

How will greater volumes of LNG impact European gas pricing and trading?

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- ▶ **We turn the panel's sub-bullets' sequence around in the order of relevance:**
- ▶ **3. Can LNG trade come out of oil's shadow?**
- ▶ **1. Assessing global developments of LNG pricing and trading**
- ▶ **2. Promoting European hub prices as an economic alternative**
- ▶ **4. What is LNG spot market potential?**

3. Can LNG trade come out of oil's shadow?

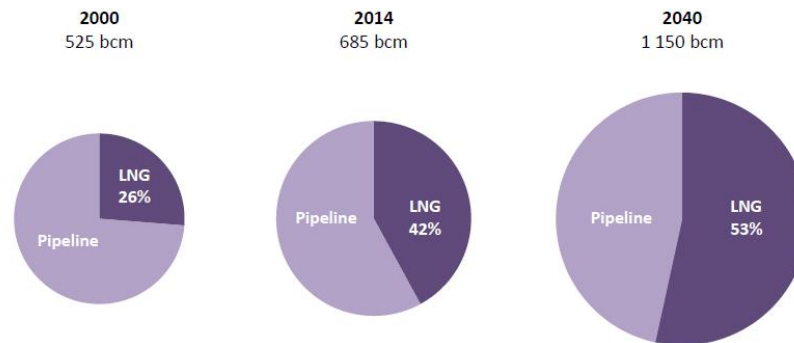
IEA WEO 2016: The unfolding (second) LNG “revolution”

**Gas on its way to become globally traded commodity just like crude
=> Best that can happen to gas (in context SoS & reputation)**

Waterborne commodity ~ 50% fit to facilitate global price benchmark



Share of LNG in global long-distance gas trade



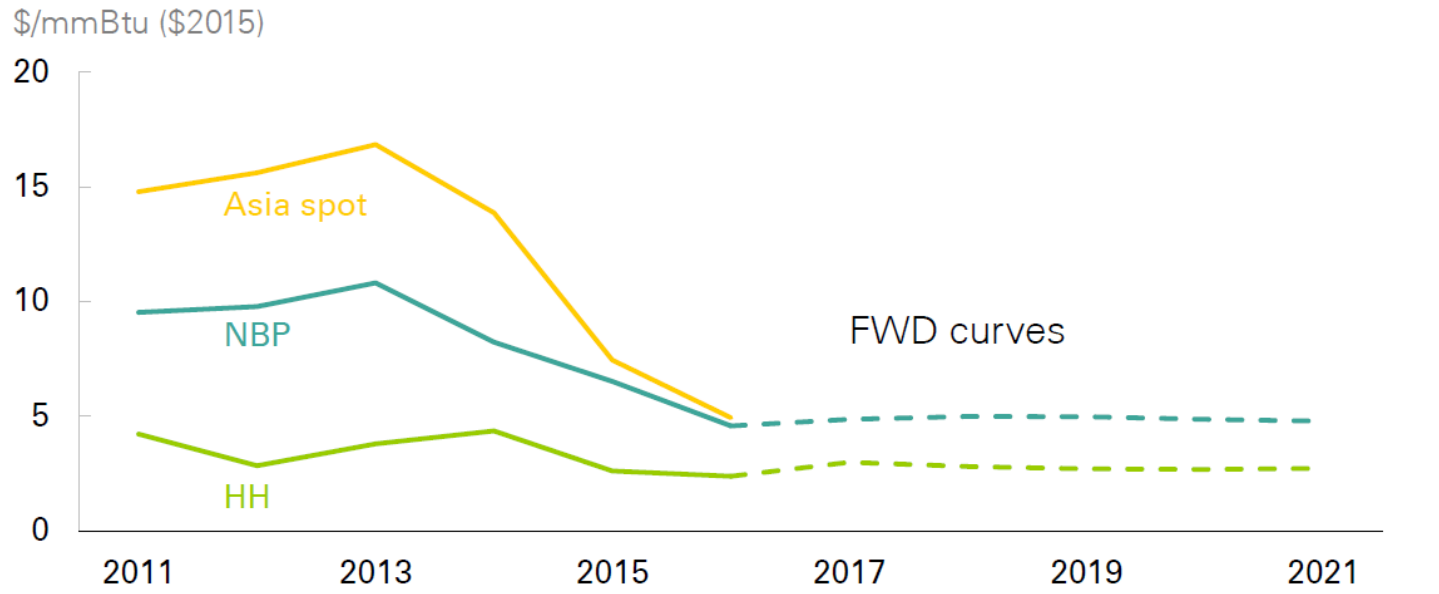
Contractual terms and pricing arrangements are all being tested as new LNG from Australia, the US & others collides into an already well-supplied market

