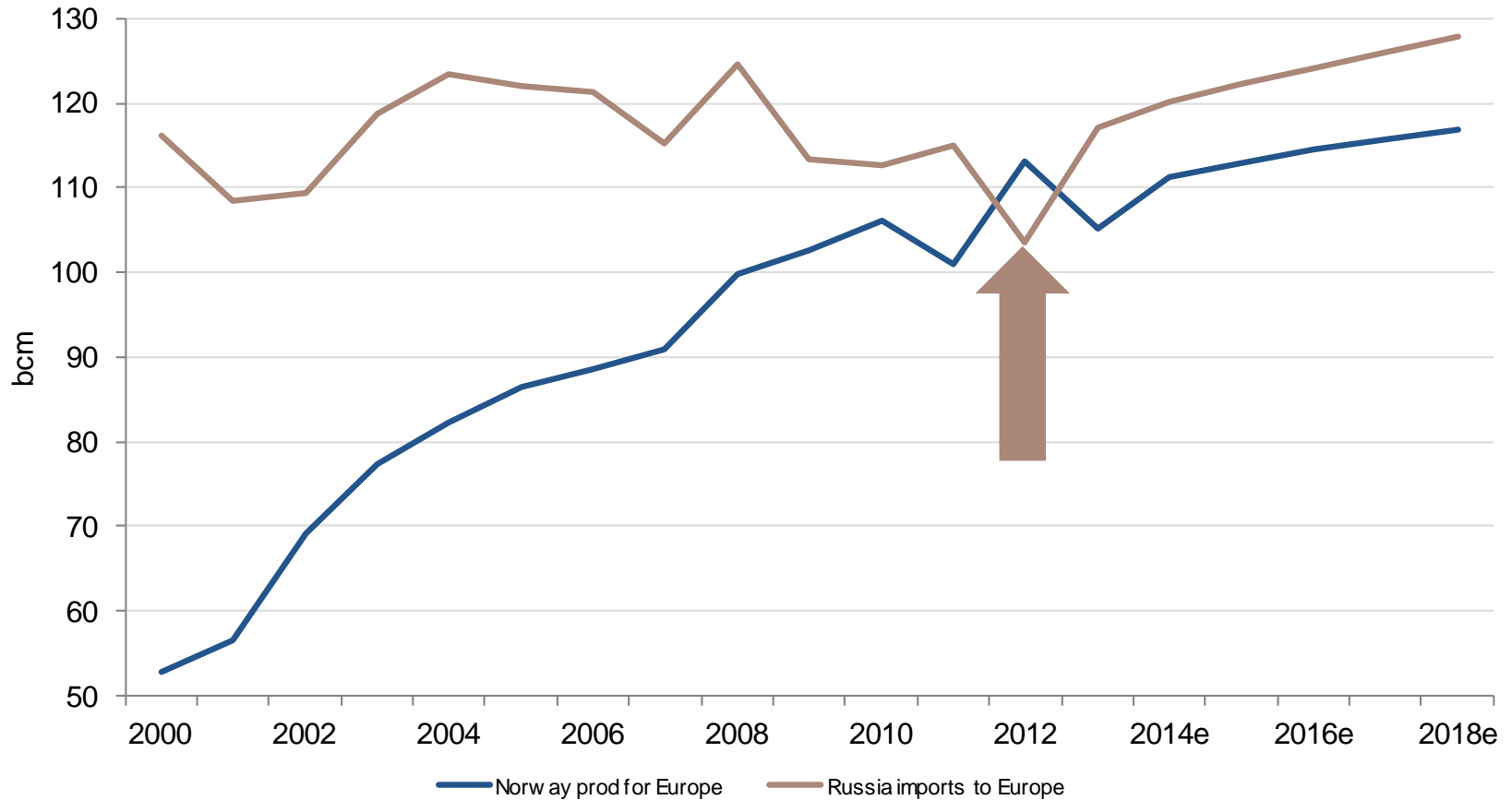


## EUROPEAN GAS DEMAND REACHED A PEAK IN 2005



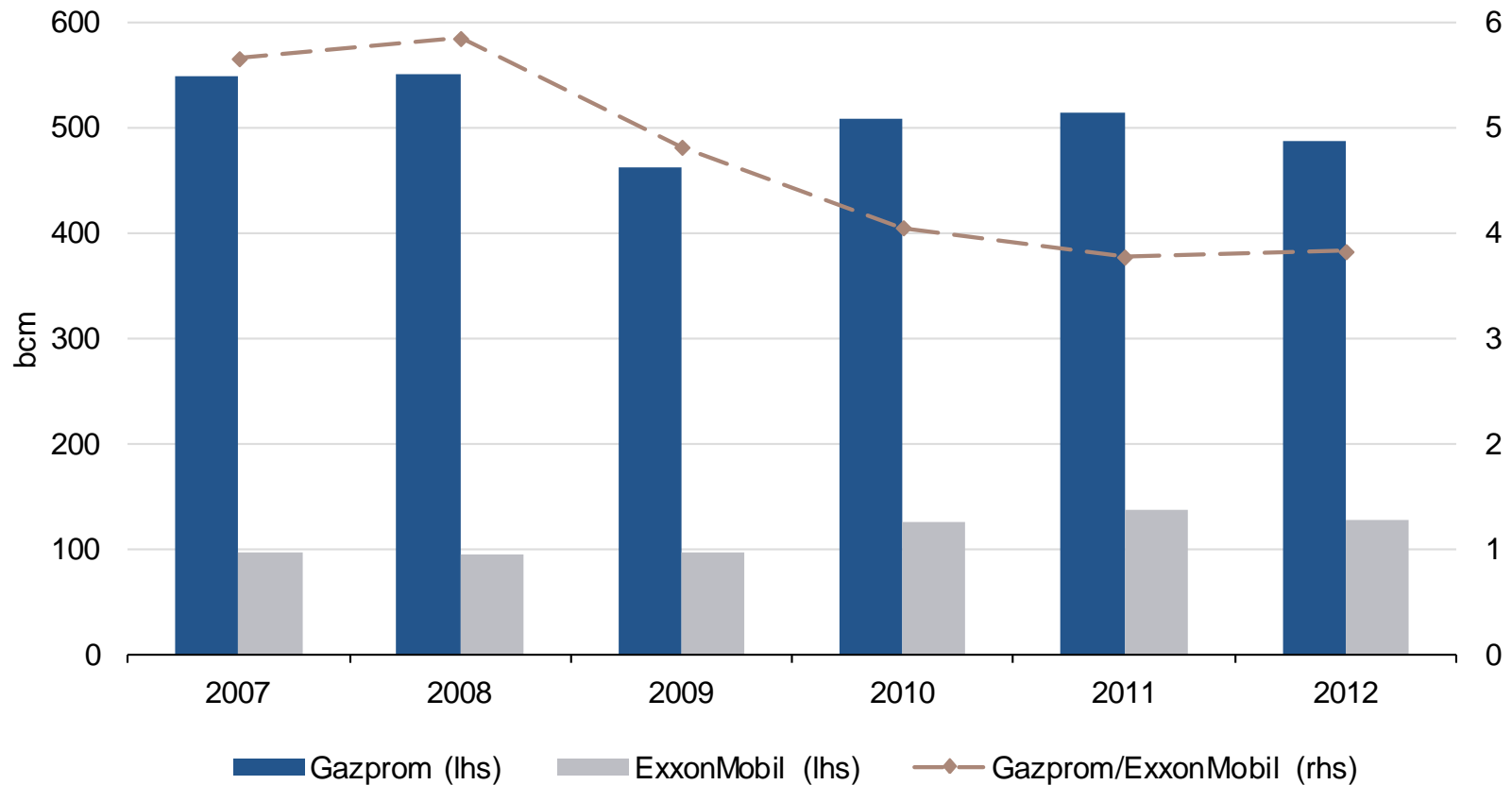
Source: IEA for historical data, SG Cross Asset Research estimates

