Cutting gas price estimates

- **More pain to come:** We are reducing gas price estimates for 2016/17/18 to $4.9/5.8/6.1/mcf from $5.8/6.5/6.7/mcf previously. Our new price estimate in 2016 is substantially lower than the current forward curve for NBP or TTF, both at $5.5/mcf, and assume intra-year lows of $4.4/mcf. We have also incorporated a lower coal-to-gas switching point, now estimated at $3.7/mcf vs. $5.3 previously. Note that we do not expect the recent production cut at Groningen of 6bcm vs. CS estimate to have a material impact on prices. After all, it is only a 6bcm deficit in an oversupplied, 530bcm market.

- **Gazprom vs. LNG – the battle is only beginning:** The central point of our thesis is the idea of price competition between Gazprom and LNG, the two marginal suppliers into Europe. We argue that Gazprom will fight to protect its market share by trying to price-out its main rival. This trend will likely intensify as the global LNG market is set to expand by 31/16mmt in 2016E/17E.

- **European gas prices are still not low enough** to discourage further increase of LNG market share, in our view. Consider the economics of US LNG, a marginal source of global LNG, which according to our estimates may land in Europe at a price of <$5/mmbtu (assuming HH of $3/mmbtu). Note that we treat tolling fee of $2.2-3/mmbtu as a sunk cost. Therefore, European gas prices still have a long way to go to challenge the economics of LNG.

- **Read-throughs from the Asian spot market:** The CS Global O&G Team recently published a detailed note on the future evolution of the Asian spot market, concluding that it may be oversupplied by over 35mmt p.a. in 2016-2017 as Australian and US projects ramp-up (link). Being a ‘global gas sink’, we expect increasing oversupply in Asia to result in increased LNG flow into Europe.

![Figure 1: European gas price ($/mcf)](image-url)
European gas prices – more pain to come

We are reducing our gas price estimates for 2016/17/18 to $4.9/5.8/6.1/mcf from $5.8/6.5/6.7/mcf previously. Our new price estimate in 2016 is substantially lower than the current forward curve for NBP or TTF, both currently at $5.5/mcf. Note that our thesis calls for price convergence across major European benchmarks and hence we do not forecast prices for each of the hubs individually but rather carry a single price forecast.

Figure 2: CS European gas price assumptions

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<td>Coal switching ($/mcf)</td>
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Source: Company data, Credit Suisse estimates

Lowering our assumption for the coal-to-gas switching point

When unveiling our European gas pricing model last year, we had highlighted that in an environment of oversupply, prices would remain range-bound between the coal-to-gas switching point and oil-linked prices. We estimated the coal-to-gas switching point at the time to be $5.3/mcf, which was based on a coal price of $85/t and a CO2 price of €9/MWh.

Figure 3: European gas price structure – upper-end is now defined by US LNG

Source: Credit Suisse research

Amidst the general sell-off of energy commodities, however, coal prices have also fallen sharply YTD. Incorporating spot coal and CO2 prices we estimate the coal-to-gas switching point to be c.$3.7/mcf, substantially lower than our earlier assumption of over $5/mcf. In light of the new realities of global commodities markets, we have revised our assumptions on the coal-to-gas switching point as per Figure 2.

This is an important point to consider. The recent fall in gas prices has not made it more competitive relative to coal, which means that we cannot consider a structural, positive demand reaction. A switch away from gas to coal therefore is still not economically justified. That is to say, a coal-to-gas switching at current prices can only be forced by regulatory changes.
Oil-linked gas prices – discount to spot markets to weigh on the latter

After a short period of a bounce in oil-linked prices, a function of a brief recovery in Brent earlier this year, oil-linked gas prices are currently trading below hubs. However, liquidity of the hub markets and abundance of spot LNG volumes mean that the disparity between the 2 benchmarks, oil-linked gas and hub prices, cannot be sustainable.

We see it as a self-correcting mechanism – a discount of oil-linked prices drives increased offtake of pipeline gas (e.g. Gazprom's exports to Europe are +30% since 1H15) to fill inventories, which will eventually put pressure on hub prices in order to make them competitive.

Figure 4: Discount of oil-linked to hub prices would not be sustainable

Source: Credit Suisse research

Gazprom vs. LNG – price competition is only starting

The central point of our thesis on the European gas market is the idea of price competition between Gazprom and LNG, the 2 marginal suppliers into Europe. We argue that Gazprom will fight to protect its market share by trying to price-out its main rival.

This trend will likely intensify in 2016 as the global LNG market is set to expand by 31/16mmt in 2016E/17E. Europe remains a global 'gas sink' for excess gas in the world meaning that increase in global LNG capacity will inevitably lead to increased LNG flow to Europe.

