

NW European Demand Dynamics and the Loosening LNG balance

Platts Analytics Outlook to Summer 2018

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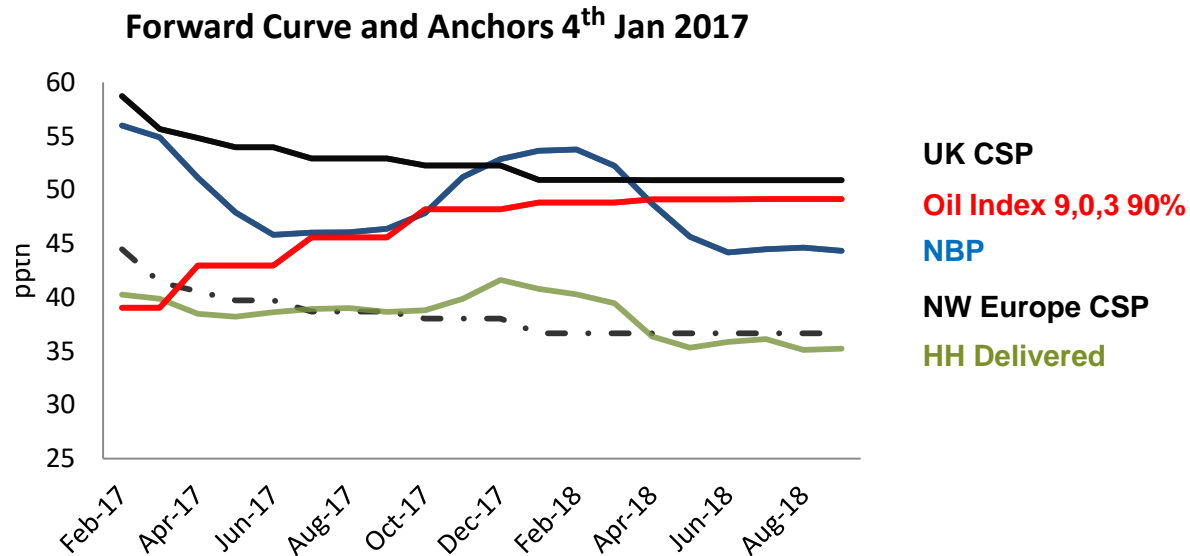


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- Review of Forward Curve, Anchors and our European Short Term Price Pilot
- Fundamental drivers of our forecast
- What is driving S-18 LNG oversupply?
- Response from NW European Coal to gas switching

The Forward Curve and Price Anchors

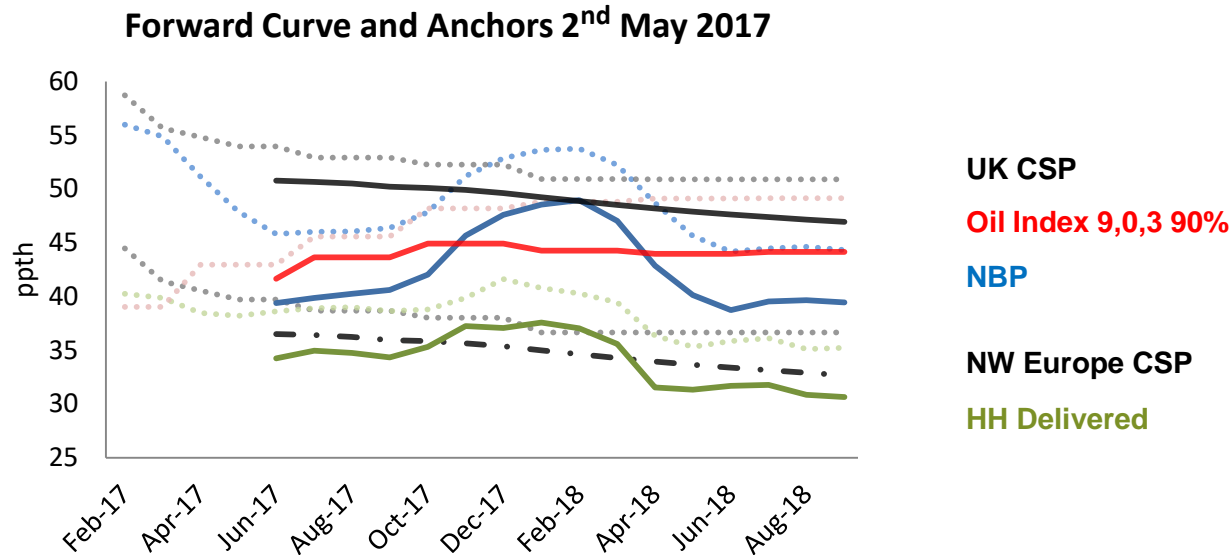
- January curves reflected relatively tight balance



- UK coal to gas switching being squeezed in W-17
- Oil Indexation in the money in S-17
- NW European coal switching and HH LNG closely aligned