Source: IEA WEO 2016

1. Assessing global developments of LNG pricing and trading: Increasing price convergence

Global price convergence through waterborne LNG trade underway

(Helped by low crude prices & increasing LNG spot share)



Source: BP Energy Outlook 2016

1. ...LNG pricing and trading: Does not mean UNIFORM price, but SPREADS (triggering arbitrage)

For U.S. LNG: Premium NBP over HH required

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

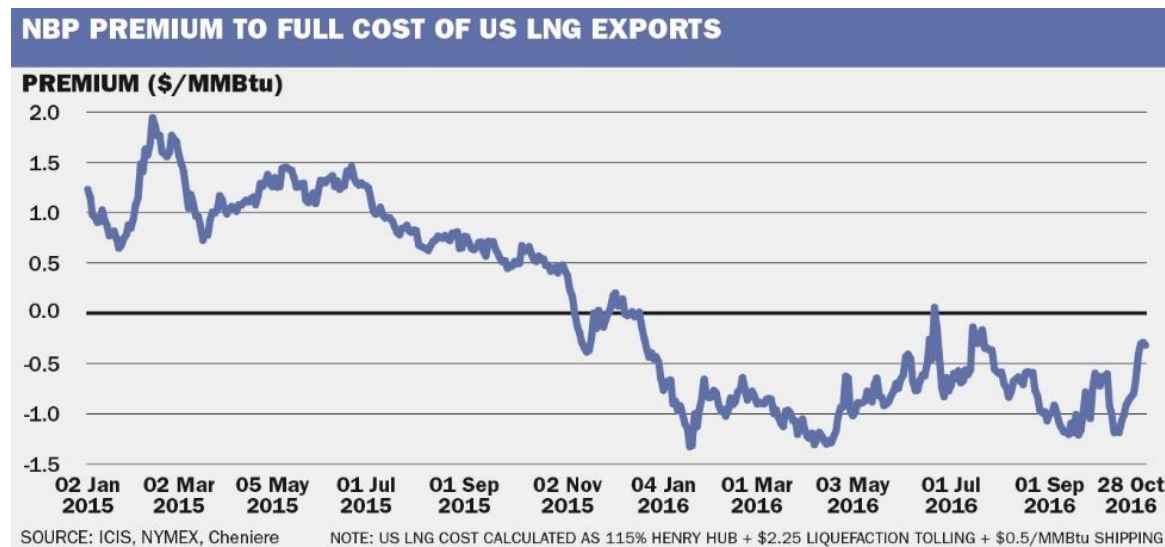
Marginal cost (liquefaction sunk):

~\$3.70/MMBtu

~\$1.45/MMBtu

Spread 2016 deteriorated vs. 2015, but not below SRMC

Nonetheless: ...=>



Source: ICIS Heren

1. ...LNG pricing and trading: good example of responsiveness to price signals => Sabine Pass 2016:

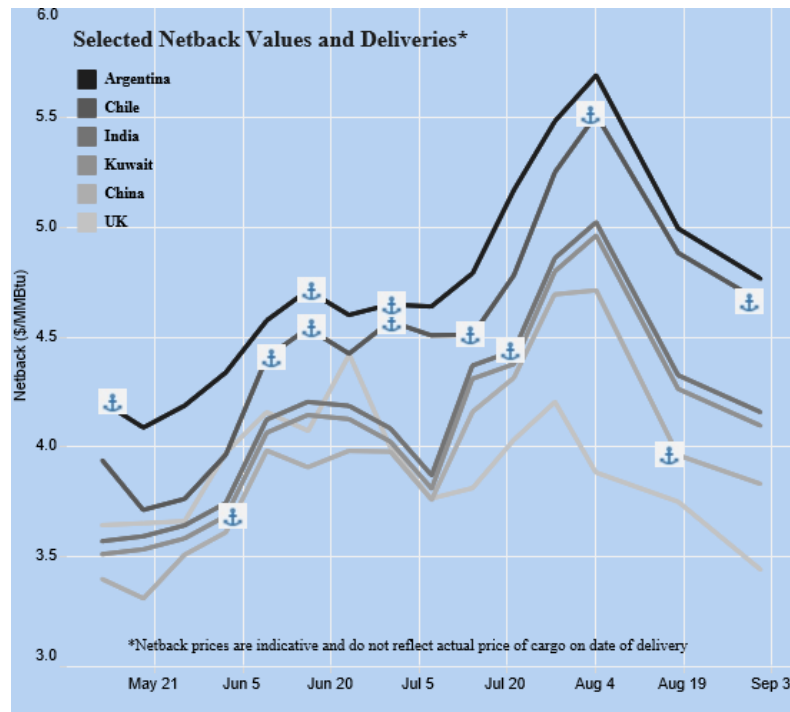
Sabine Pass train 1 started in early 2016:

