

La fin du tunnel pour le gaz en Europe?



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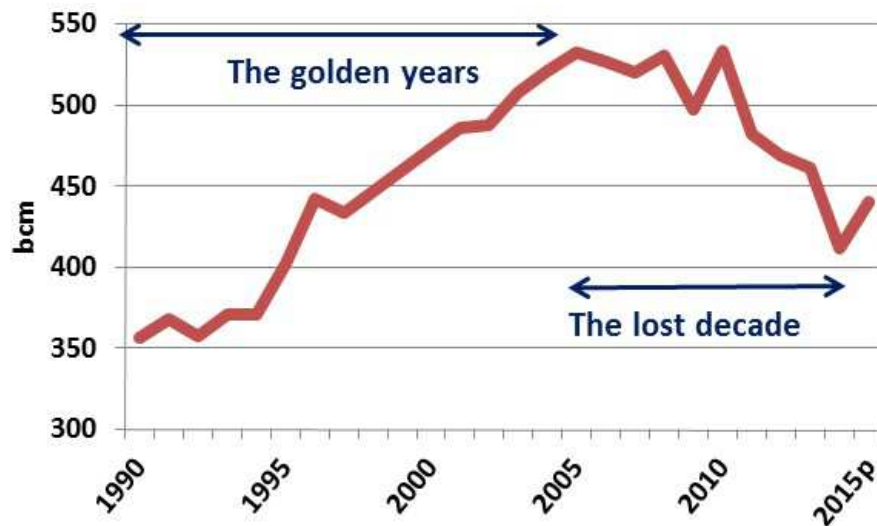
Rendez vous de l'AFG
2 juin 2016

Conseil Français de l'Énergie



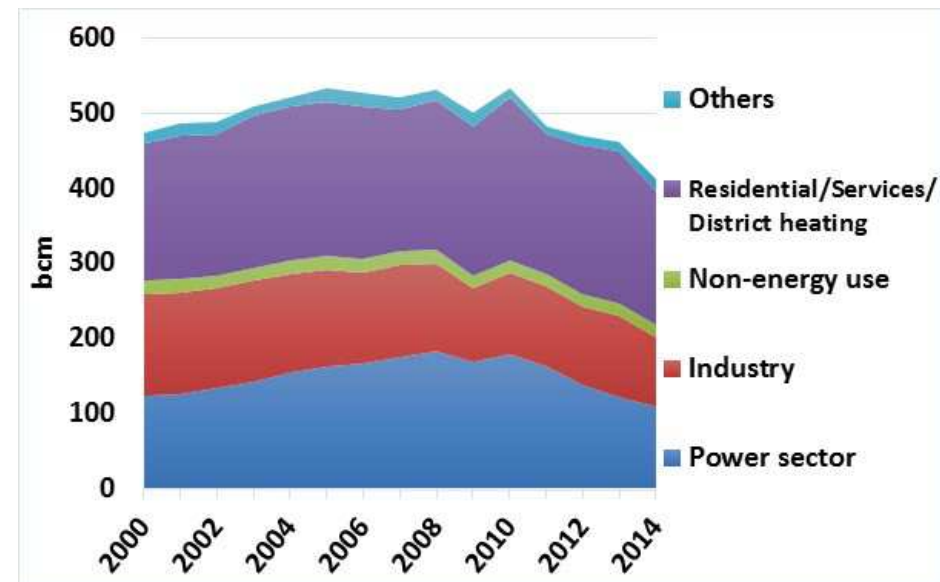
EU gas demand

▶ EU gas demand (1990-2015)



Source: EUROSTAT, 2015 est.