The Forward Curve and Price Anchors

- May curves show a far looser balance

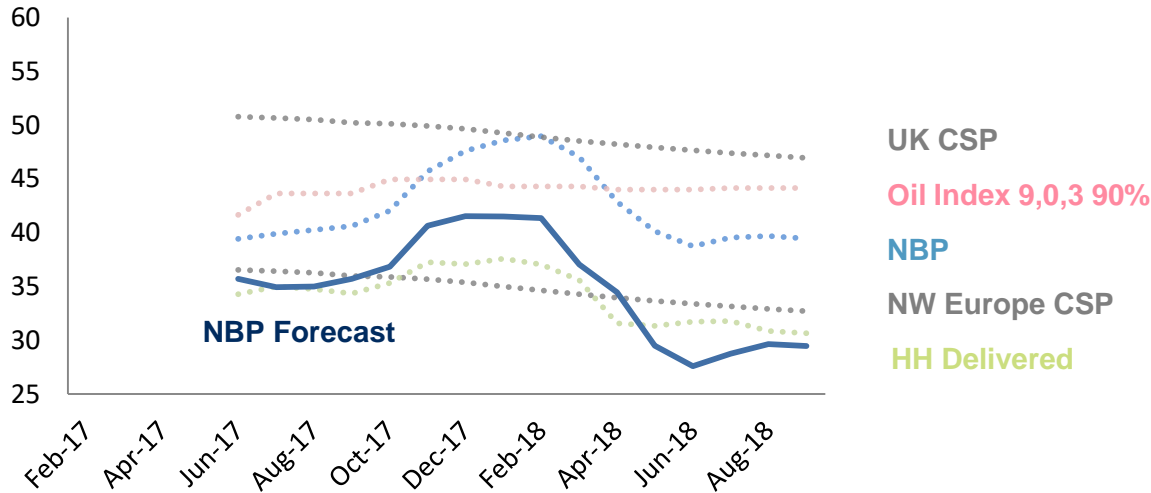


- High levels of coal switching across the curve
- Oil Indexation out of the money in S-17 and S-18
- NW European coal switching on the margins

Platts Analytics Forecast

- Market loosening even further with highly bearish outlook for S-18

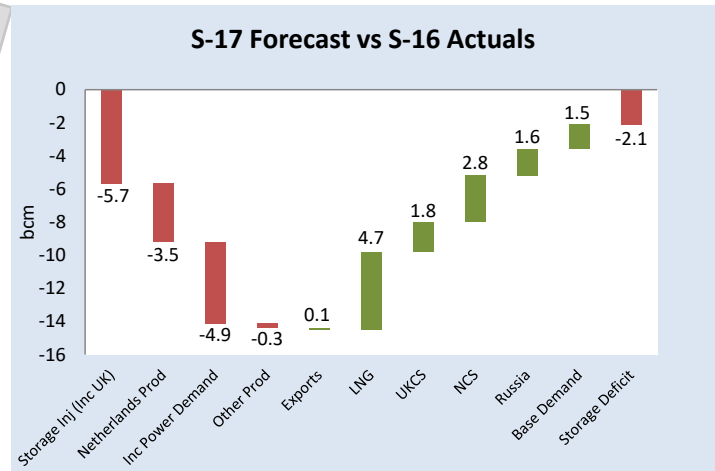
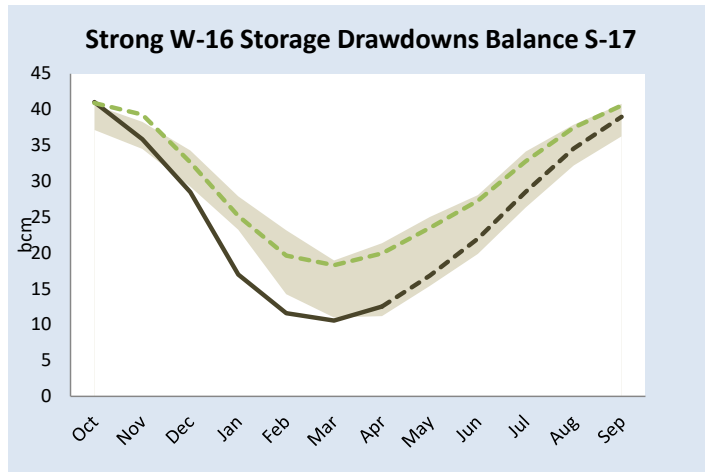
Forecast and Anchors 2nd May 2017



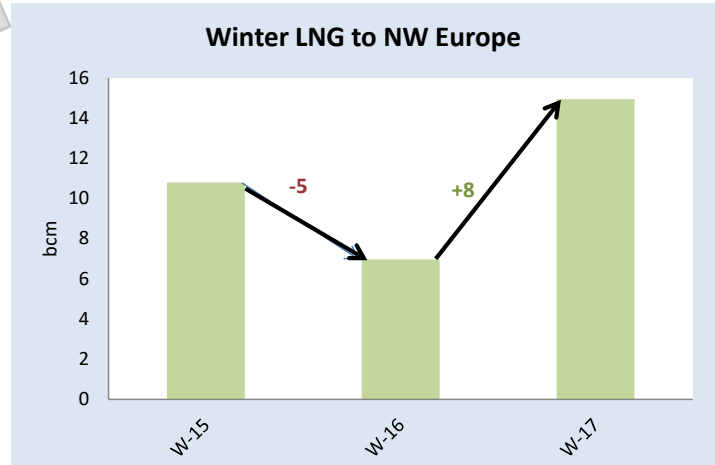
- UK switching channel almost exhausted throughout forecast
- Significant switching in NW Europe
- HH volumes priced out of NW Europe in the summer – increased seasonality for HH?