# GAZPROM TO RECLAIM LEADING GAS SUPPLIER POSITION



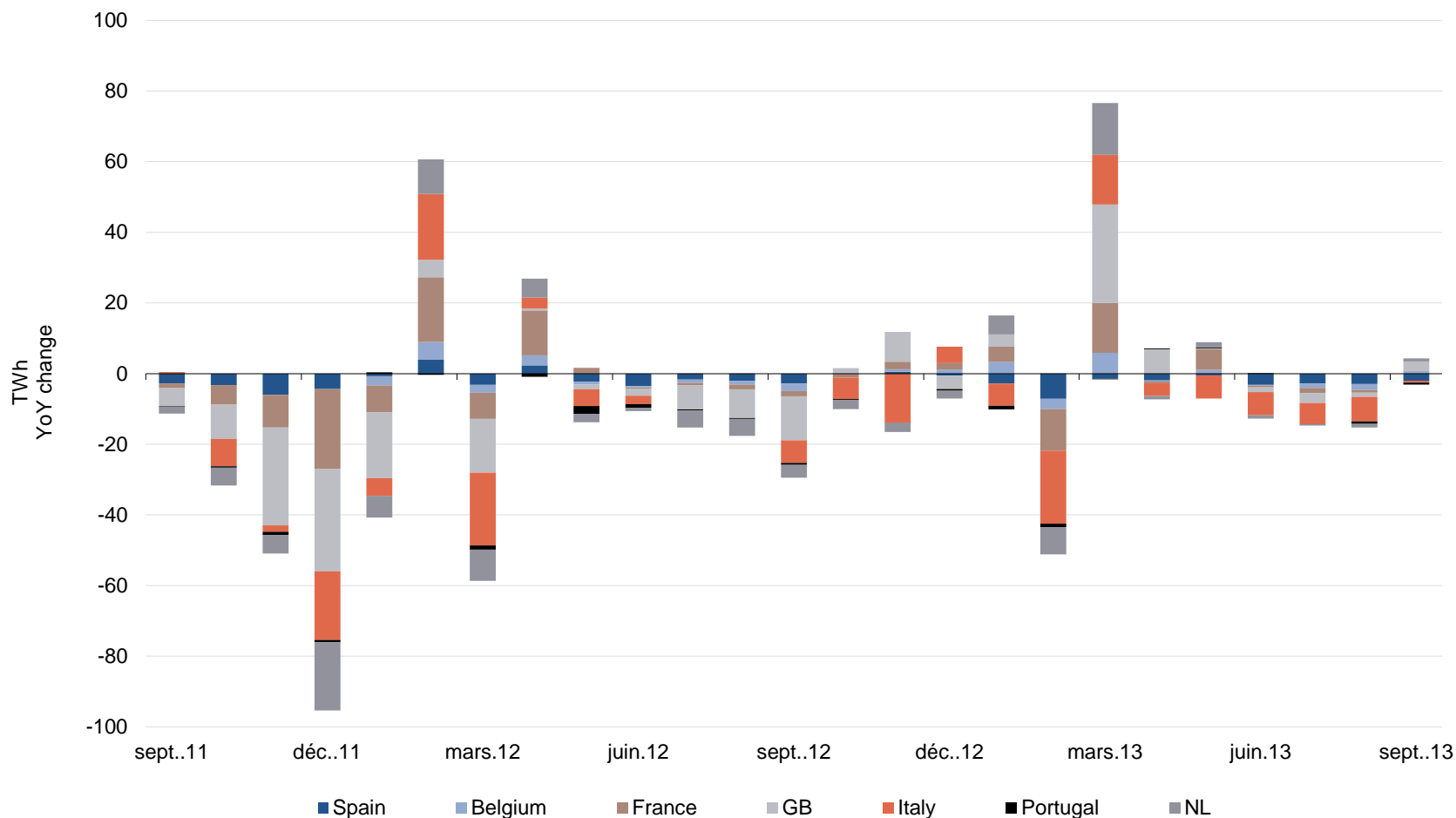
Source: IEA for historical data, SG Cross Asset Research estimates

# GAZPROM VS EXXONMOBIL WORLD GAS PRODUCTION



Source: SG Cross Asset Research / company data

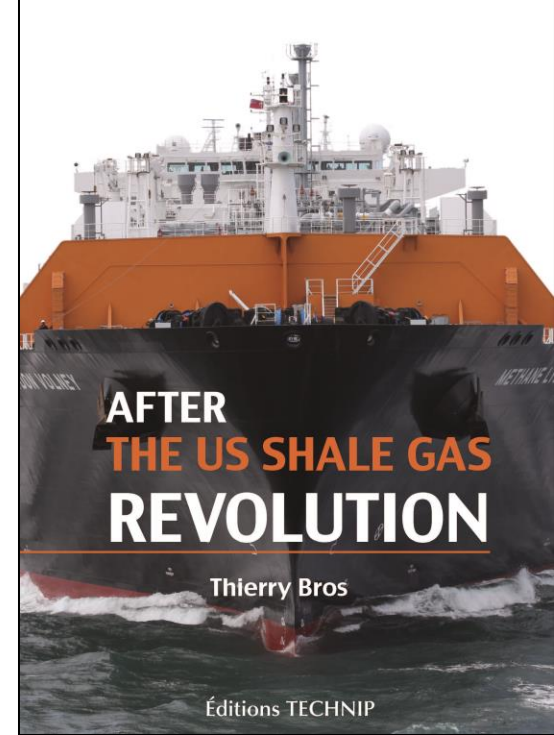
# SG GAS PULSE: -0.4% IN JAN-SEP 2013 VS JAN-SEP 2012



Source: SG Cross Asset Research/Commodities, Fluxys, GRT Gaz, TIGF, National Grid, Enagas, REN, Snam, GTS Netherlands