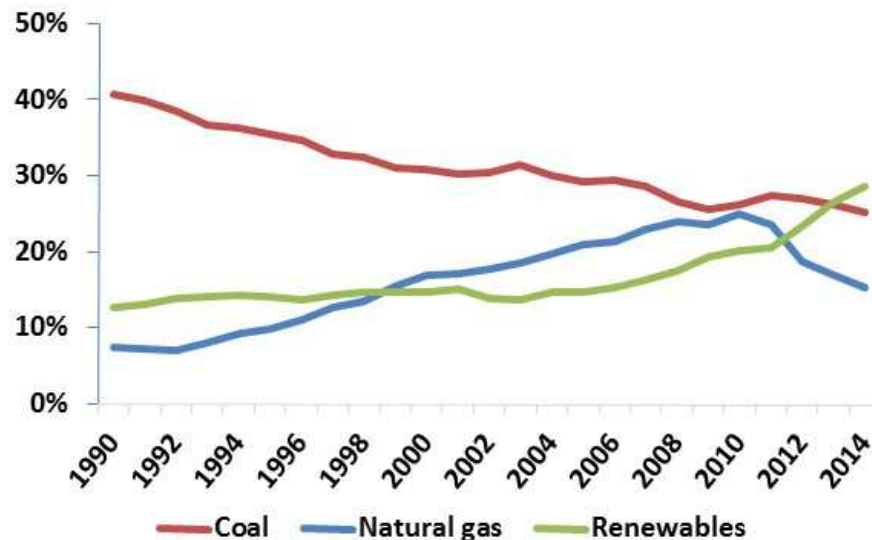
▶ By sector



***A fall by more than 120 bcm between 2010 and 2014
Main causes: demand by the power sector and weather***

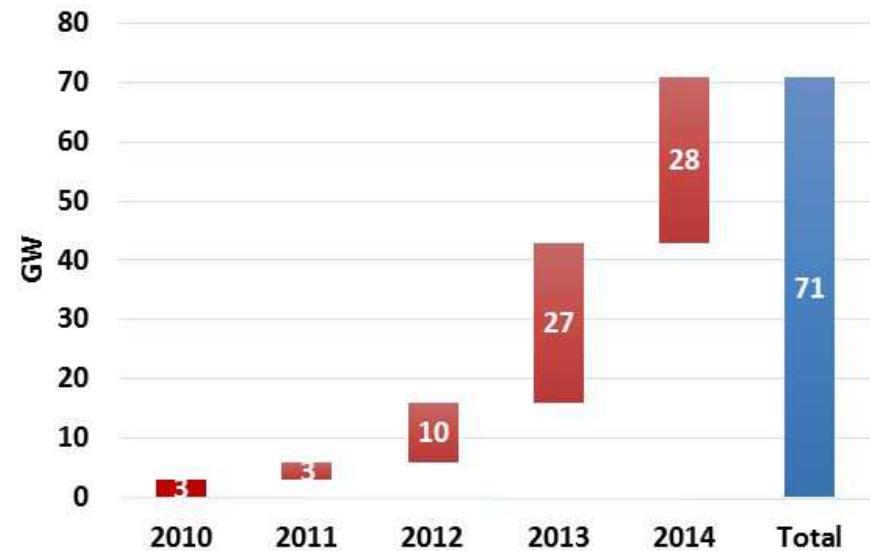
Competition in the power sector

- ▶ Share of natural gas, coal and renewables in EU power generation



Sources: EUROSTAT, EURELECTRIC

- ▶ Closure/mothballing of gas- and coal-fired power plants

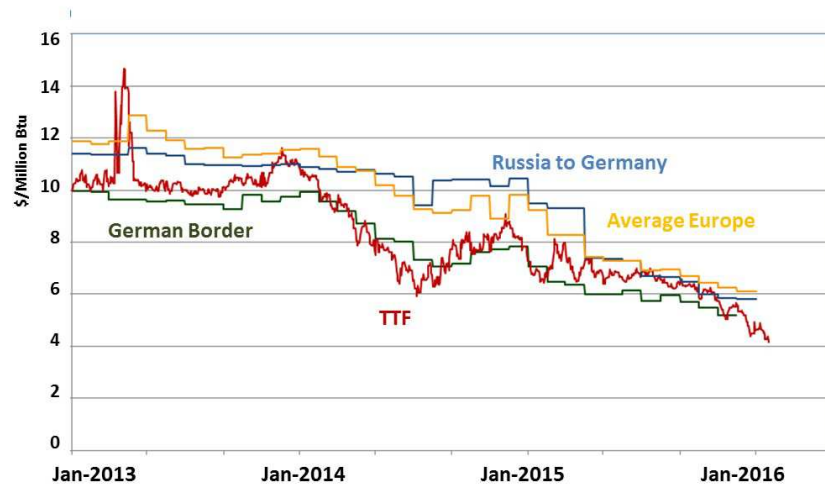


Source: UBS

Renewables push fossil fuels out of the merit order
Thermal power plants are closed/mothballed