Storage Stocks and LNG Drive our Forecast

- We do not see a repeat of the record storage drawdown in W-17 as LNG picks up



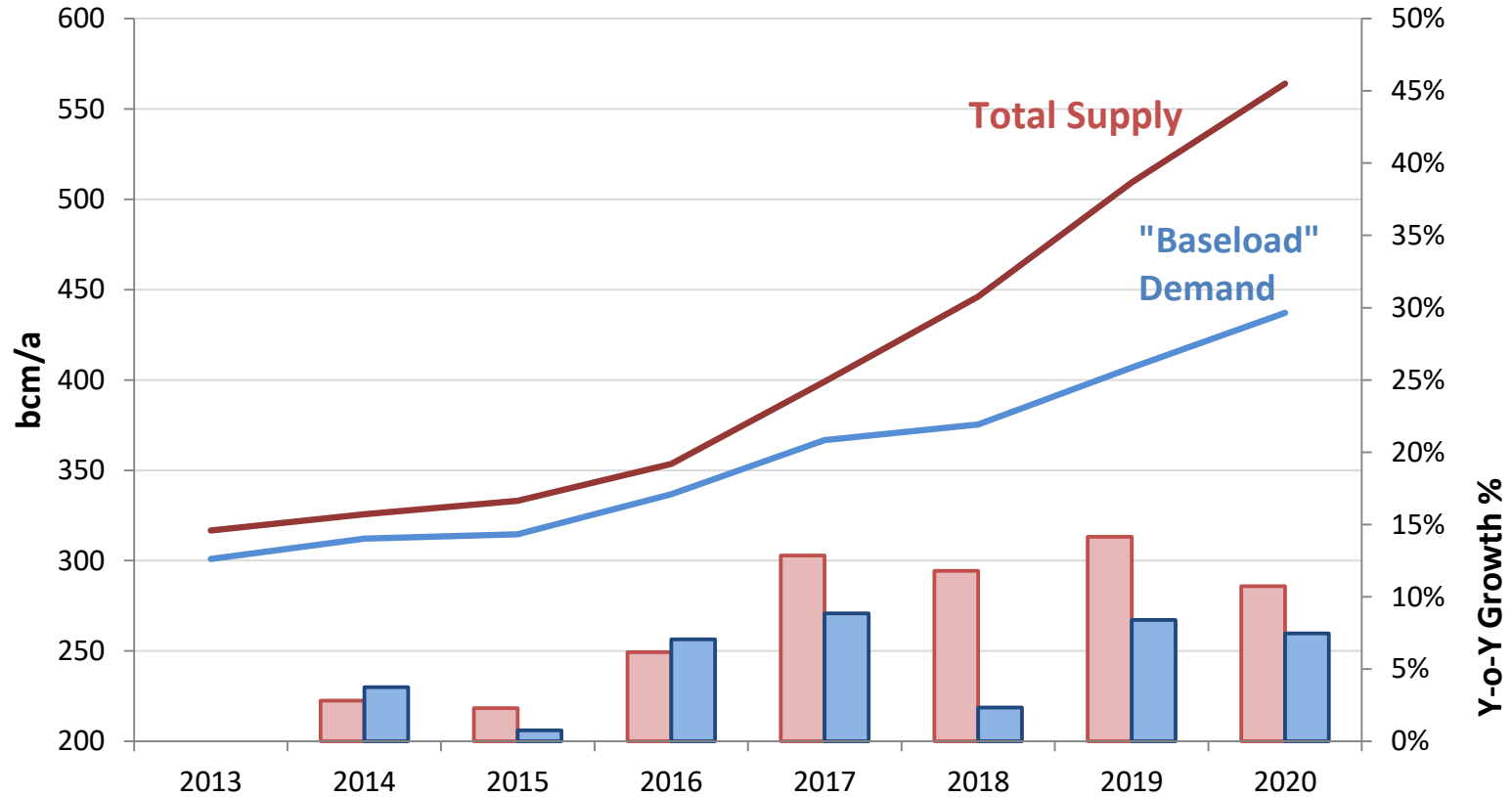
- **Weather, nuclear outages and record low LNG to the UK drove significant storage drawdowns in W-16**
- **This provides sink for our increased LNG outlook in S-16**
- **Assuming normal weather we see do not see similar drawdowns in W-17, driving our bearish outlook**