Only 3 cargoes reached Europe, bulk to South America

Higher netbacks were achievable in South America.

The goods news: global price signals work!

Europe: can also rely on price signals



Source: ICIS Heren

2. Promoting European hub prices as an economic alternative – (not really necessary; already happening)

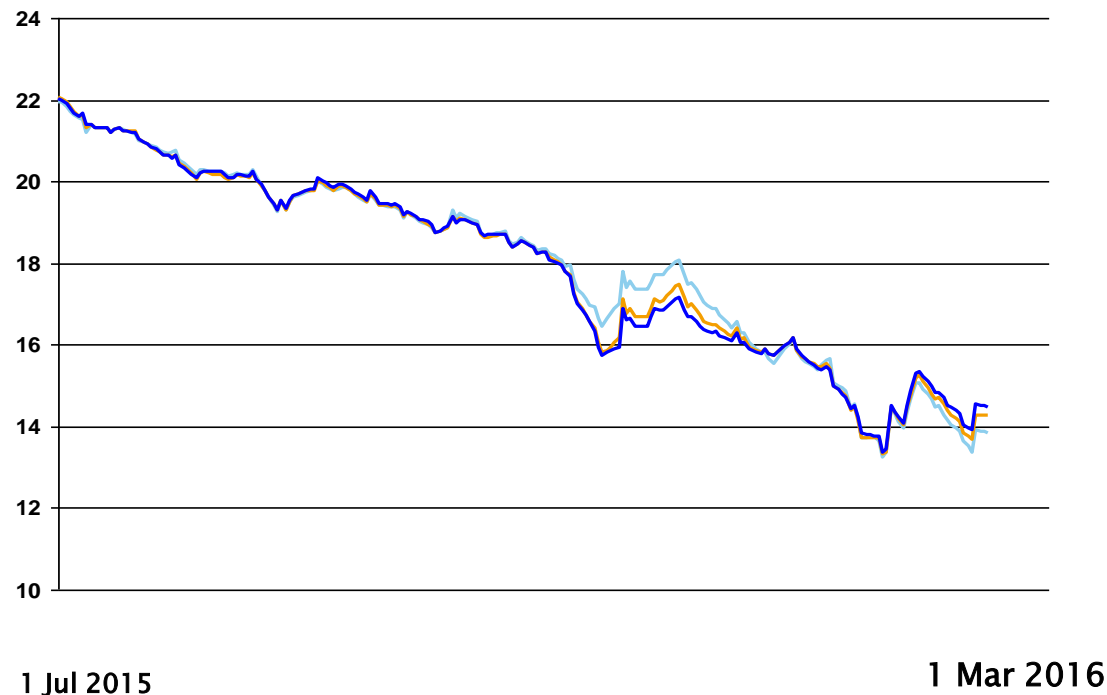
Between July 2015 and March 2016:

Far end of the curve (Cal17, Cal18, Cal19) became liquid

And was in backwardation:

=>U.S. exporters/importers hedging their cargoes

Development of TTF forward prices for Cal 2017/18/19
in the period 1 July 2015 until February 2016 (monthly averages of daily prices)