# CONSEQUENCE #2

US LNG is already a game changer

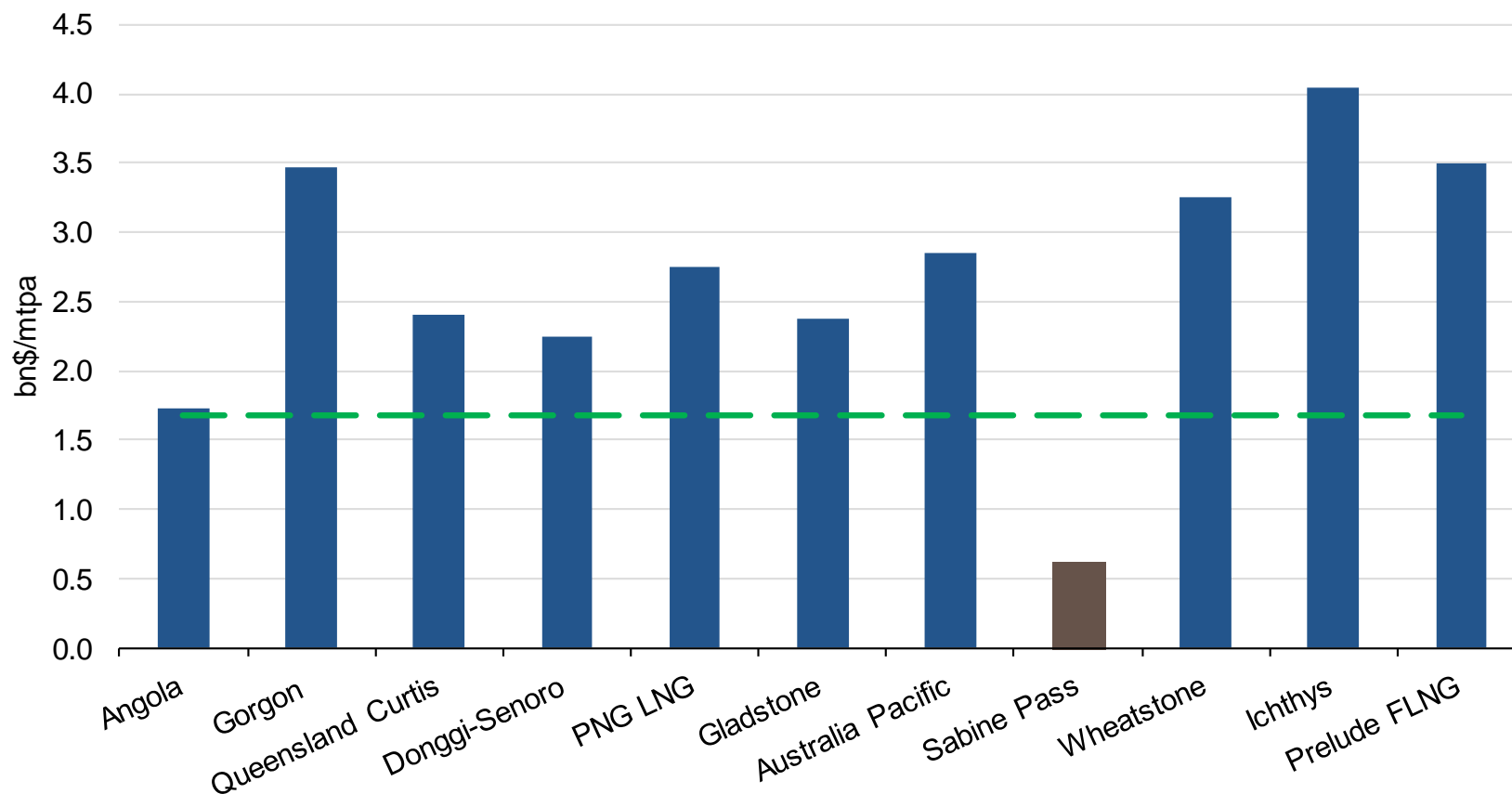


## US: THE NEXT QATAR?

US LNG exports projects (with DoE and FERC status)	Capacity (mtpa)
Cheniere Sabine Pass ( <i>FTA, non-FTA &amp; FERC approved</i> ) - 18 mtpa under construction	16
Freeport ( <i>FTA &amp; non-FTA approved (for 9 mtpa) – FERC filed</i> )	18
Lake Charles (BG) ( <i>FTA &amp; non-FTA approved – FERC filed</i> )	15
Dominion Cove Point ( <i>FTA &amp; non-FTA approved – FERC filed</i> )	5
Jordan Cove ( <i>FTA approved – FERC filed</i> )	9
Sempra LNG Cameron ( <i>FTA approved – FERC filed</i> )	12
Gulf Coast LNG Export ( <i>FTA approved</i> )	21
Gulf LNG Liquefaction ( <i>FTA approved – FERC filed</i> )	11
LNG Development ( <i>FTA approved – FERC filed</i> )	10
Southern LNG Elba Island ( <i>FTA approved – FERC filed</i> )	4
Excelerate Energy ( <i>FTA approved – FERC filed</i> )	10
Golden Pass ( <i>FTA approved</i> )	16
Cheniere Corpus Christi ( <i>FTA approved – FERC filed</i> )	14
CE FLNG ( <i>FTA approved</i> )	8
Pangea ( <i>FTA approved</i> )	8
Main Pass Energy Hub ( <i>FTA approved</i> )	24
<b>Total US</b>	<b>201</b>
<b>Total Canada</b>	<b>36</b>

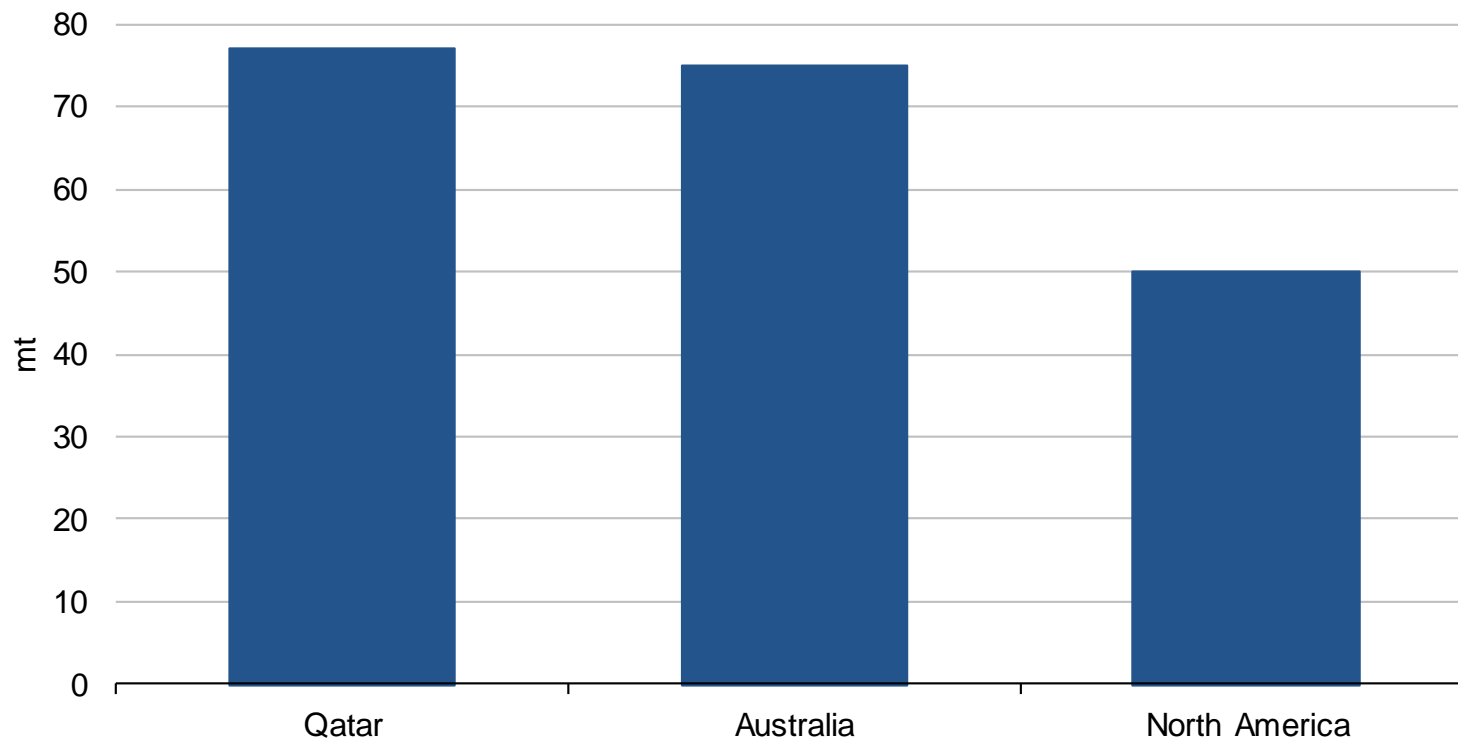
Source: SG Cross Asset Research/Commodities, US DoE, Canada National Energy Board

