



REUTERS/Olivier Pon

World gas market tendencies and influences on the European gas market

.....
Or – will LNG be easily available to Northern Europe?

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Baltic Energy Day 26th of November 2013

POINT CARBON

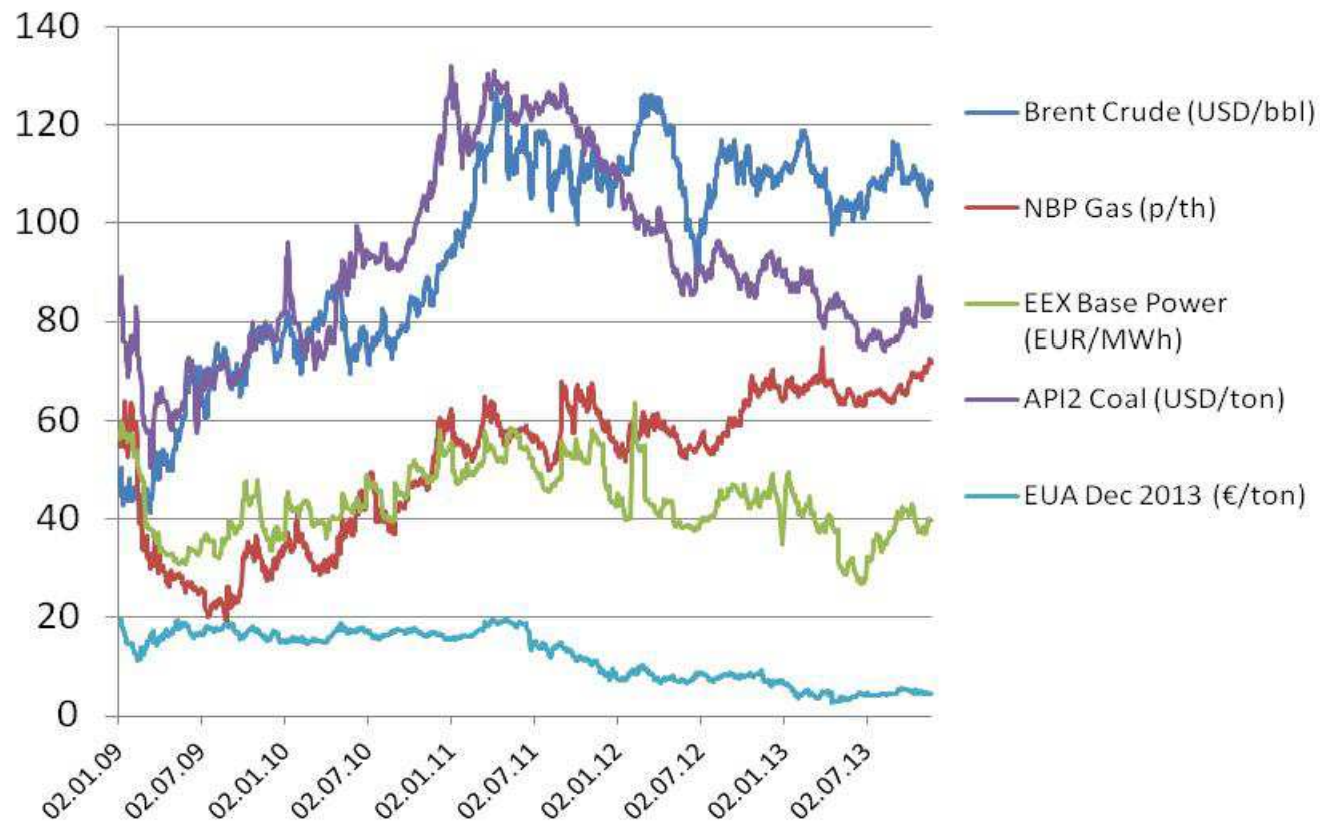


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Gas price developments	
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Global LNG	Implications for European gas markets
European gas markets	Its position to compete for LNG supplies
Prospects for LNG to North Europe	

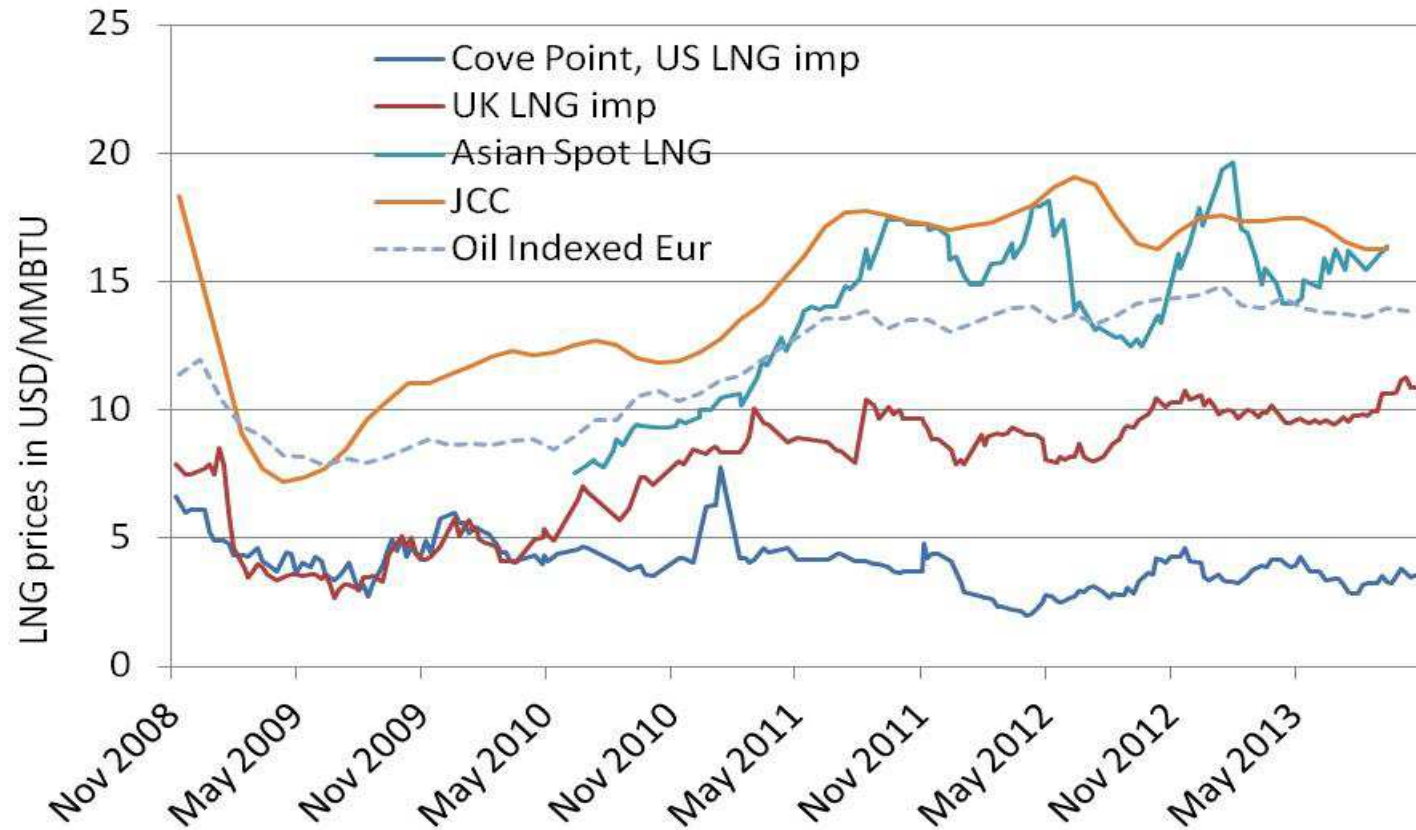
Energy prices trending downwards. Exception: spot gas in Europe