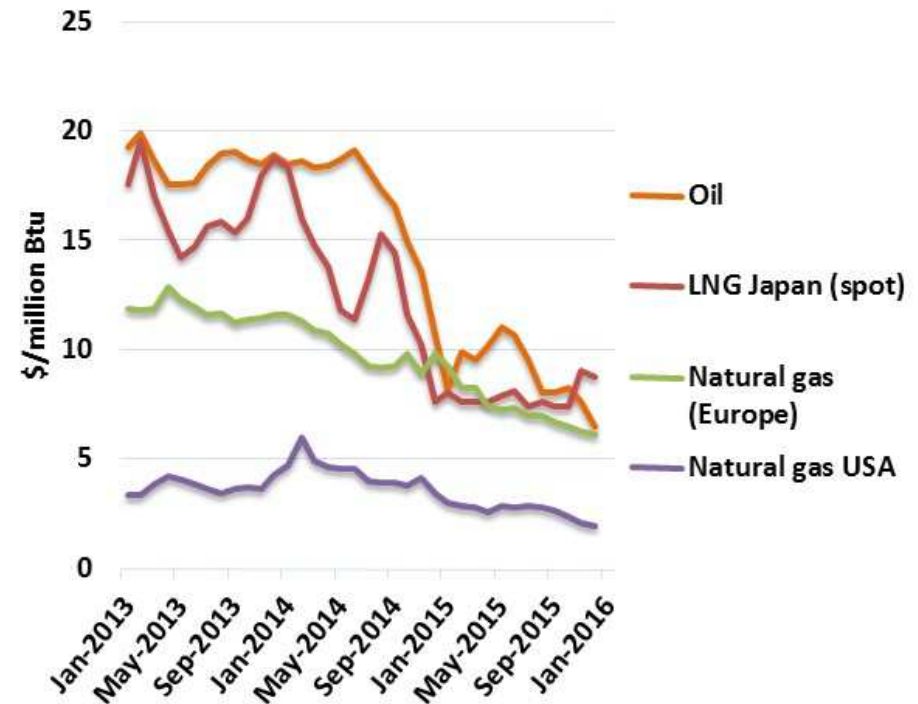
Impact on gas prices

▶ European prices



Sources: eegas, McCloskey Coal Report, World Bank

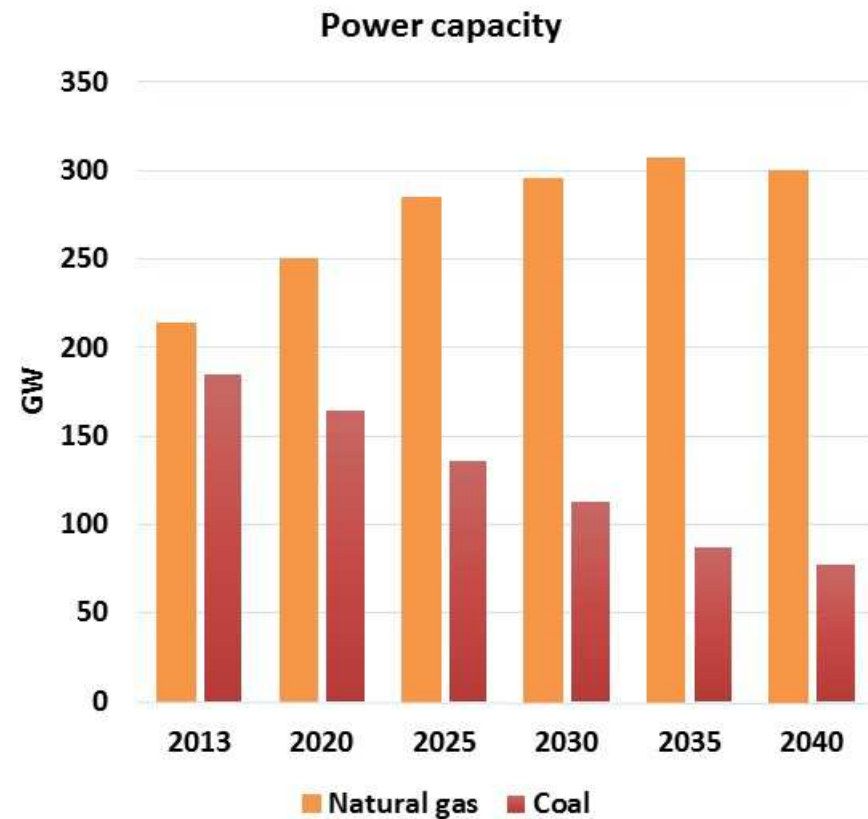
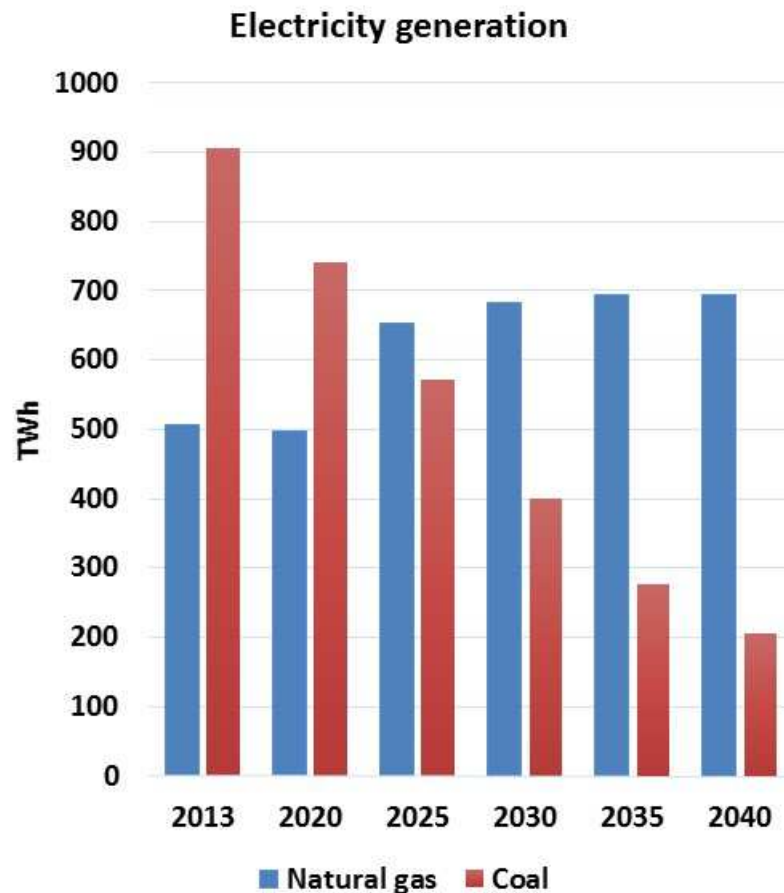
▶ Global prices