# WITH CHEAPER LNG CAPEX



Source: SG Cross Asset Research, company data

# TOP 3 2020<sup>E</sup> LNG PRODUCERS



Source: SG Cross Asset Research



# CONSEQUENCE #3

**US could impose its gas spot pricing model**

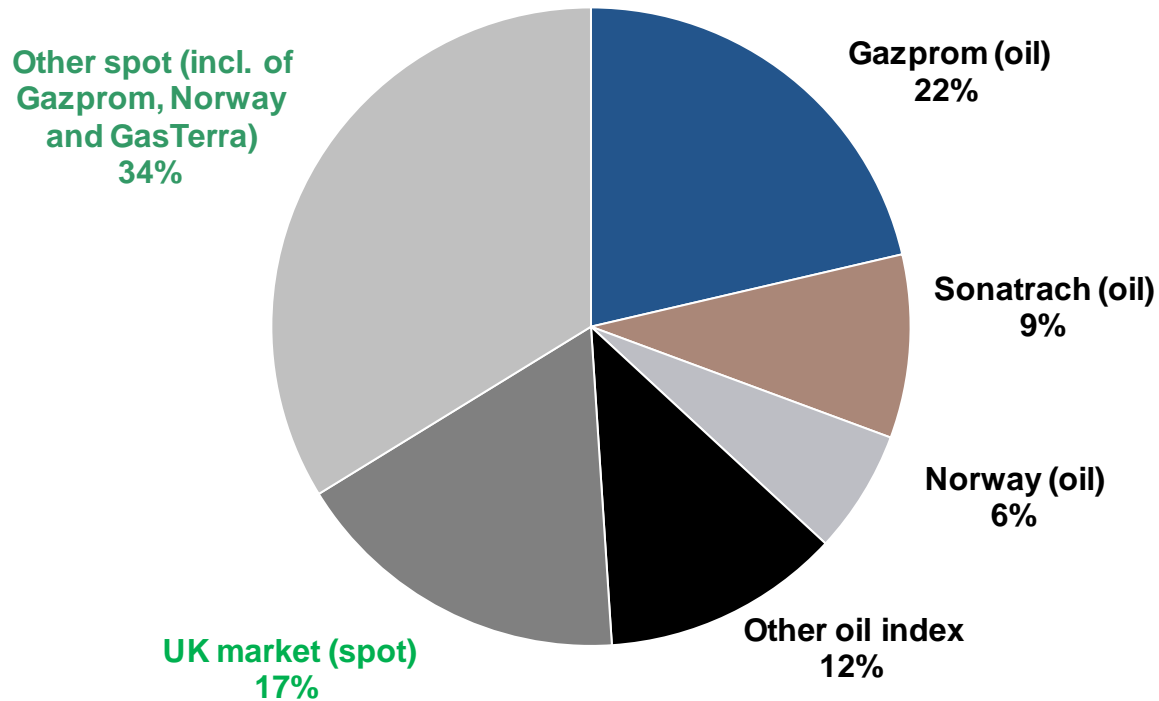
# EUROPEAN SUPPLY: RECENTLY MOSTLY SPOT-INDEXED...