1 Jul 2015

1 Mar 2016

2. Promoting European hub prices as an economic alternative => at European market, no alternative

**IGU Wholesale Price Survey 2016: Price Formation 2005 – 2015:
Oil indexation almost vanished in NWE: 92% GOG, 8% OPE**

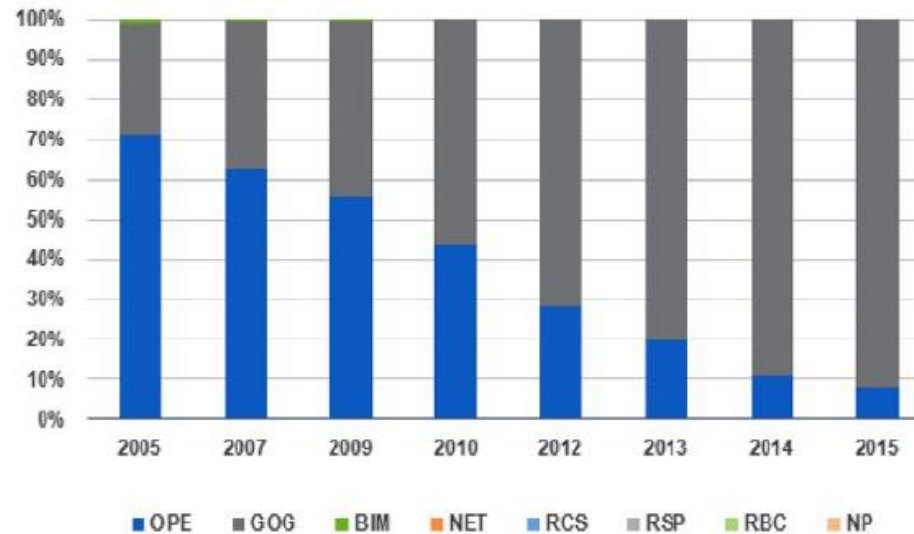


Figure 5.5: Northwest Europe Price Formation 2005 to 2015

Source: IGU Wholesale Price Survey 2016

4. What is LNG spot market potential?

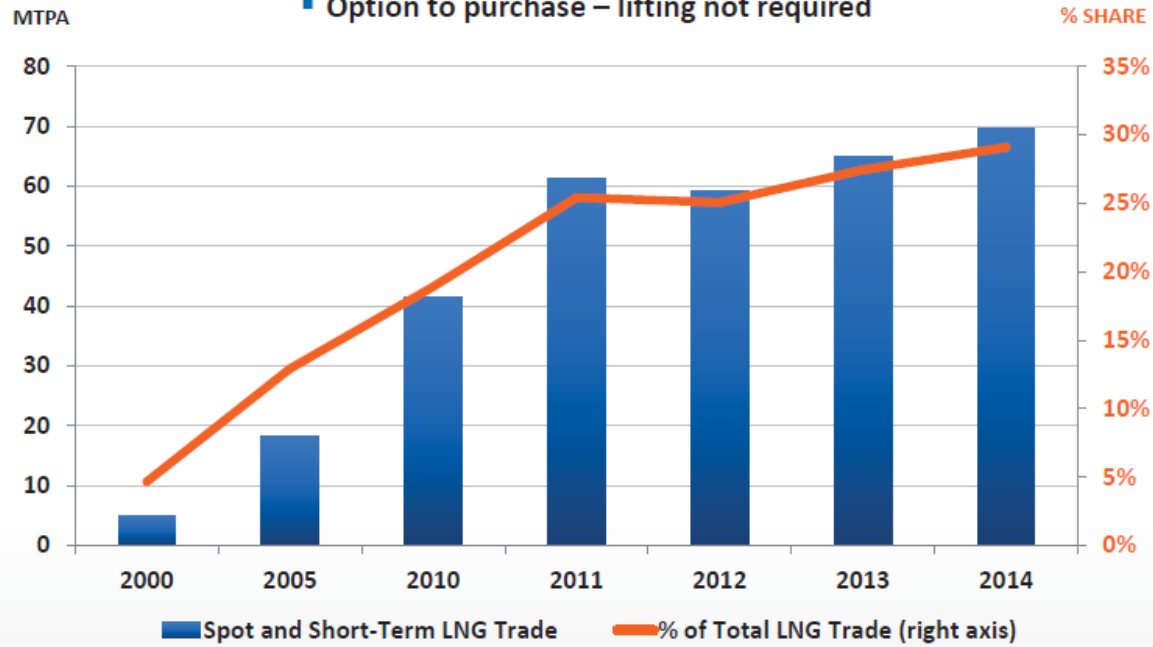
Spot share of global LNG trade rising (already > 30%)

Destination flexibility of U.S. LNG => exploit spot opportunities

Rising supply pressure 2017/2018 => increased volatility (classical circumstance to prefer spot)

U.S. Supplies to Create More Market Liquidity

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



Source: GIIGNL 2015

Source: Cheniere 2015