EUA = carbon emission price in EU

Nat gas prices around the world

No global gas market, but many regional ones

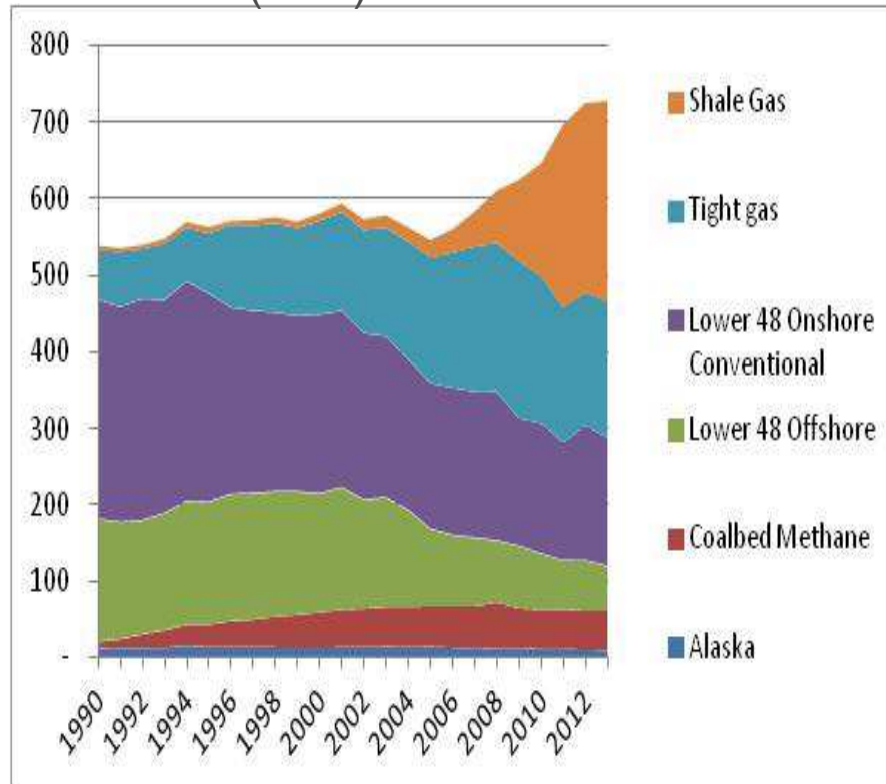


JCC= Japanese oil indexed LNG price

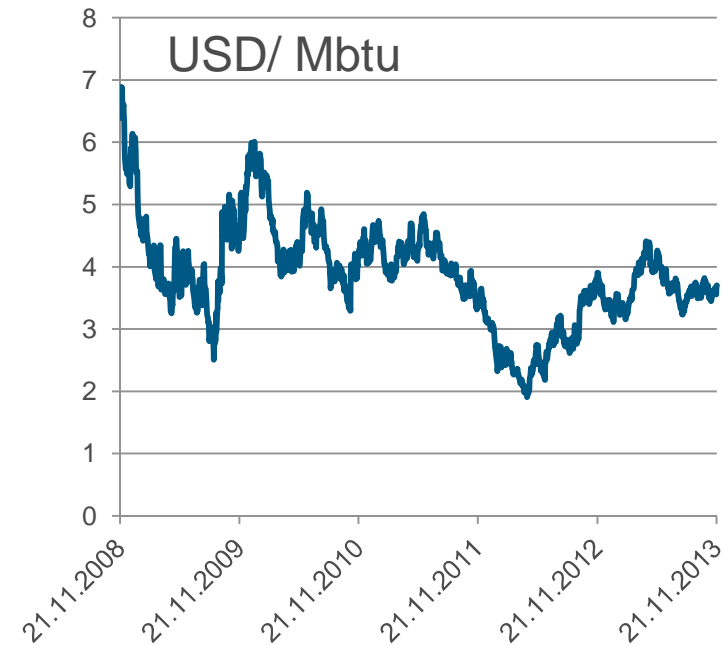
US gas market

Shale gas: US gas decline turned into growth. Prices tumbled

Production (bcm)



US gas HH Prompt Month



Gas "surplus" in US: LNG import terminals being re-build to LNG export facilities

To profit on the spread between Asian LNG price of 15-18 USD and US market price of gas of 3-4 USD/Mmbtu

Projects with approval to export outside Mex / Canada:

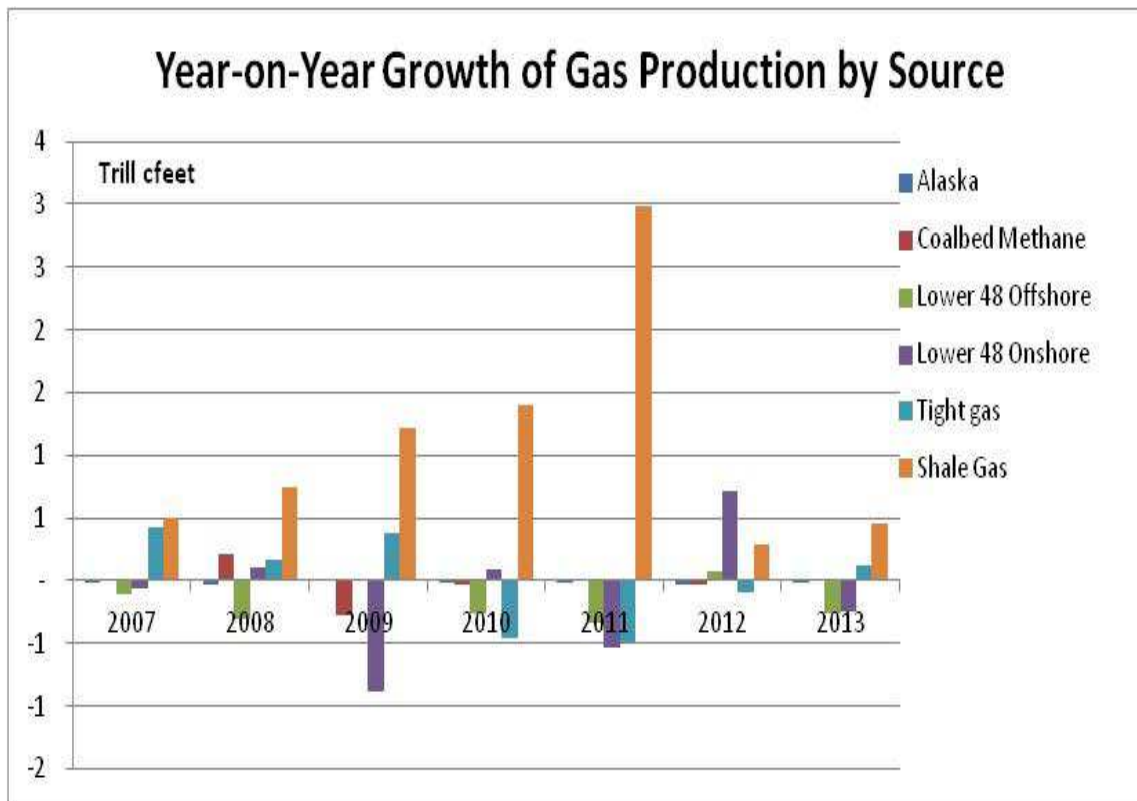
Project	State	Company	Start Up	Capacity
Sabine Pass	Louisiana	Cheniere Energy	Late 2015	28 bcm
Freeport LNG	Texas	Freeport LNG	2015	14,5 bcm
Lake Charles	Louisiana	Southern Union-Trunkline	TBD	21 bcm
Cove Point	Maryland	Dominion	2016	10 bcm