The decline in spot gas prices started before the collapse of oil prices and was reinforced by the fall in oil prices.

Price convergence and competition for LNG supplies at global level

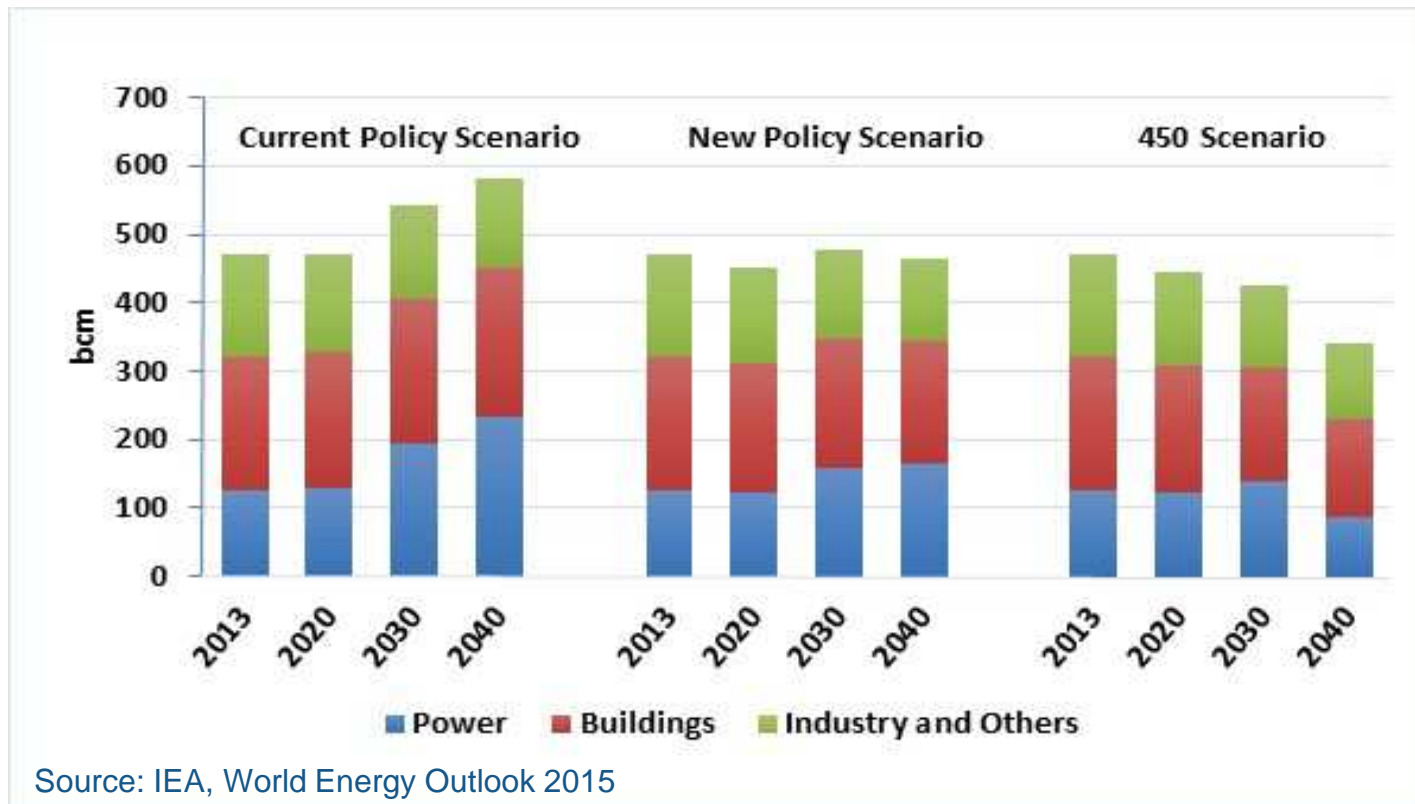
Natural gas in the EU power sector