**Spot ≠ Cheap**

Estimated split of European gas supply in 2013e

**49% oil-indexed**

**No way back**

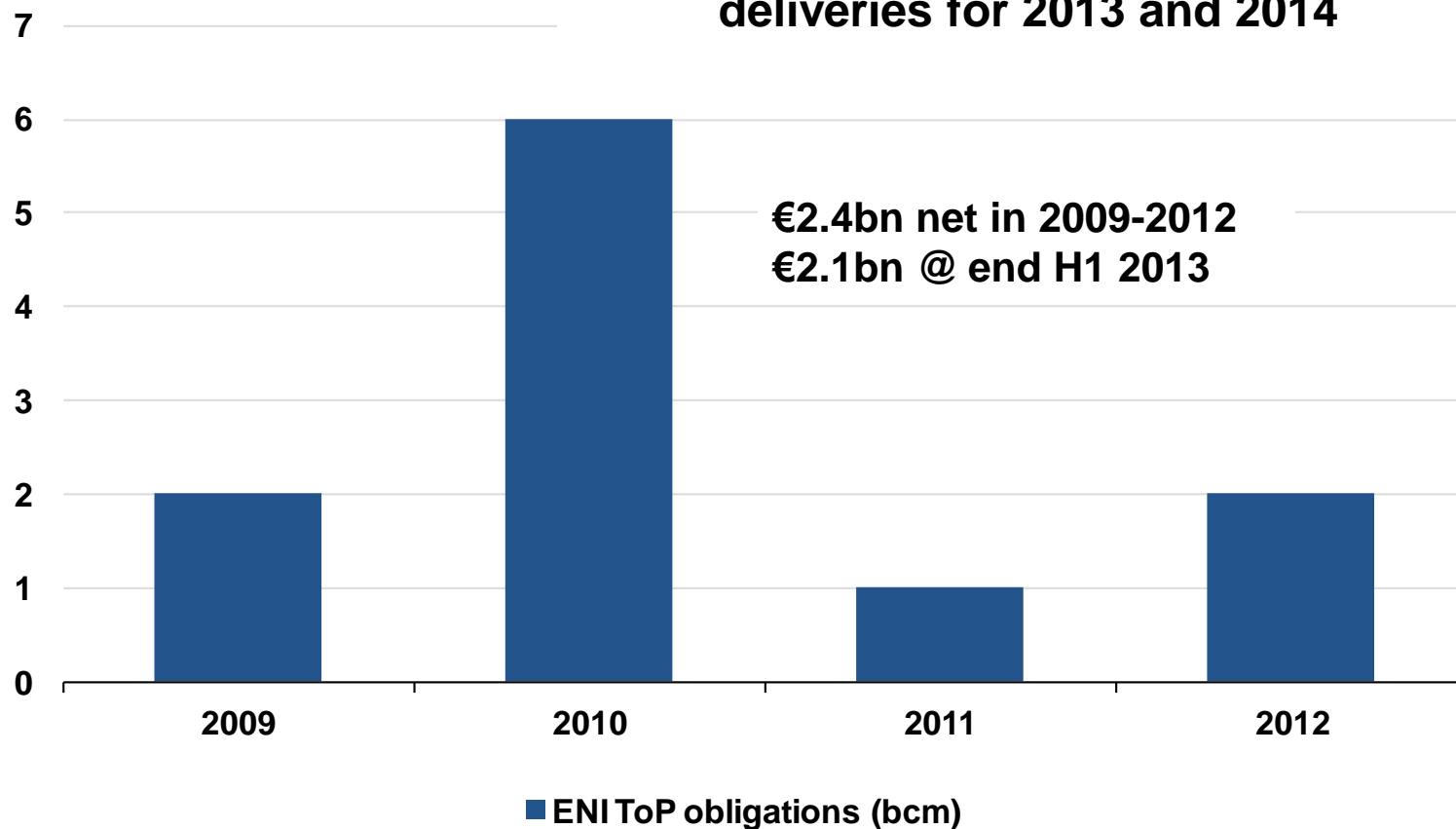


**ENI – Statoil  
arbitration and  
ongoing  
renegotiations  
could reduce  
further oil  
indexation**

Source: SG Cross Asset Research

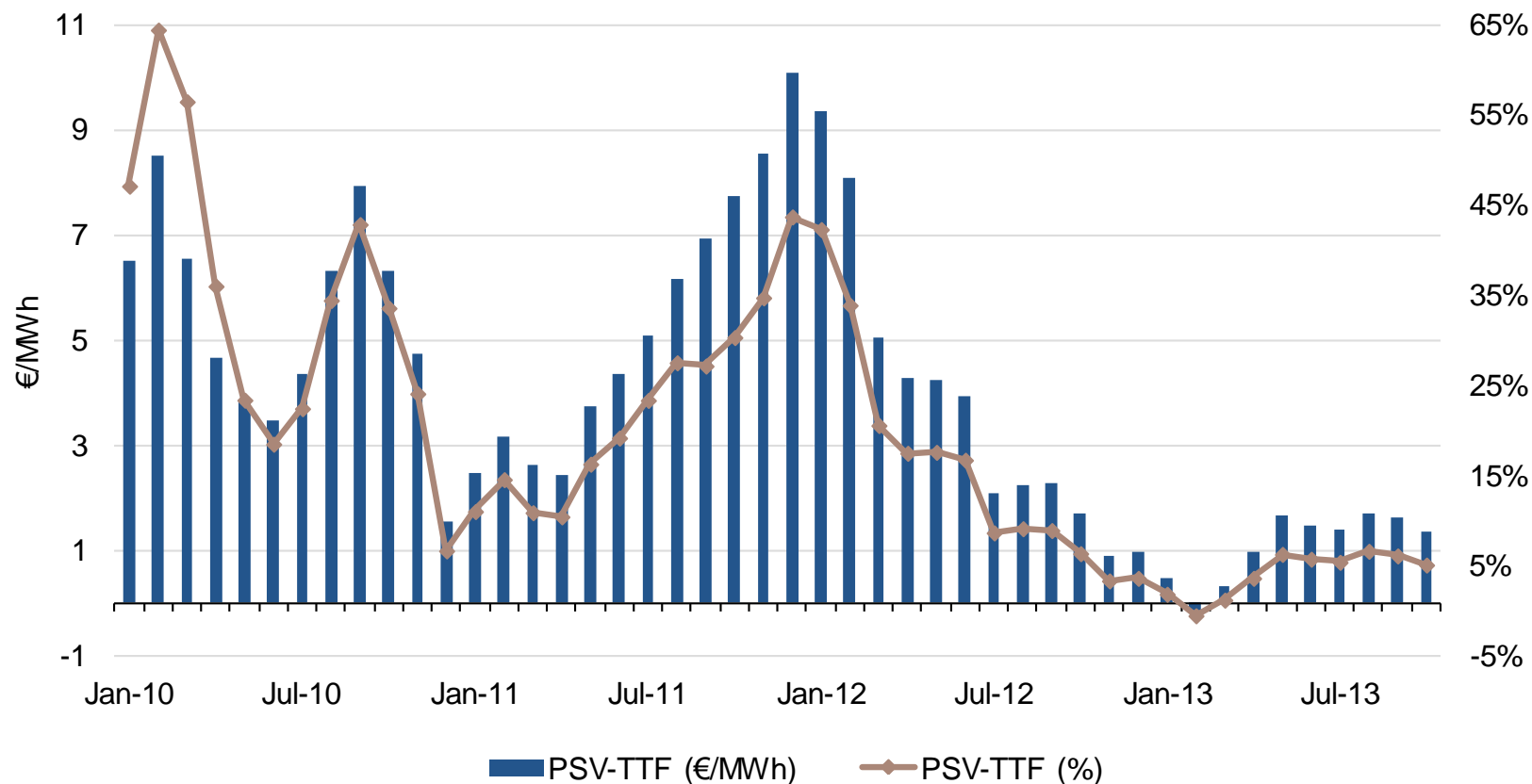
## ...WITH FEWER ToP OBLIGATIONS

Thanks to Sonatrach / ENI agreement to reduce the amount of contractual deliveries for 2013 and 2014



Source: company data, SG Cross Asset Research/Commodities

# INCREASED CORRELATION EVEN IN ITALY



Source: Platts, SG Cross Asset Research

# SHALE GAS IN EUROPE?

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- In 2012, the difference between US and European gas prices has resulted in an added \$130bn gas bill for Europe (or 0.8% of GDP)
- Unlikely to be a game changer in Poland
- Could mitigate decline in conventional fields in the UK
  - Exploration to estimate the reserves and the costs
  - “Social licence” to produce
- If the UK manages to produce shale oil & gas, continental Europe will follow
- But unlikely to make a major contribution this side of 2020e

# GAS PRICING IN 2015E

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## ■ In the US, a commodity traded on supply-demand fundamentals