Growth in LNG supply is outstripping demand

- The Global Surplus

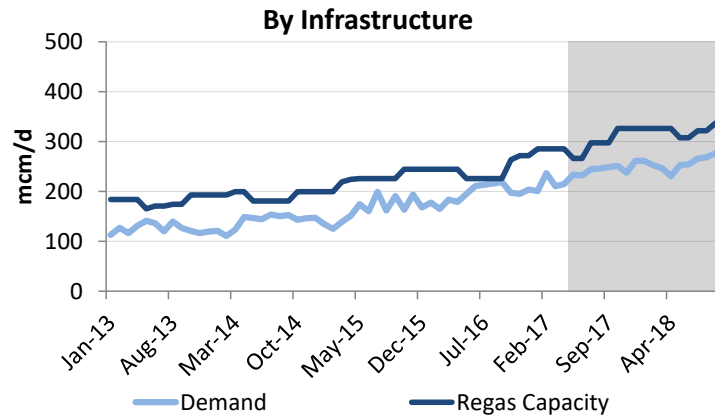
Growth in the LNG Global Surplus



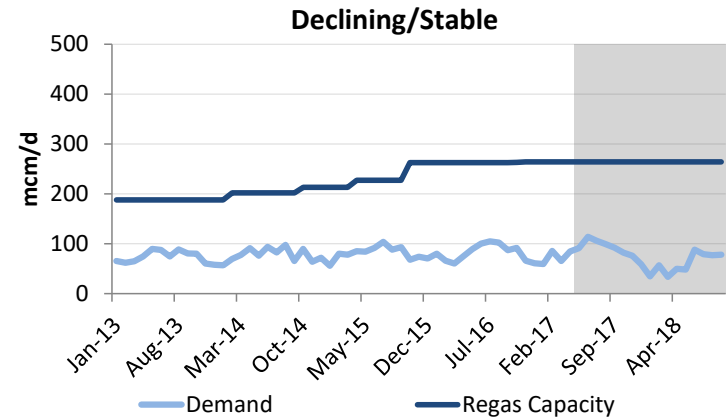
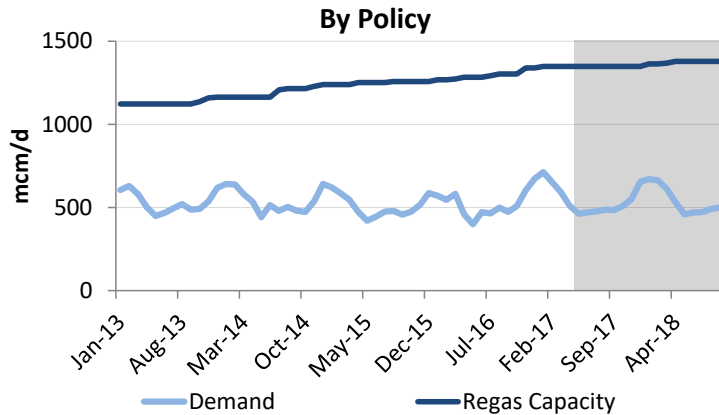
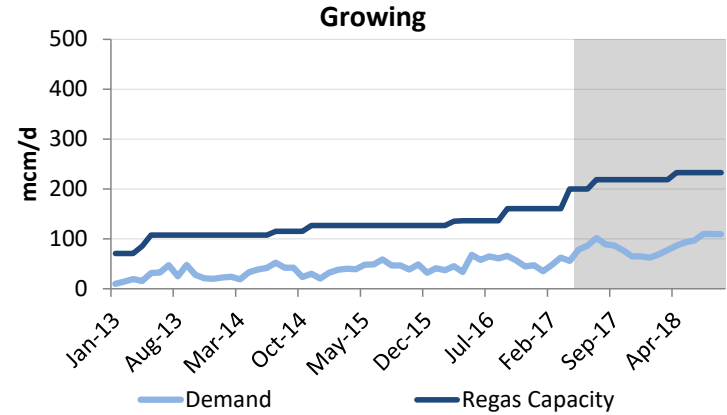
Bottlenecks to further growth