Source: IEA, World Energy Outlook 2015

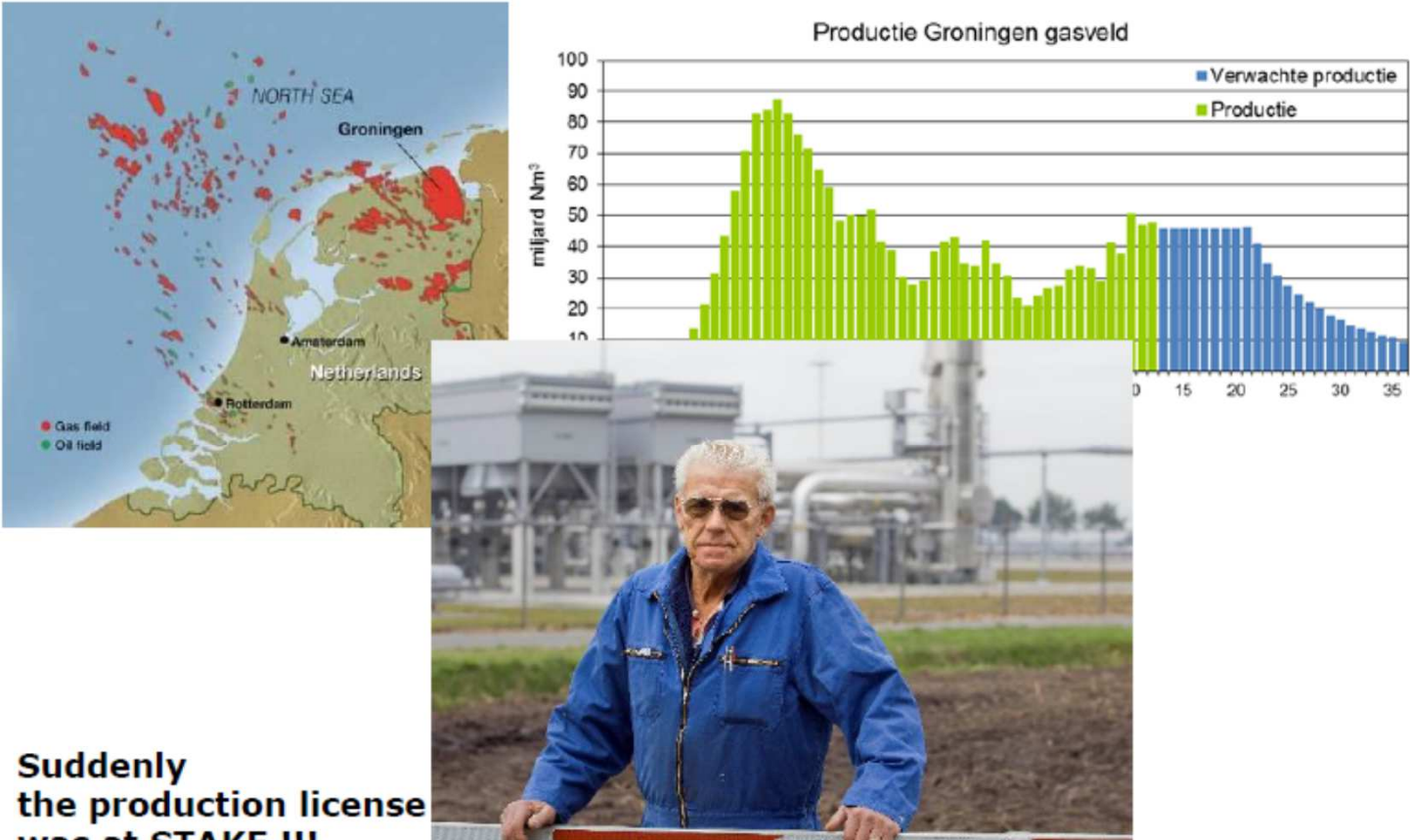
Gas replaces coal after 2020. Rising capacity needed to ensure security of variable intermittent sources (but low load factors of gas-fired power plants)