- Four projects have received approval – 73 bcm/yr (compare: Norway is exporting 100 bcm/tr)
- Total firm commitments of approved projects - 48.5bcm
- Projects seeking DOE approval - 267bcm

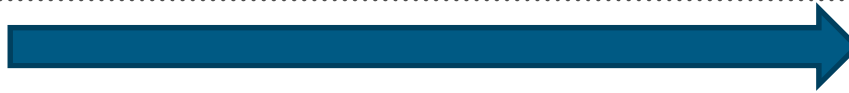
Source: FERC

However, shale gas growth stagnating...

How much of the planned US LNG export will materialize?



US gas price drop: impact on European gas markets?



a) Less LNG import to US	Easing the LNG market	More LNG to Europe
b) US gas replacing US coal in power generation	Surplus US coal exported to Europe, coal prices dropping,	Reduced EU gas demand in power sector
		Renegotiations of Long term contracts (incl min take or pay)
c) Shale gas revolution replicated elsewhere?	So far no success	
d) LNG import terminals converted to export	Easing the global LNG market (after 2015?)	More LNG to Europe (directly or indirectly)

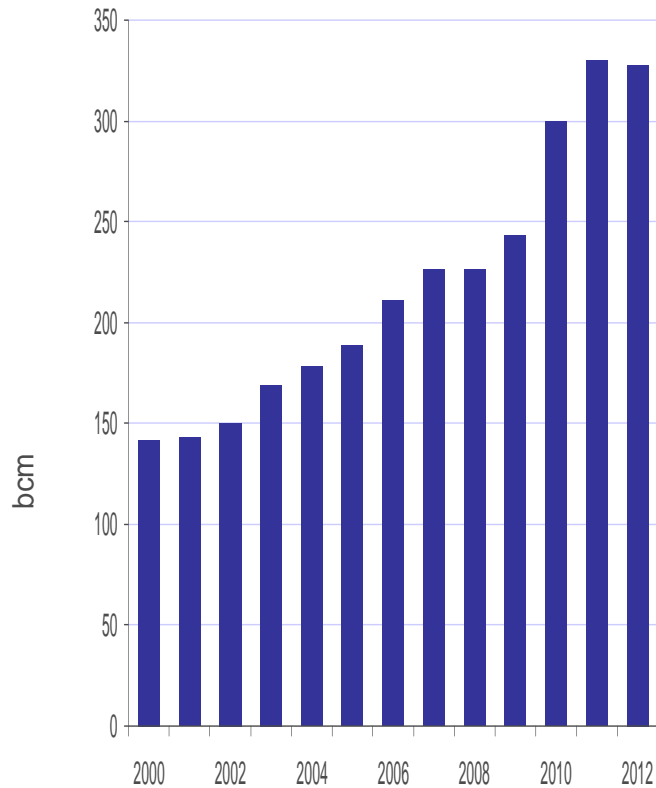
Global LNG

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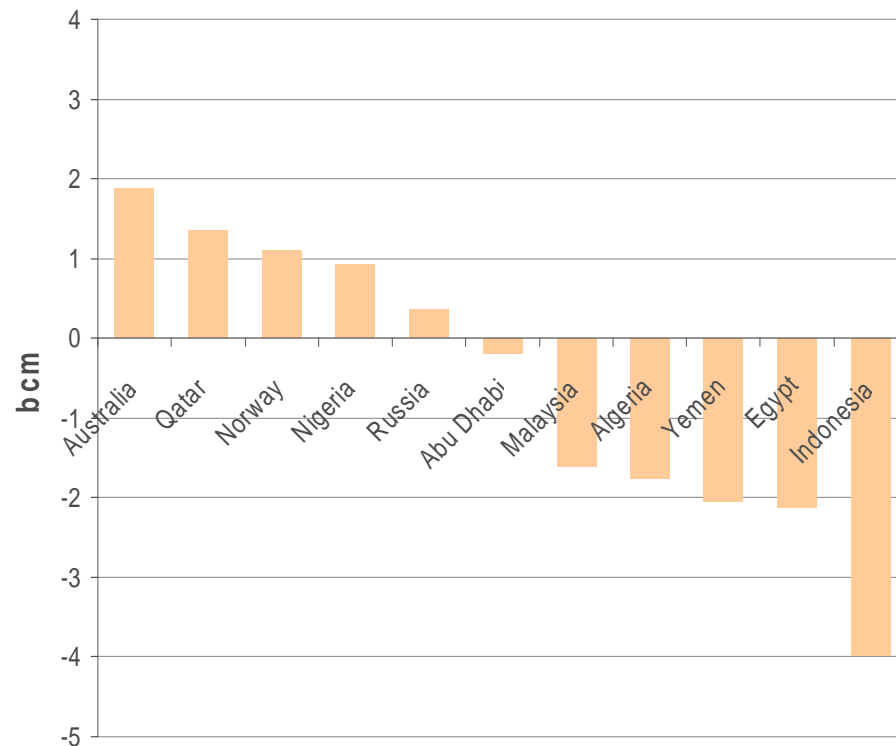
LNG production more than doubled since 2000: Many "Old producers" experience problems