What is important is that European gas prices are still not low enough to discourage a further increase of LNG market share. Consider the economics of US LNG, which we treat as the marginal source of global LNG. According to our estimates, assuming a Henry Hub price of $3/mmbtu, 15% premium and $1.25/mmbtu of transportation and regas cost, the landing price of US LNG in Europe is under $5/mmbtu. While this excludes tolling fees of $2.2-3/mmbtu, which would raise the full break-even cost to $7-8/mmbtu, we argue that it is a sunk cost – a buyer would need to pay the fee even if the cargo is not taken. Therefore, as long as the cost of tolling fees could be partially covered, it would be economically justified to deliver LNG to Europe.
We remain of a view that European gas prices may have to fall to the level of the US landing price, and that level is close to the $5/mcf, based on our estimates.

Read-throughs from Asia

The CS Global O&G Team recently published a detailed note looking at the future evolution scenarios of the Asian spot market, concluding that it may be oversupplied by over 35mmt in 2016-2017 as Australian and US projects ramp-up (for the full note please follow this link).

Figure 5: APAC spot market 2014 - 2018E – before the commissioning cargo effect

![APAC spot market 2014 - 2018E](image)

Source: Company data, Credit Suisse estimates

The dynamics of Asian spot market are very relevant for European gas prices: with its status of a 'global gas market of last resort', increasing oversupply on the Asian spot market is likely to result in increased LNG flow into Europe as those volumes will need to find a home. This means further oversupply in an already oversupplied market.

What is more important, given the CS Asia spot LNG price estimate for 2016, is that these volumes do not need much incentive to be diverted into Europe. In fact, our 2016 estimate of $5/mcf would be sufficient.

Figure 7: Crude, contract and spot LNG prices in Asia

![Crude, contract and spot LNG prices in Asia](image)

Source: FGE, Argus Northeast Asia (ANEA) spot price, BBG, Credit Suisse estimates

Figure 6: LNG cargoes going from US and Australia to Europe

![LNG cargoes going from US and Australia to Europe](image)

Source: Company data, Credit Suisse estimates
Behaviour of key suppliers is also indicative of further pricing weakness

So far, we have not seen examples of suppliers capping production in order to protect prices. On the contrary, sales of both Statoil and Gazprom are up c.30% in 2H15.

The behaviour of Statoil deserves a separate focus. One of its key advantages over its peers is flexible production capacity provided by the Troll and Oseberg fields, where Statoil can adjust production to take advantage of market dynamics. After an 11% decline in 2014, production from the 2 fields has averaged +33% y/y in 9M15. We see a ramp-up in flexible production as a sign of Statoil's bearish view on the gas market in the future.

Pace of oil market recovery will be important

As we show in Figure 2, our current gas price estimates are calling for a gradual recovery post 2016. This is a function of a recovery in oil prices; as we discussed above, oil-linked gas prices play an important role in our spot pricing formula. However, we would like to warn that while in theory this would be a reasonable scenario, occurrence of an oil price recovery at the same time as a continued oversupply on global gas markets would imply a de-coupling between oil-linked and hub prices (once again).

Such a situation would pose a significant challenge for the buyers and we expect it to lead to increased pressure on suppliers to change oil-linked formulas. Increased hub indexation is not simply about absolute price levels; it is also designed to provide a ‘fairer’ pricing mechanism, which would avoid such a particular scenario.
Charts on pricing

Figure 9: European gas prices ($/mcf)

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse estimates

Figure 10: Fuel switching CO2 price with coal at $70/t and variable gas price

Source: IHS Cera, Credit Suisse estimates

Figure 11: Fuel switching CO2 price with gas at €20.3/MWh and variable coal prices

Source: IHS Cera, Credit Suisse estimates

Figure 12: European cost supply cost curve

Source: BP Statistical Review, Wood Mackenzie, Credit Suisse estimates
Charts on supply

Figure 13: European gas inventories (% full)

Figure 14: European gas inventories (bcm)

Figure 15: Gazprom gas exports to Europe (bcm)

Figure 16: Norwegian production and forecast (bcm)

Figure 17: Dutch gas production (bcm)

Figure 18: UK gas production (bcm)

Source: Gas Infrastructure Europe
Source: Gazprom
Source: NPD
Source: Thomson Reuters
Source: UK DECC
Figure 19: LNG import/export balance in Spain (bcm)

Source: Enagas

Charts on demand

Figure 20: Temperatures in London...

Source: Weather Underground

Figure 21: Berlin...

Source: Weather Underground

Figure 22: ... Istanbul...

Source: Weather Underground

Figure 23: ... Rome

Source: Weather Underground
Disclosure Appendix

Important Global Disclosures

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3-Year Price and Rating History for Gazprom (GAZPq.L)

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* Asterisk signifies initiation or assumption of coverage.

3-Year Price and Rating History for Statoil (STL.OL)

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* Asterisk signifies initiation or assumption of coverage.

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*For purposes of the NYSE and NASD ratings distribution disclosure requirements, our stock ratings of Outperform, Neutral, and Underperform most closely correspond to Buy, Hold, and Sell, respectively; however, the meanings are not the same, as our stock ratings are determined on a relative basis. (Please refer to definitions above.) An investor's decision to buy or sell a security should be based on investment objectives, current holdings, and other individual factors.

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