Outlook for EU gas demand



According to the recent EU Energy Strategy Package natural gas is an transition energy towards renewables

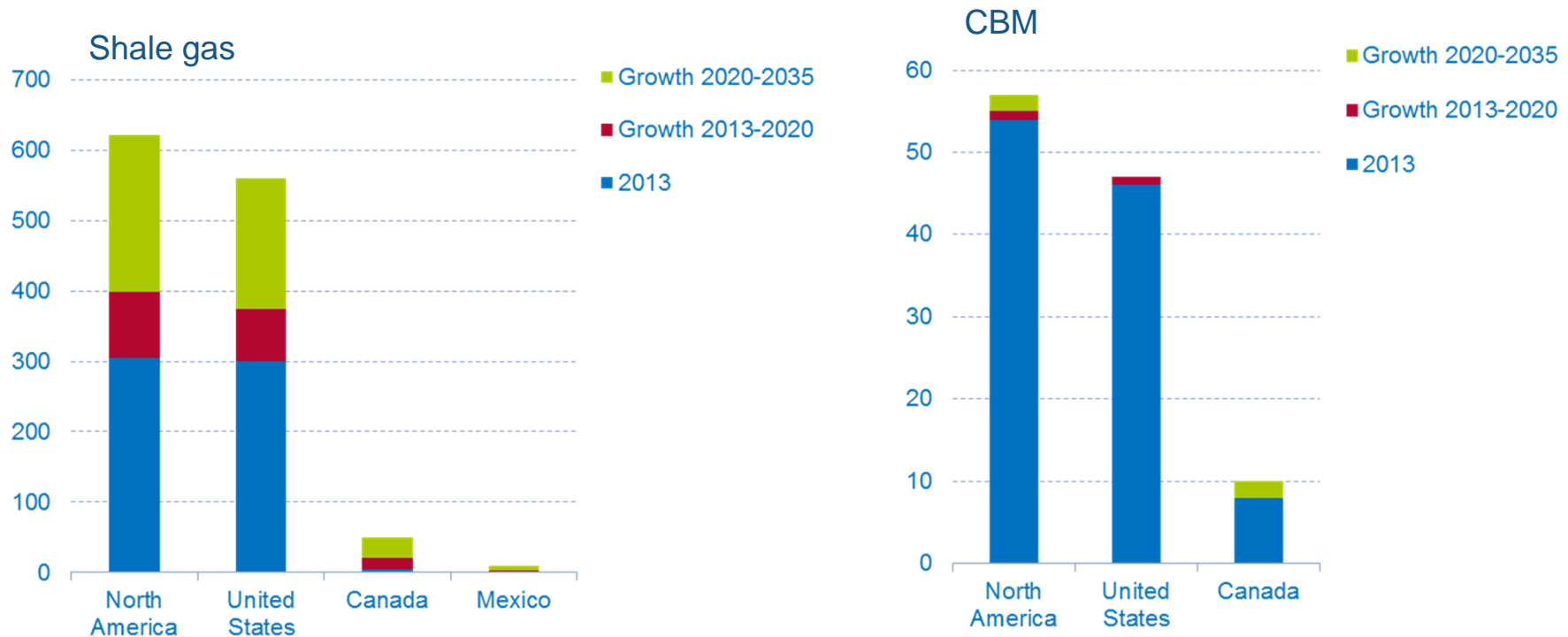
Dutch production and sudden impact from regional acceptance