LNG production



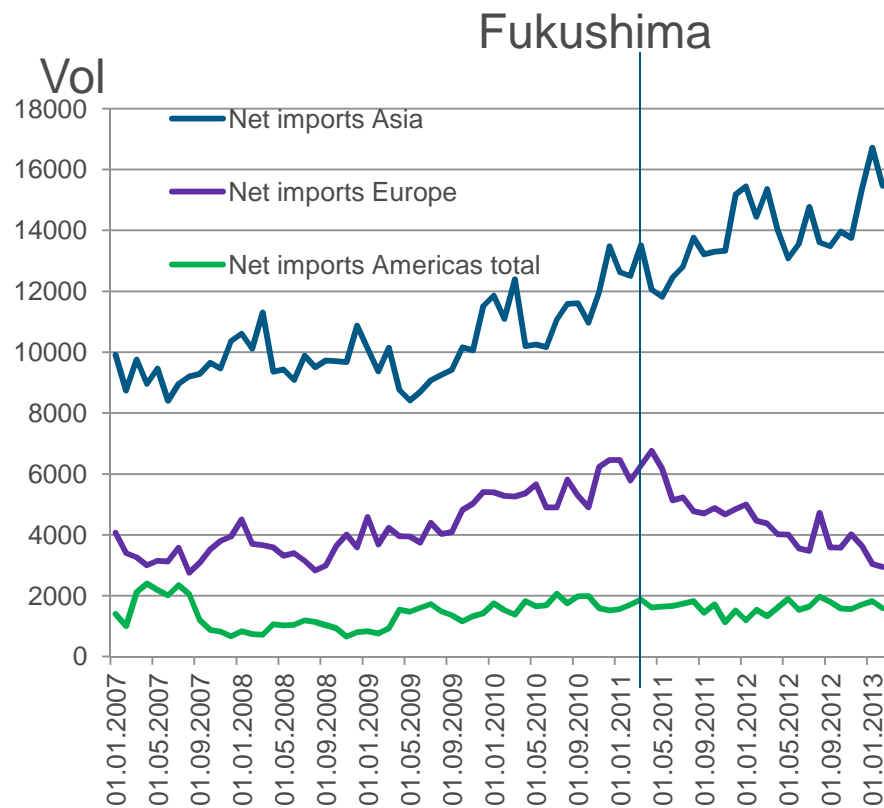
Source: BP Statistics

Changes in production: 2012 vs 2011

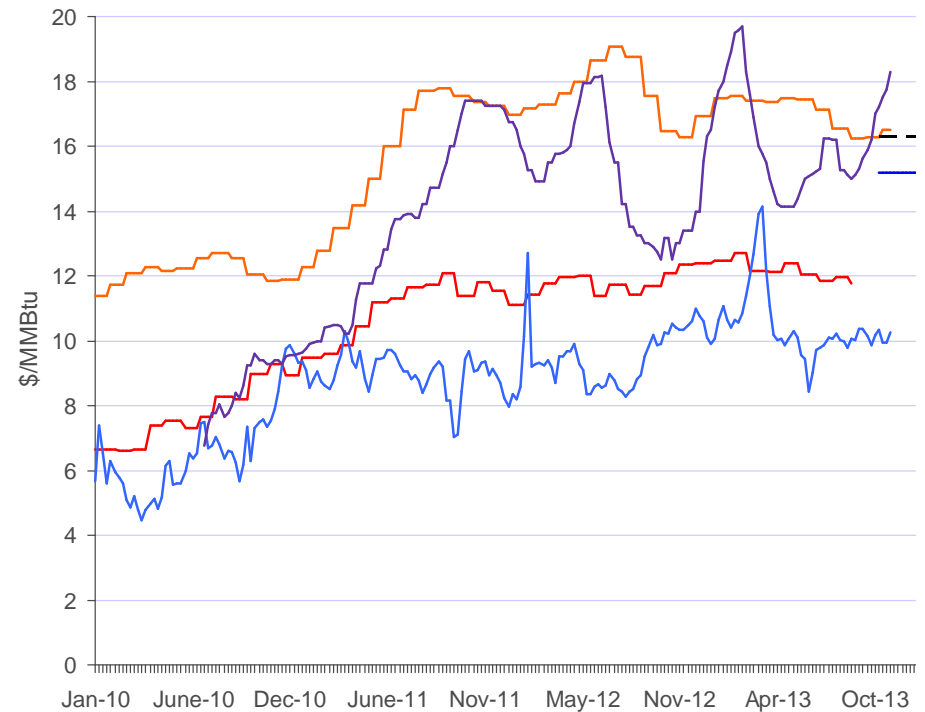


Source: GIIGNL

Last two years: Strong demand growth in Asia while LNG supplies to Europe down 50 %

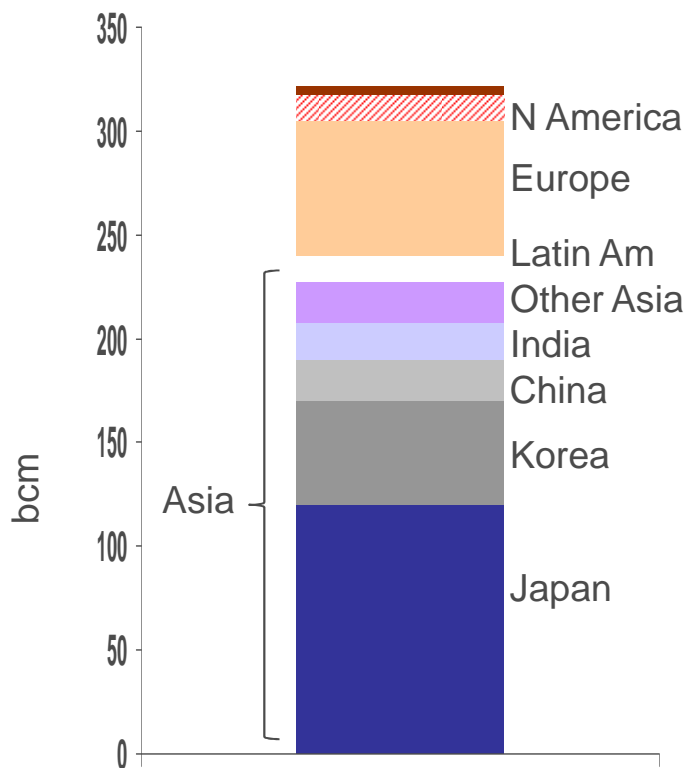


- Spot LNG to Japan well above hub prices in Europe. Dragged UK prices up.