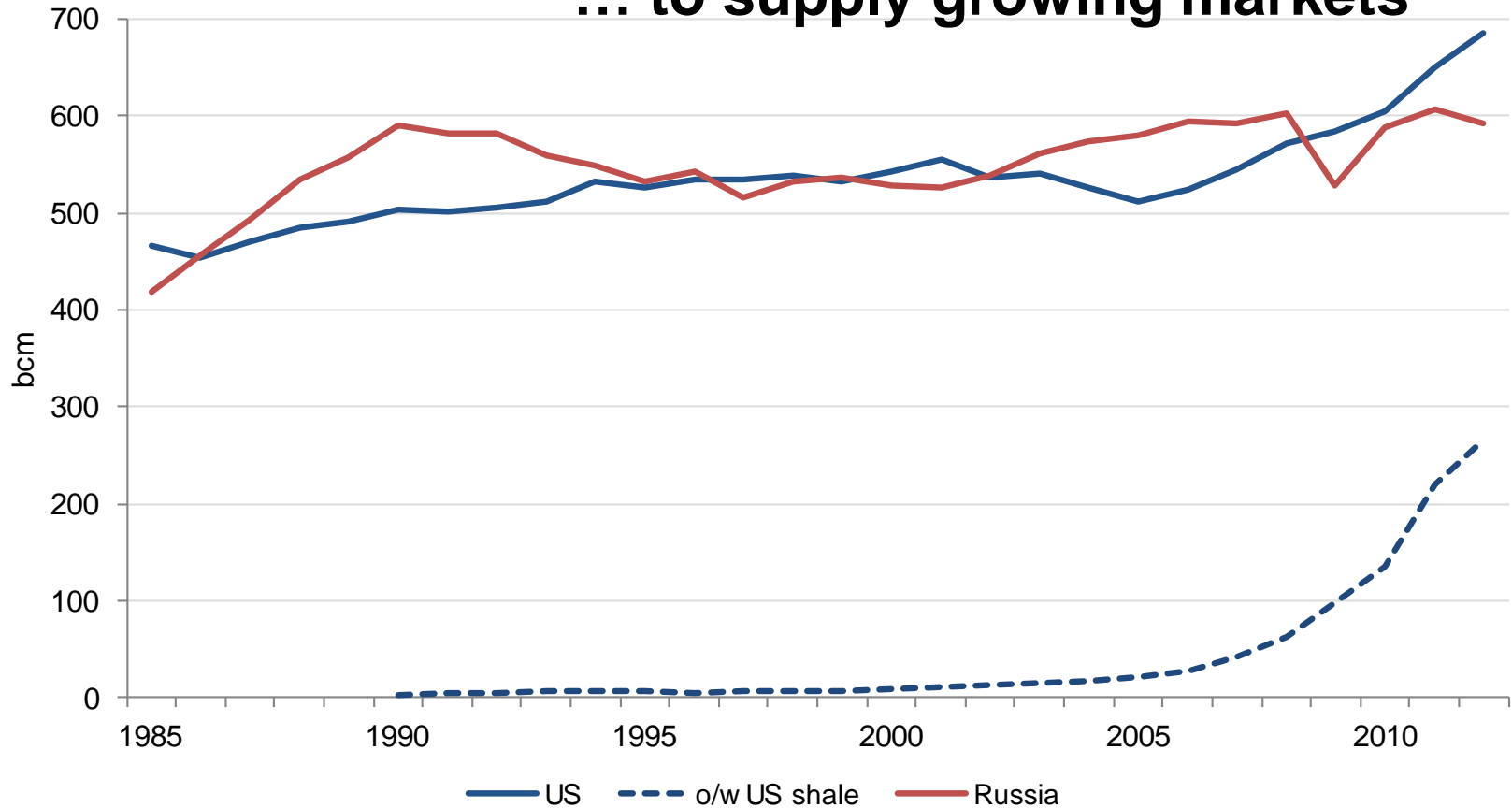
- 22% of worldwide consumption
- High liquidity - Spot pricing

## ■ In Europe, analysts need to look at government and company strategies, traders' psychology, etc.

- 14% of worldwide consumption
- Will prices differ based on final use?
  - ▶ Long-Term Take or Pay contracts
    - Some degree of oil indexation for residential customers where utilities have the ability to pass on increases to customers
  - ▶ Poor liquidity & Foreign National Oil Companies control c.50% of European supply
    - Some spot pricing for industrial uses - One major European index hub
  - ▶ Fuel switching
    - Emergence of an electricity-linked gas price to boost gas as a fuel for power generation – CCGT to operate on a long-term tolling basis
- But for how long?

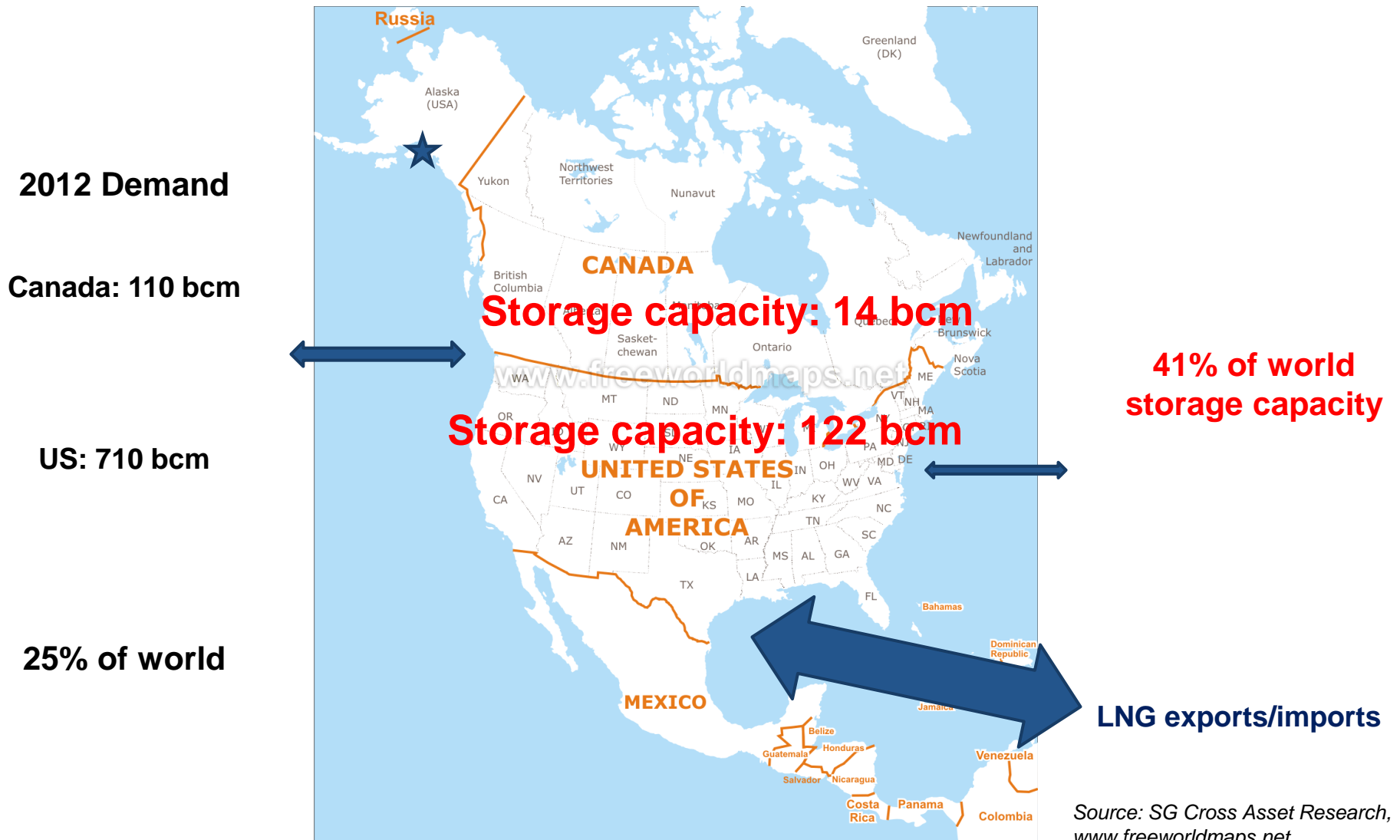
# US TO REMAIN # 1 GAS PRODUCER...