- Categories of importing countries

Constrained Demand



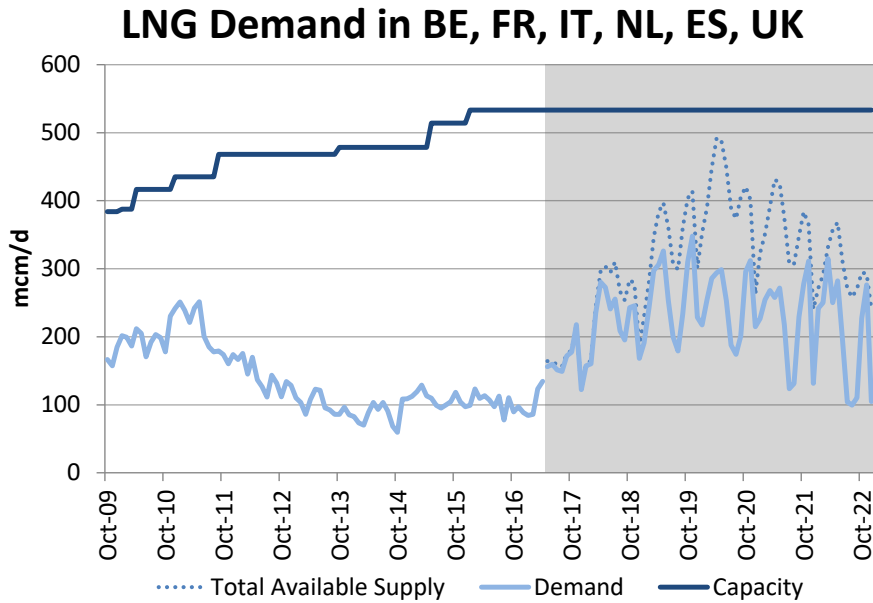
Unconstrained Demand



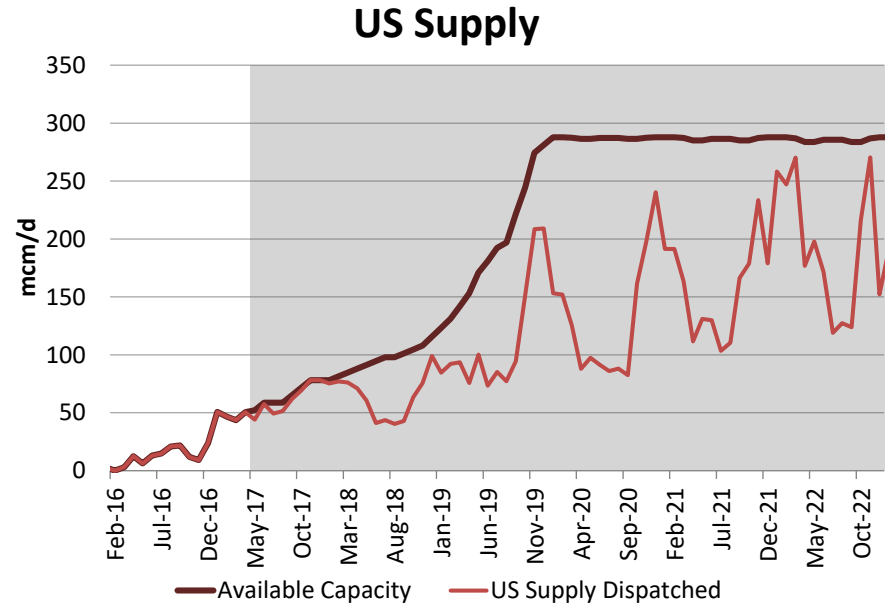
Surplus LNG

- Demand response in Europe and a production response from the US