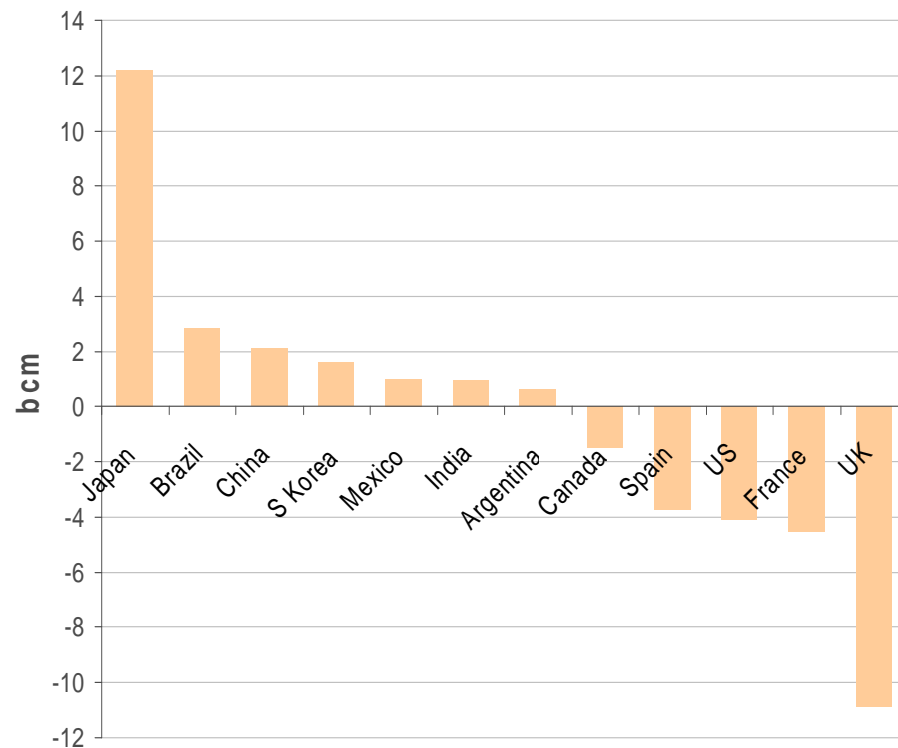
Asia accounts for 70 % of all LNG import. Japan + S. Korea alone 50 %

LNG imports by region 2012



Source: BP Statistics

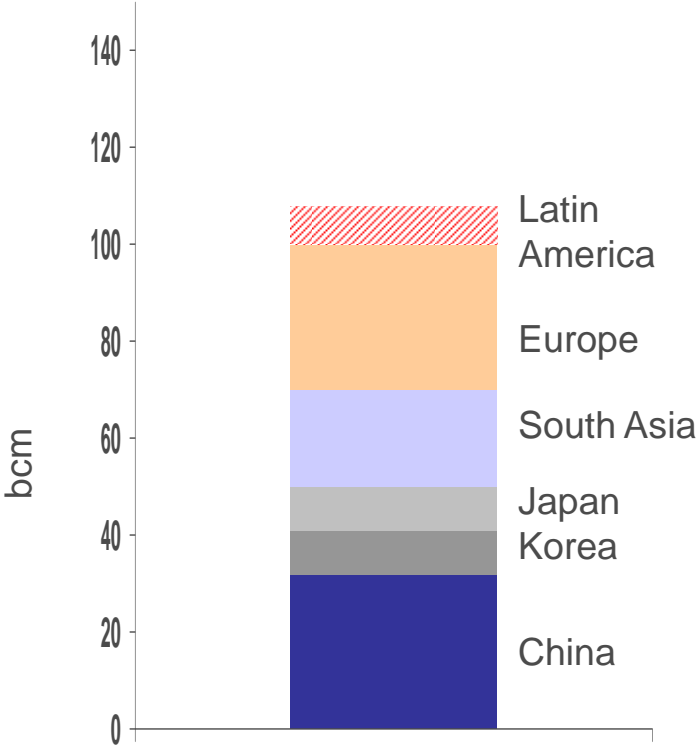
LNG imports 2012 vs 2011



Source: GIIGNL

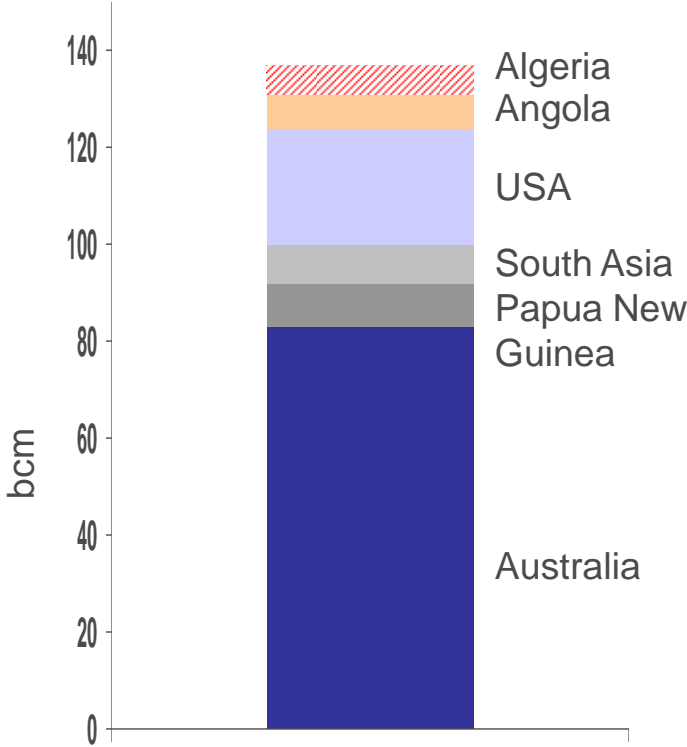
LNG MARKET - SET FOR FUTURE GROWTH

Re-gasification (import)
projects under construction



Source: IEA

Liquefacation (production)
projects under construction



Global LNG impact on European gas markets



a) Increased LNG trade a blessing for import dependent Europe	Although LNG import reduced last year, much worse without LNG
b) Spot LNG marginal external supply source	High spot LNG prices has lifted spot gas in Europe
c) Growing demand for energy in Asia and Lat America will contribute to high spot LNG prices	Will contribute to high spot gas prices in Europe

European gas market

Oil indexed gas prices in LTC down after re-negotiations. Still above hub gas prices

- but spread is now limited. We may see spot prices above oil indexed this winter
- Statoil of Norway announced only hub priced LTCs for GER, BE and NL