**Suddenly
the production license
was at STAKE !!!,
even after 40 years**



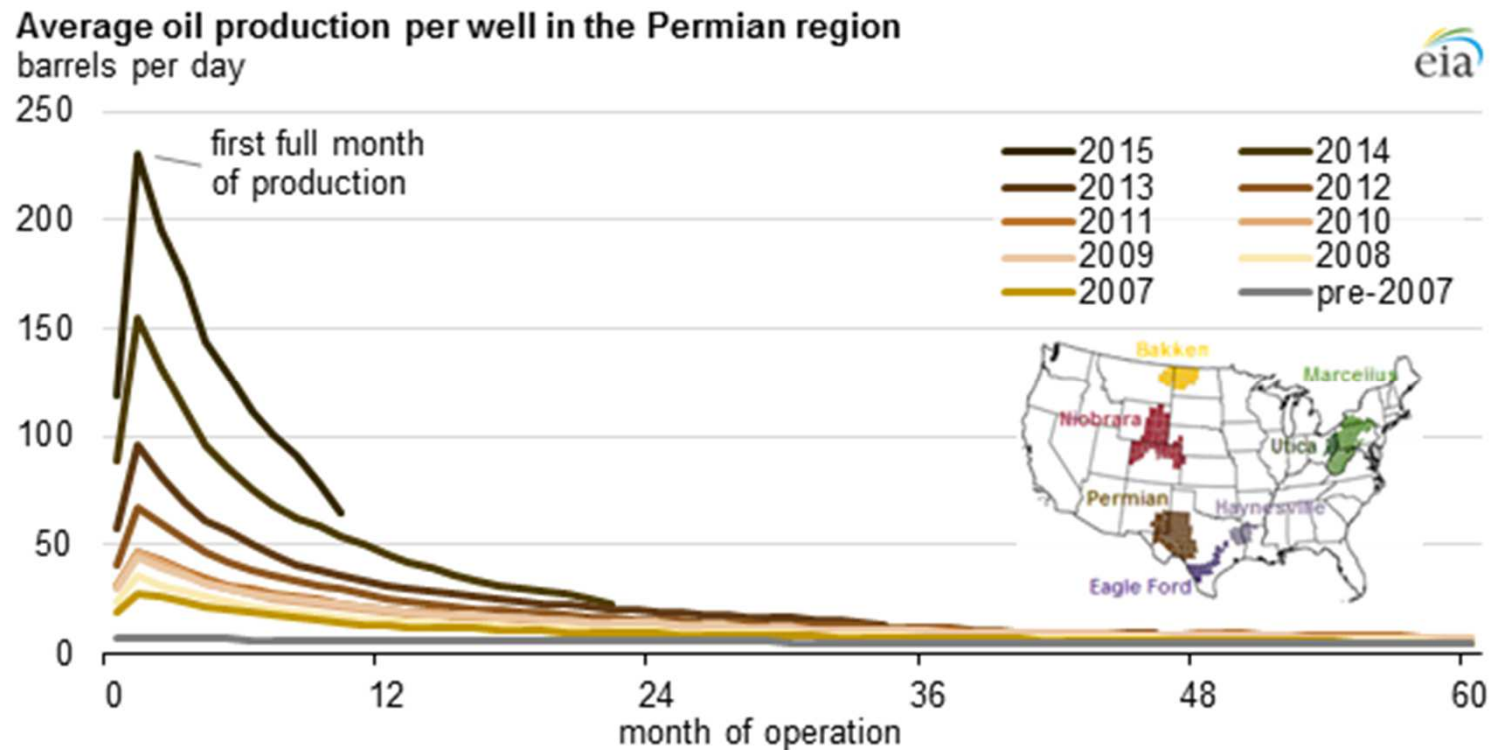
Unconventional gas production prospects in North America



- North America will account for around 60% of the global incremental production of shale gas over 2013-2035 (US: 48%). In the long term, US shale gas production will pursue strong expansion, boosted by relatively high gas and oil prices (associated gas to oil and liquids-rich plays).
- Although the US currently dominate world CBM supply, national CBM production is set to flatten in the long term because of the maturity of resources.