Demand Response

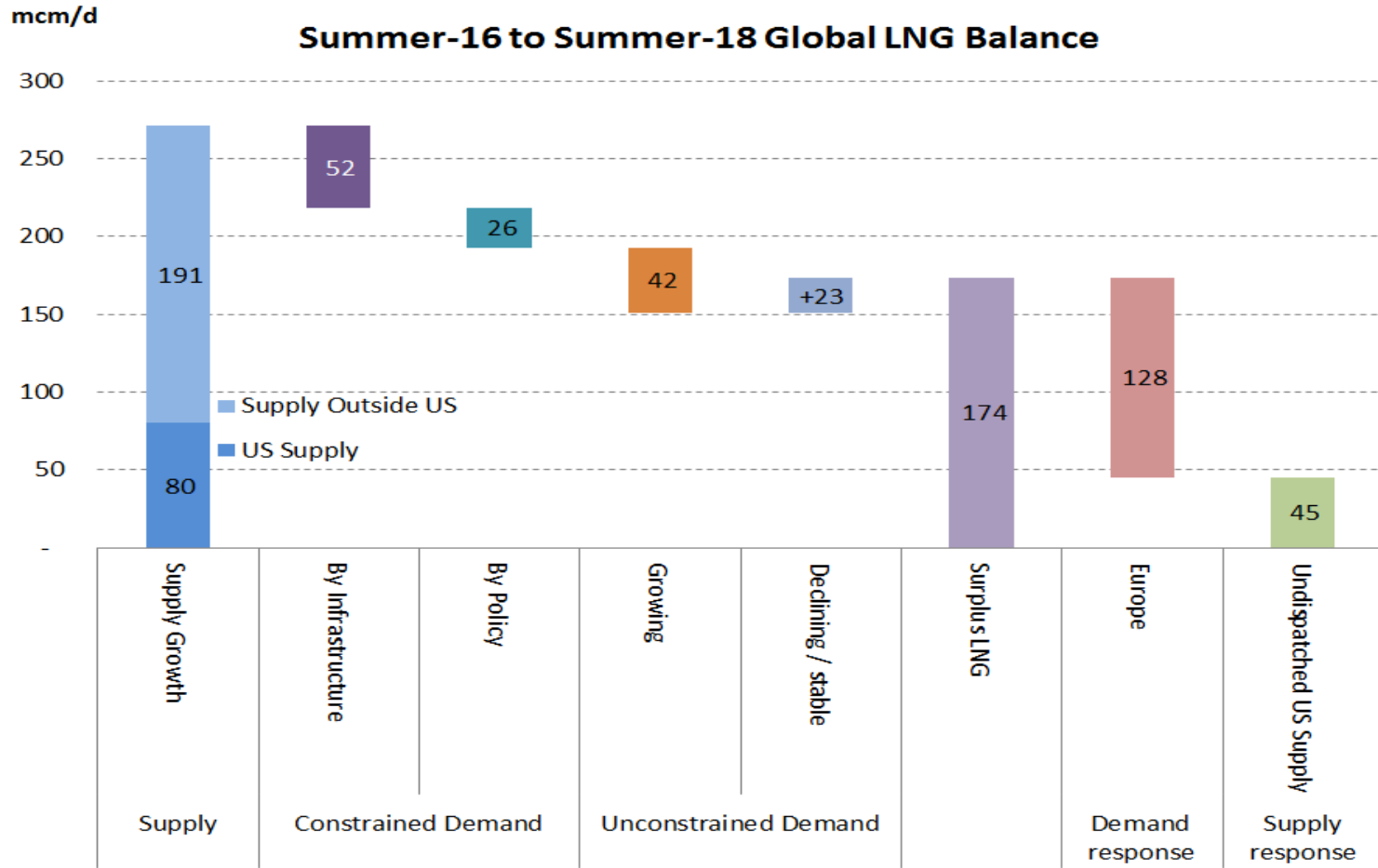


Supply Response



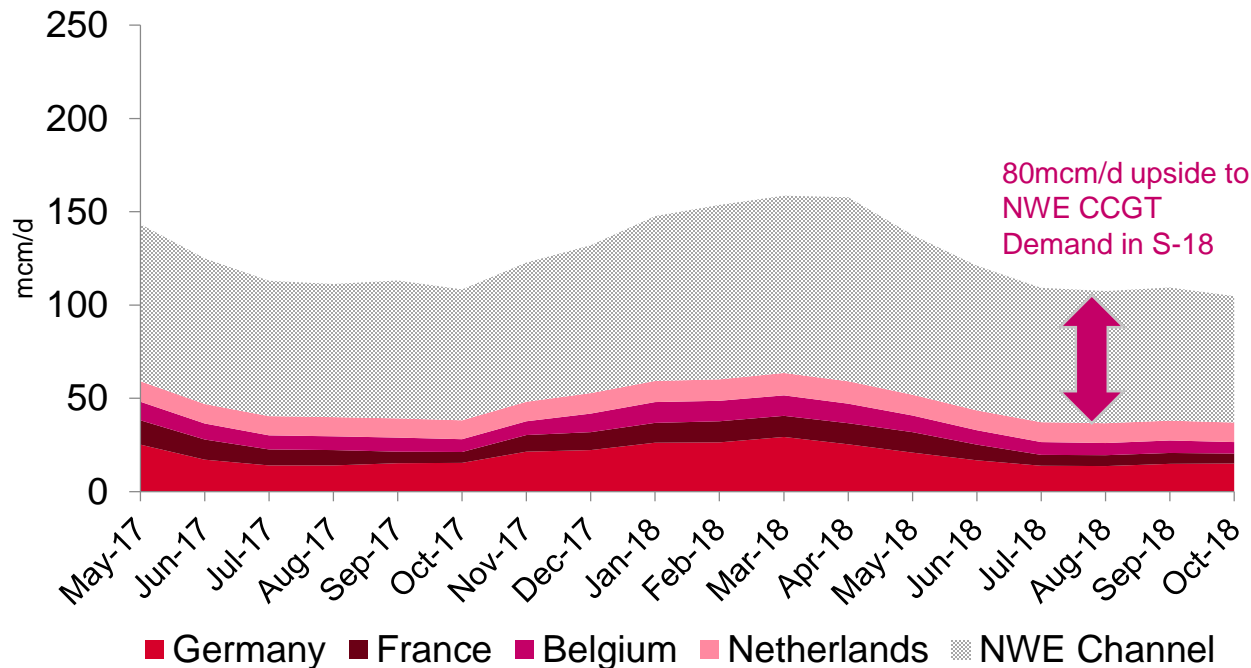
Western Europe balances

- And US LNG as flexible supply



Can NW Europe Absorb Gas?