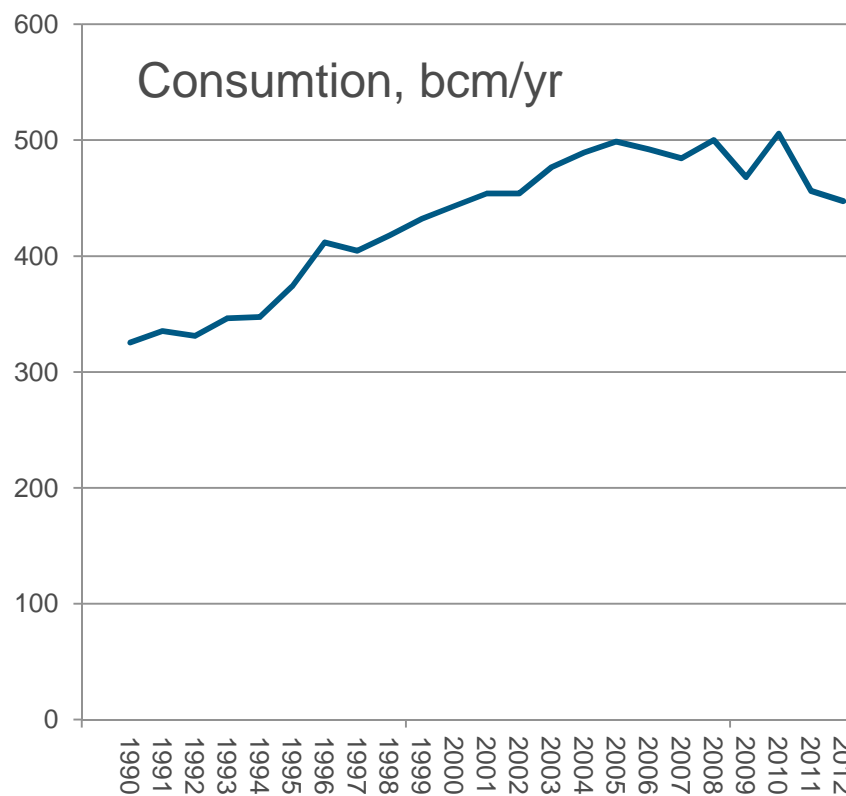
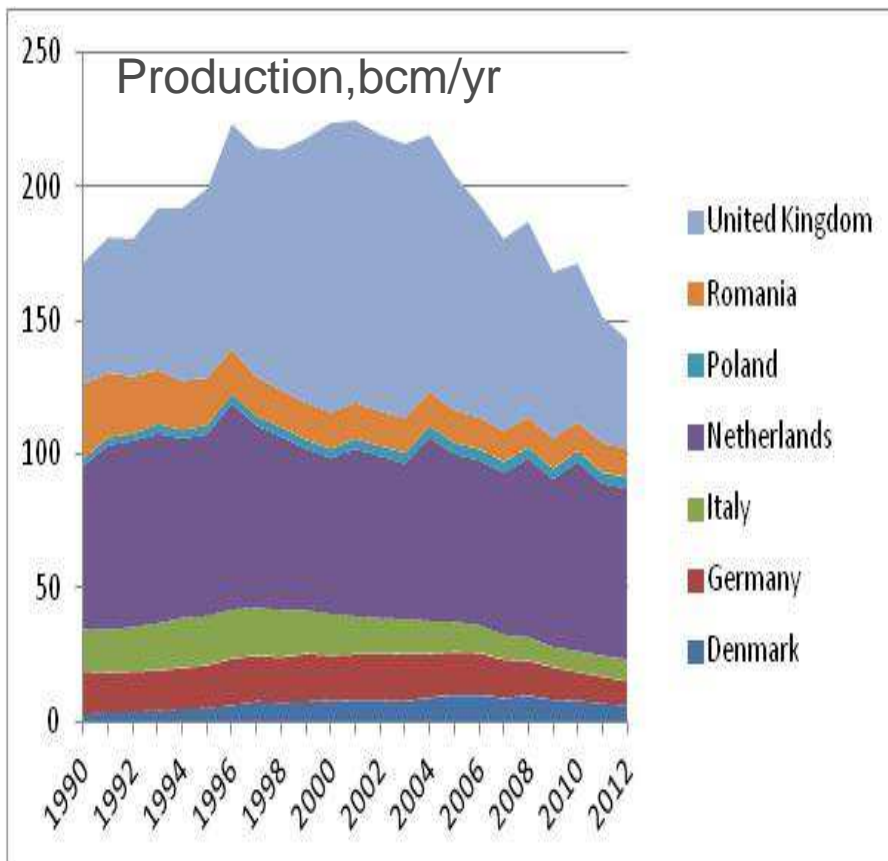


LTC= long term contract

Hub gas prices in Continental Europe tend to follow the UK price



European gas markets: Domestic production down dramatically. Consumption growing steadily, but stagnating / down last years



Source: BP Statistics

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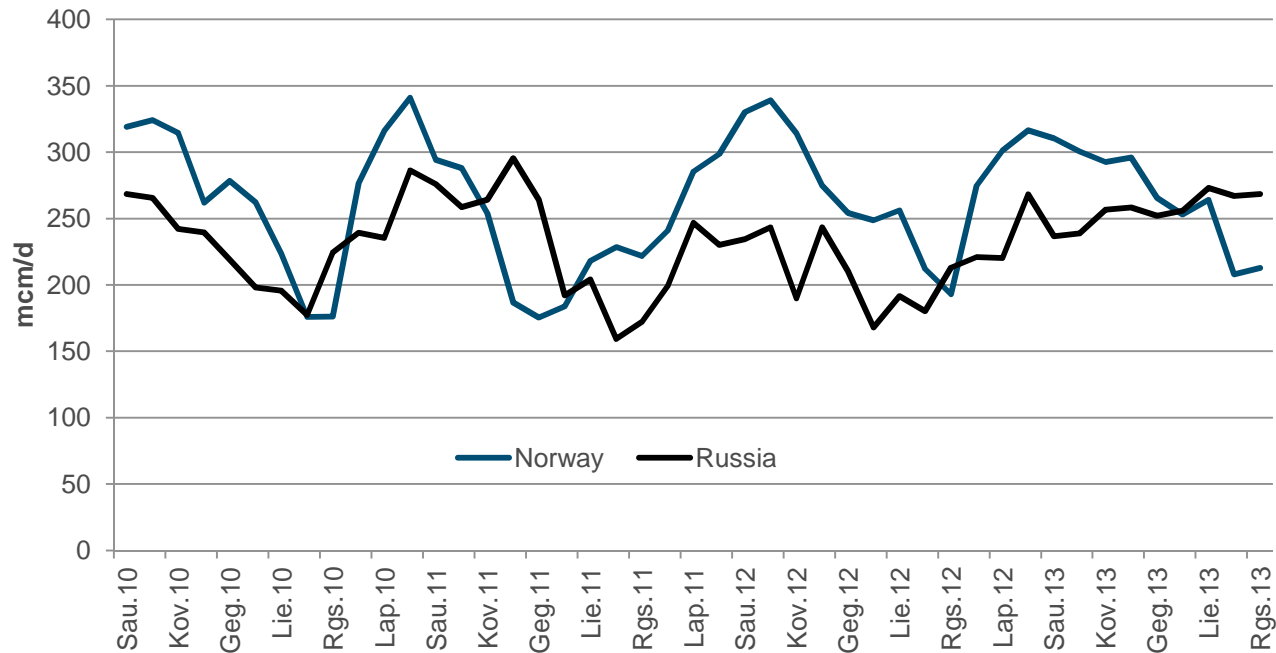
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Gas demand in EU 27 down 10 % and 2.2 % in 2011 and 2012 respectively

- Particularly in power generation
 - Coal prices down
 - Carbon prices down
 - Nat gas not competitive

- Down also in other sectors due to depressing economies and reduced industrial activity