## ... to supply growing markets



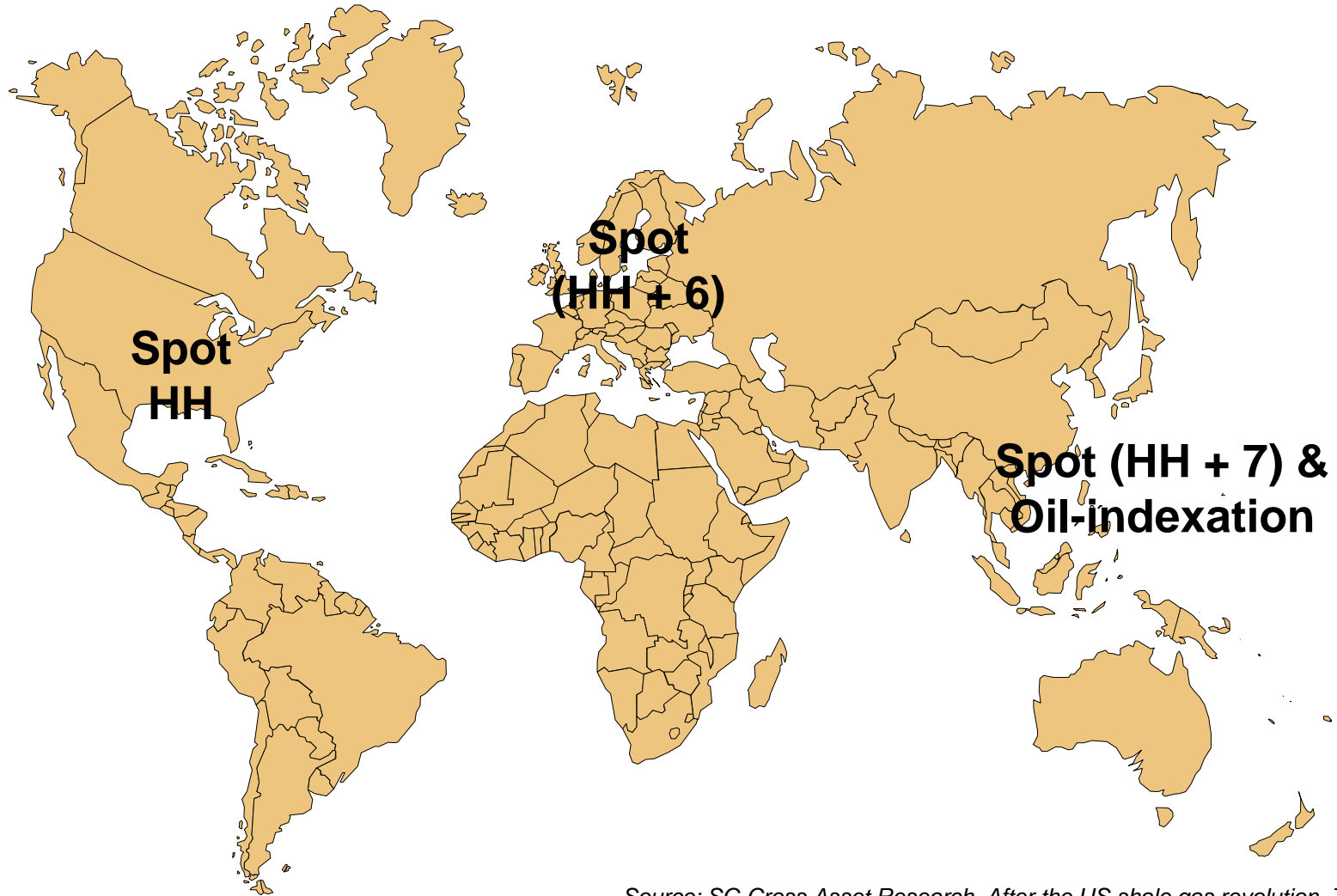
Source: SG Cross Asset Research, BP Statistical Review, US DoE, Russia Energy Ministry