Unit: Bcm

Initial production rates in tight oil formations continue to rise



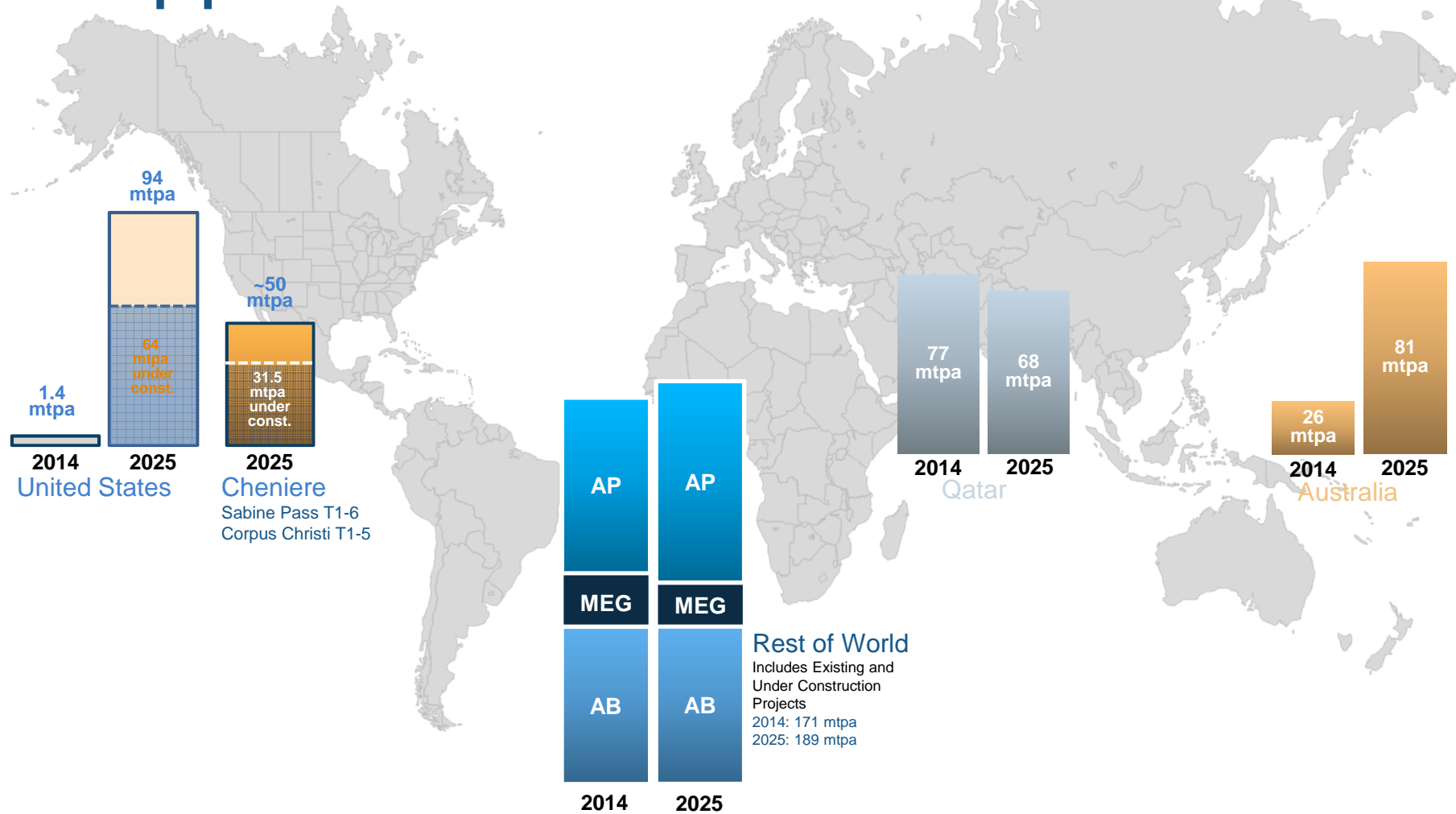
U.S. Can Deliver Gas Profitably...

Delivered Price To: (MMBtu)	Europe	Asia
Gas	\$2.60	\$2.60
Transportation	1.00	2.50
Regasification	<u>0.40</u>	<u>0.00</u>
Total Cost	\$4.00	\$5.10
Landed Price	\$5.00 (TTF)	\$6.90 (JKM)
Margin	\$1.00	\$1.80

- ▶ Construction costs in the U.S. are between \$600-\$800/ton
- ▶ At \$600/ton of construction cost, \$1.00 is a 9% return on capital (and \$1.8 is 16%)
- ▶ US prices market oriented
- ▶ High flexibility (no TOP, no destination clause)

U.S. to Be One of Top Three LNG Suppliers

Projected Liquefaction Capacity Suppliers



Source: Wood Mackenzie Q3 2015, Cheniere research

2014 Global LNG Liquefaction Capacity: ~37 Bcf/d

2014: A fundamental reorientation of Russian gas export policy?

- ▶ South Stream cancellation in December 2014, replaced by Turkish Stream
- ▶ Failure to obtain an exemption in the OPAL pipeline;
- ▶ Abandonment of its asset swap with BASF which would have given it full control of the Wingas joint venture.
- ▶ End of transit through Ukraine planned for the end of 2019
- ▶ Abandoning its long held strategy of direct sales to European end-users
- ▶ **The opening of a new export route to Asia, plans for an expanded LNG business and a re-focussing of Gazprom's European export strategy were three of the key directions**

2015: a new complete shift in Gazprom's strategy towards Europe

- ▶ Nord Stream II
- ▶ Completion of BASF/Gazprom assets swaps
- ▶ First sale auctions by Gazprom Export (3.2 bcm in September 2015)
- ▶ Suspension of Turkish Stream in December 2015
- ▶ Gazprom started negotiations with Ukraine about future transit fees

TRIGGERS

- ▶ New market opportunities
 - Groningen decline (in addition to the structural decline in European production)
 - European import demand to rise significantly
- ▶ Regulatory pressure
 - EC antitrust investigation
- ▶ New market realities
 - US LNG exports are starting

Europe at the center of the US/Russia battlefield



Enough routes/channels to supply both gluts to the EU market
Volumes will come by price and a 'ceiling' around 6 Mmbtu
Downward exposure; depending on incoming tolling LNG from USA
Resilience of the EU market is dealing with SoS

Merci