- NWE switching channel is there, largely unutilised but potentially constrained



Constraints

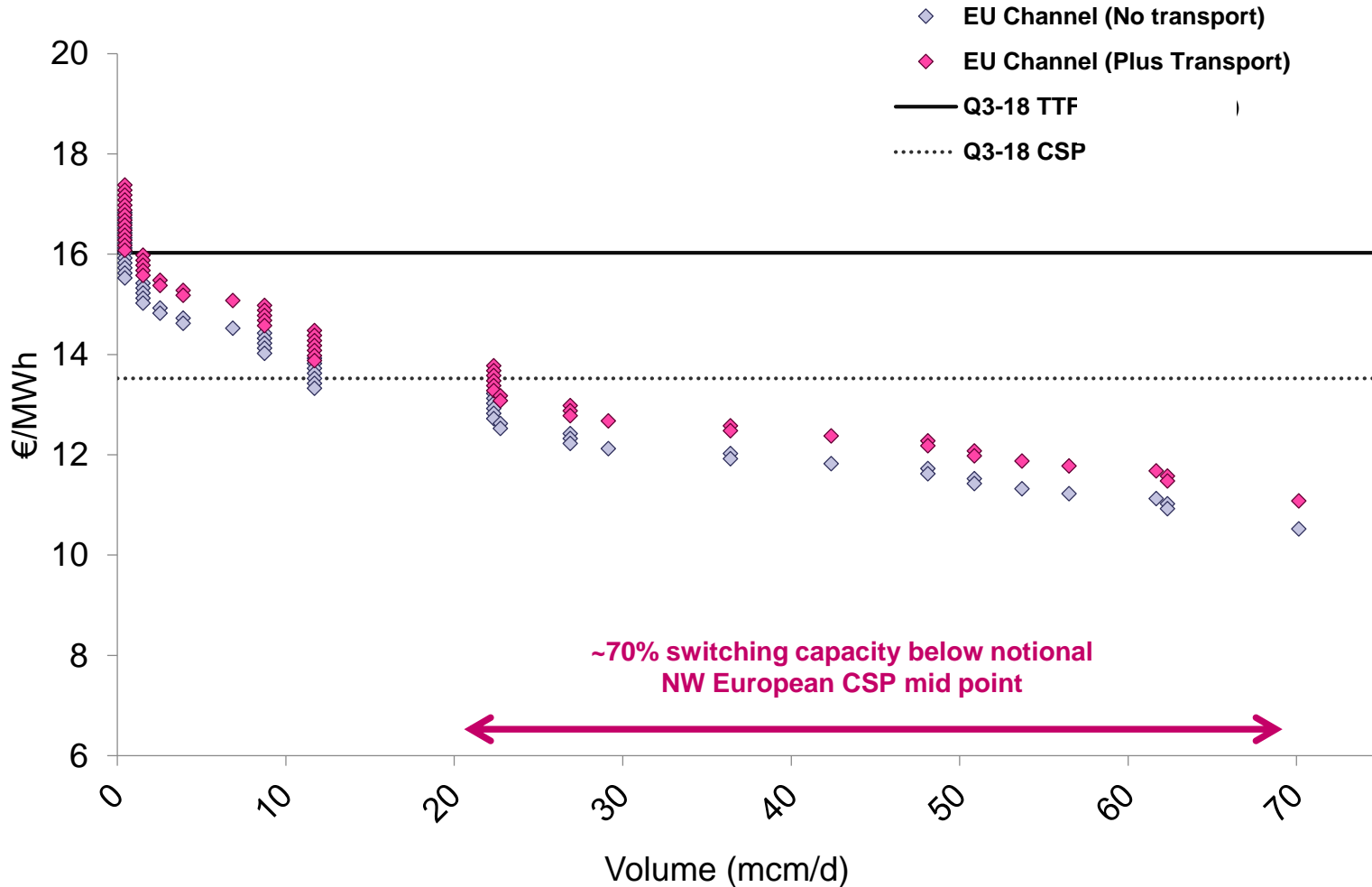
Interconnection: Switching across borders; there are internal and regional constraints which may limit switching capability

Flexibility: We assume plant responds to prompt market signals. Longer term supply contracts may limit switching potential

Political: Support coal running for a political or social agenda

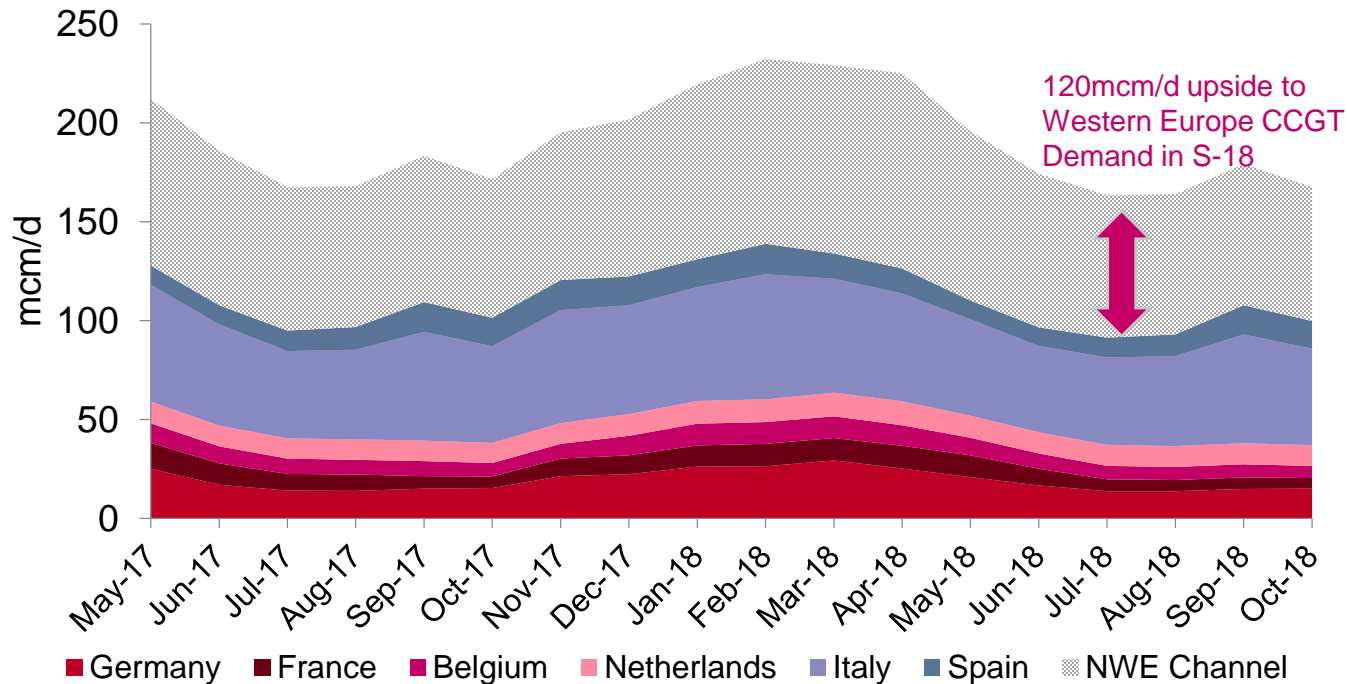
NW European Switching Channel Is Deep

- NW European switching a very soft floor



Spain and Italy Add Further Sink

- Despite disconnect from NWE hubs, Spain and Italy have significant switching potential