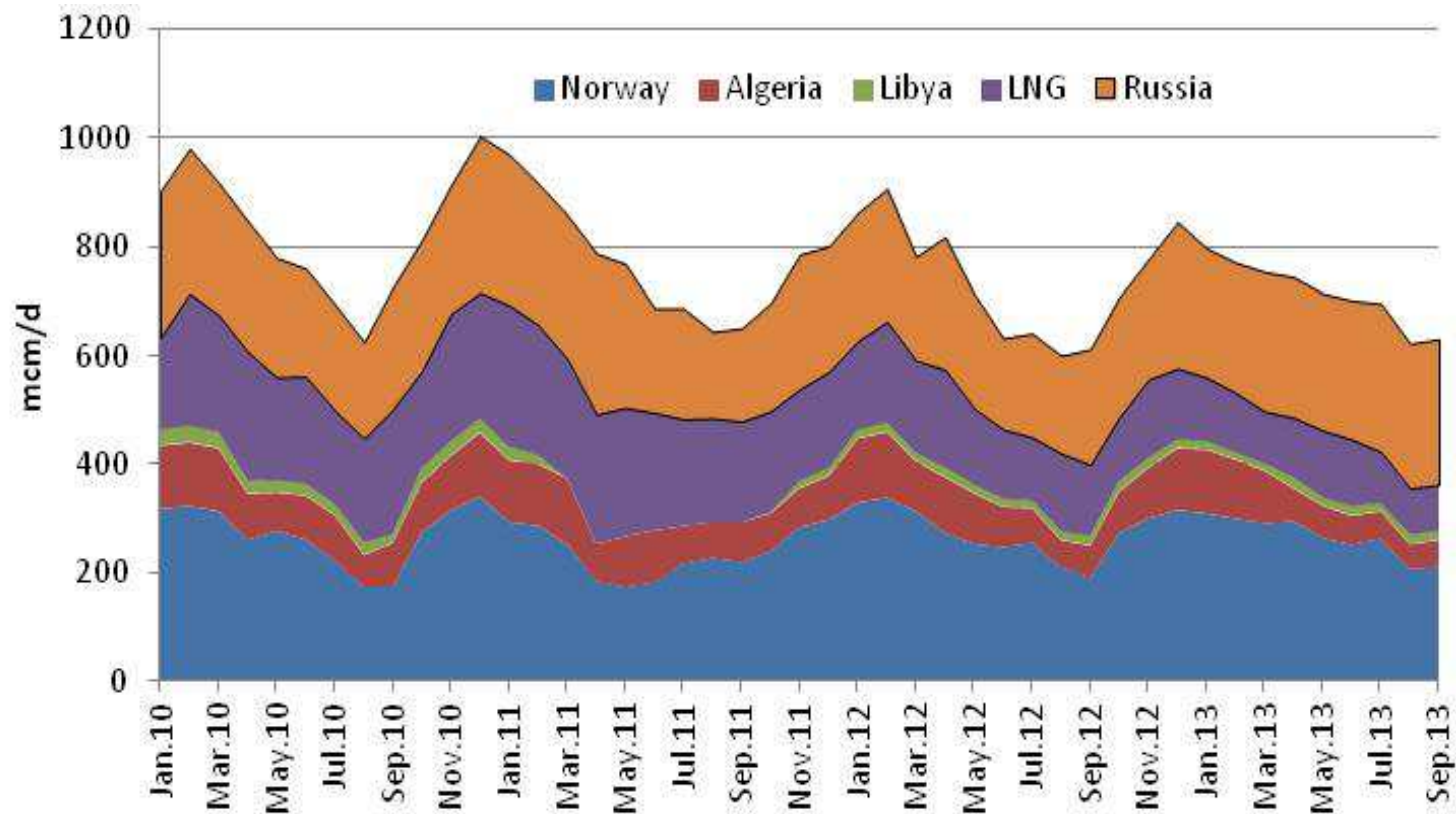
Import from Russia and Norway to West Europe: Russian deliveries picking up after price renegotiations



Norway: all export except LNG

Russia: to Ger, FR, NL, BEL, IT, Aus, Czeck (sum of all pipelines)

Gas export to Western Europe: LNG dropping, piped gas stable



Going forward, the marginal supply source to Europe may be:

For Europe as a whole, as domestic production dwindle, extra base load supply alternatives are:

- 1) more pipeline gas from Norway and / or Russia
- 2) LNG (liquefied natural gas)

(while **peak** marginal supply may come from storages being partly filled with gas from these sources)

Russia has the option to deliver more to Europe as the import need increases

Mid term perspective (2-5 yrs):

Norway:

Pipeline and production limitations in wintertime.
Some idle capacity shoulder months and summer,
But not applicable as long as limiting quotas on Troll / Oseberg.

Norway cannot contribute much more

Russia:

Some production capacity, particularly in summertime
Idle pipeline capacities into Europe.
Extra gas can be transported into Cont /UK (directly or swapped)

Russian can provide more

Can other developments reduce Europe's dependency on Russia and LNG?



a) Southern Corridor: pipeline gas from Central Asia	Less LNG needed for Southern Europe leaving more for North Europe?	However, only mMax 10 bcm/yr by 2020. 2 % of EU demand
b) Shale gas in Europe	Less competition for LNG in Europe?	So far no success
c) Carbon / coal prices rising ?	Demand for gas up and more need for LNG	Could happen

These "other developments" are either unlikely or will give no relief to the need for additional import.

Prospects for LNG to North Europe

LNG import terminals in Europe: 25 % utilization on average in 2013 (est.).

Capacity: 205 bcm/yr

23 terminals (2 new in 2014)

Received:

70 bcm in 2012

50 bcm in 2013 (estimation)

Average utilization of 25 %.

Some terminals around 50 %
and some **close to zero** useage!!!

**A new import terminal does not
necessarily add to LNG import**

Europe is competing with Asia and

Latin America for LNG:

For deliveries from W- Africa and

Snowwhite: Europe has transportation cost
benefits, currently around 2-3 USD/
Mmbtu.