# US: THE 2020E LNG HUB?





# OVERVIEW OF GAS MARKETS IN 2020E (IN \$/MBTU)



Source: SG Cross Asset Research, After the US shale gas revolution, T.Bros

# CONSEQUENCE #4

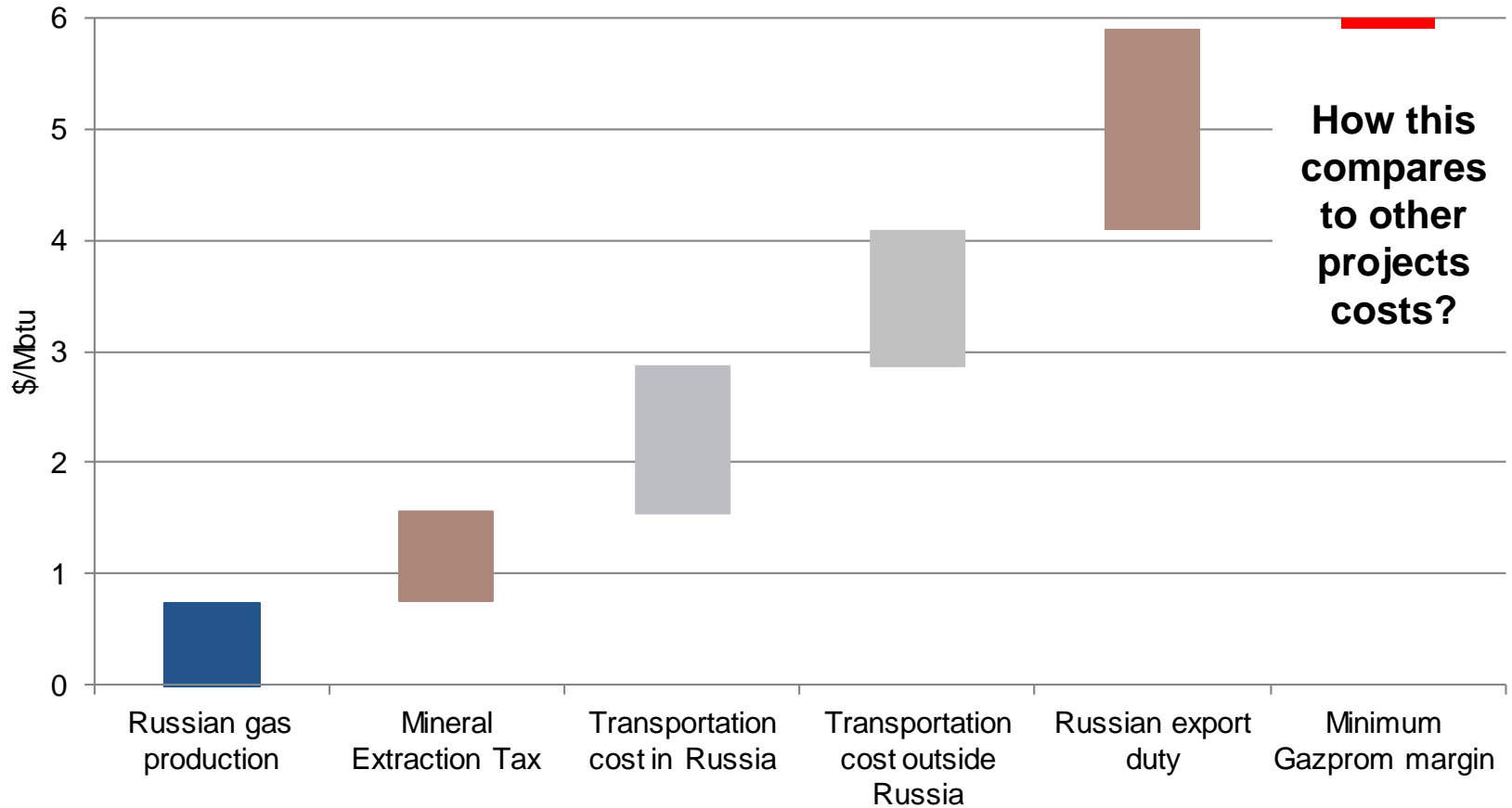
Producers need to adapt

## FROM A “GOLD-PLATED” TO A “LOW-COST” INDUSTRY?

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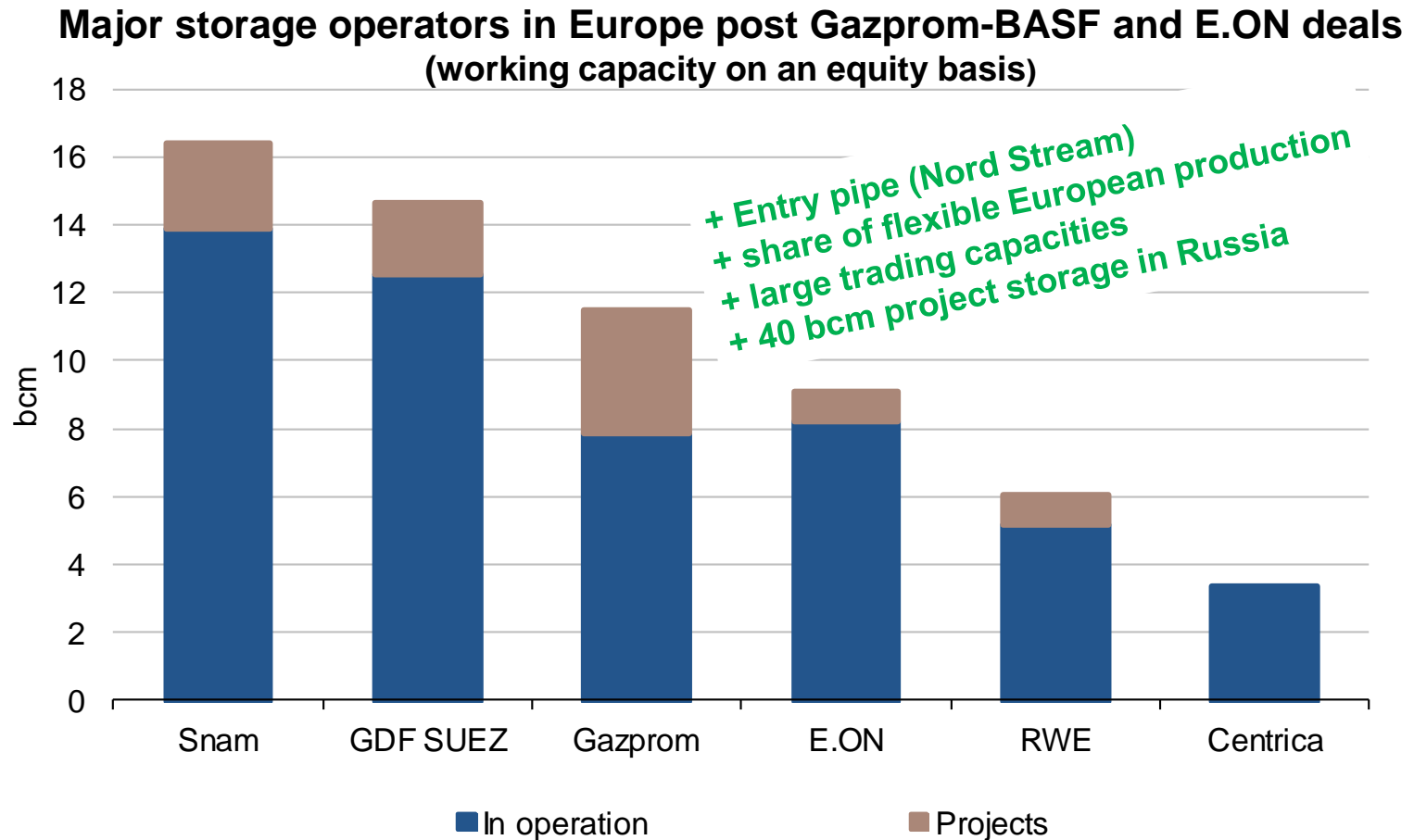
- Buyers don't want oil-indexation any longer
- Shah Deniz 2: first new gas project (16 bcm/y from 2020e) not oil-indexed
- From a rent to an economic margin for producers
- Who will lose?
  - Over-expensive upstream projects
- **Shale gas in Europe needs to be competitive (a price taker)**
- Price curve could move down when market participants view material shale gas production possible

# HH WILL GUARANTEE GAZPROM EUROPEAN RENT IN 2020E



Source: T. Bros: After the US shale gas revolution, SG Cross Asset Research

# GAZPROM READY TO EXTRACT INCREASED VALUE?



Source: SG Cross Asset Research

# CONSEQUENCE #5

Resource nationalism to ebb?

# RESOURCE NATIONALISM & ROYALTY TAXES

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- **Argentina renationalisation of YPF: last or first?**
- **Russia to increase Mineral Extraction Tax: more income or adjusted income for the State?**
- **How to attract investment in Middle East vs Mozambique?**
- **How to price Canadian LNG to suit buyer?**

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