Spot LNG deliveries to Europe:

A) Re-export from Europe of contracted LNG

B) Spot export to Europe from nearby LNG producers

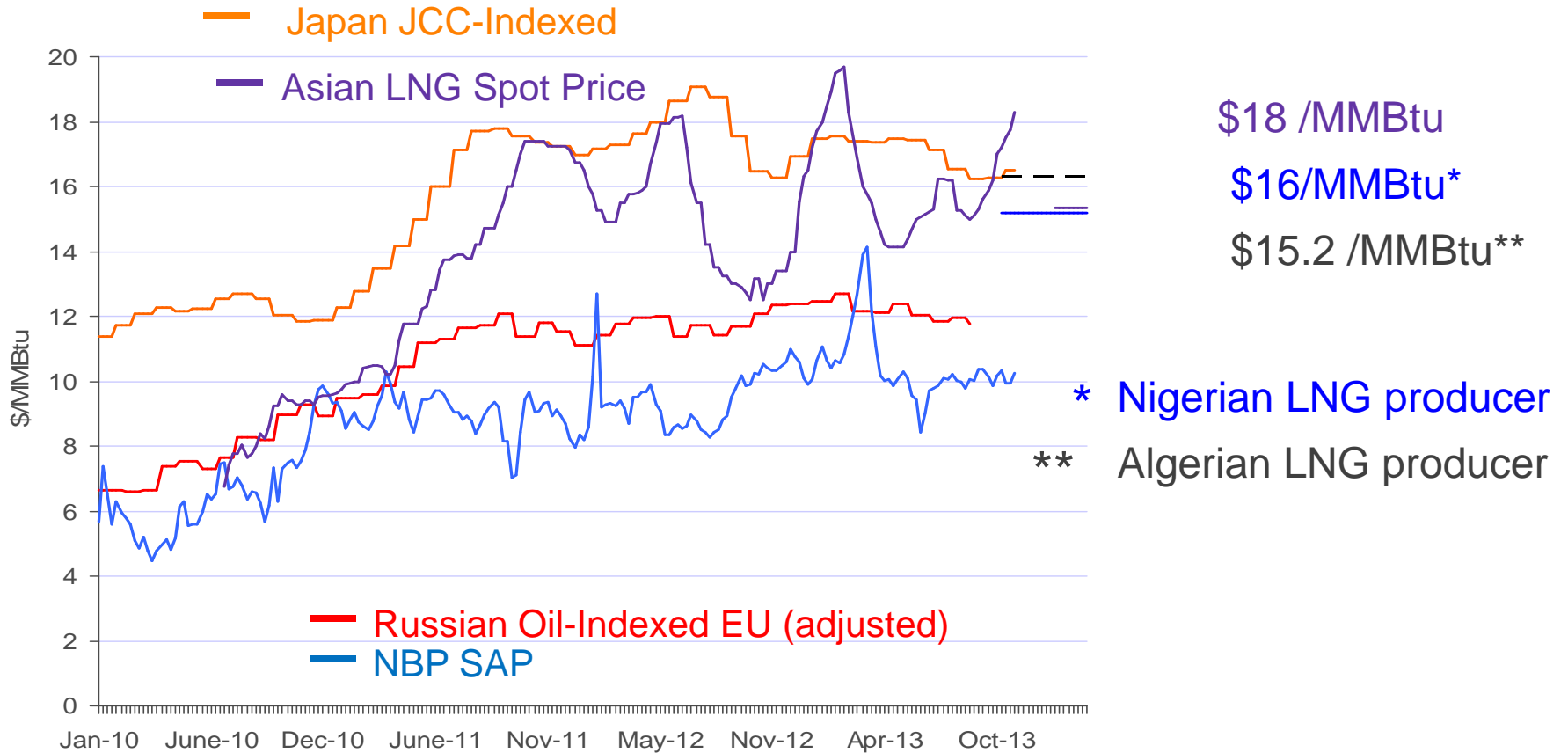
Spot LNG prices in North East Asia > 18 USD. Latin America = 16.5 USD/MMbtu (Nov 2013)

- Contracted LNG cargoes into Europe (mainly Spain) have been re-sold lately to Asia or Latin America at spot price, giving the European seller a netback price between 14 and 15.5 USD/MMBtu.
- If Lithuania would like to pursue these spot cargoes, they **currently** will have to pay competitive prices of 14.4-16 USD/MMBtu.
- Producers in Algeria or Snohvit (Norway): may send spot cargoes to North Europe at a landing price of 15 USD/Mmbtu.

If spot LNG price in Asia drops to 14 USD (due to seasonality or a general drop):

- North Europe must pay 11 USD/Mmbtu to be competitive for Algerian and Norwegian producers
- 10-12 USD is at parity with current spot hub prices and **below** import price for Russian gas
- In some cases LNG producers may - for operational reasons - prefer to send LNG to North Europe at prices below those quoted above.

The price European LNG importers have to pay to compete with Asian buyers (per Nov 2013)



Conclusions

US gas market:

- shale gas and low prices impact European markets strongly
- mostly bearish: coal export, LNG export

Global LNG:

- rapid growth, both on supply, demand and spot trade
- Asian spot LNG prices high are well above European hub prices
- seasonality in spot LNG prices: summertime Europe can compete for LNG
- Will be strong competition within Europe for spot cargoes

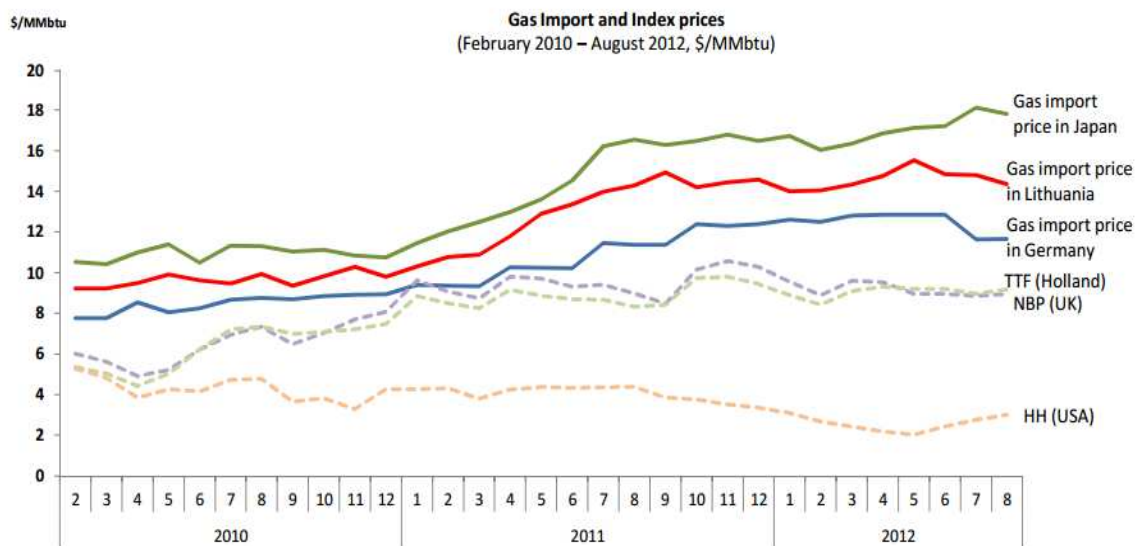
Europe gas markets:

- exposed to external (global) events through oil price indexation
- increasing need for import going forward
- Russia 's role as dominant supplier will be further strengthened
- European hub prices cannot compete for spot LNG currently even with lower transport costs
- Lithuania can more often compete for LNG since Russian import price is above hub prices (L. has highest alternative cost)

Lithuania paying premium for Russian gas (copied from a presentation by Masiulis)

However, German import price a mixture of spot and oil indexed gas
While Lithuanian gas is only oil indexed.

Current Situation in Gas Market



Source: http://www.lei.lt/energy-security-conference/index_files/Masiulis.pdf