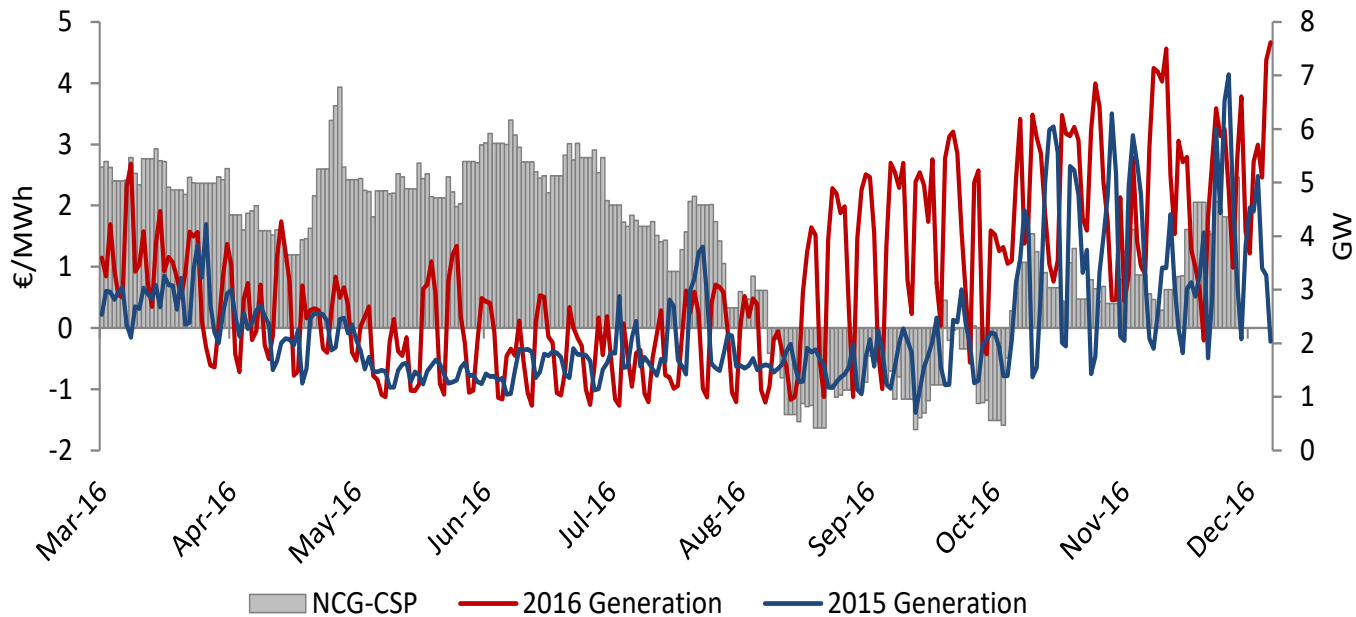


LNG looking for sink in Western Europe could drive greater convergence between NWE, Italy and Spain

What Evidence of Switching Do We see?

- Q3-16 provided evidence of switching

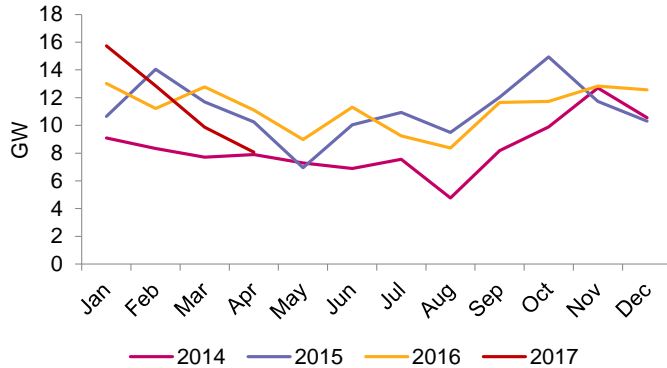
Q3 -16 saw clear signs of switching in Germany



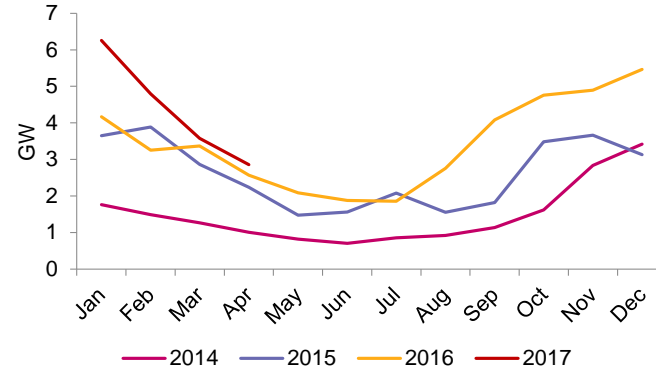
Are we seeing switching now

- Coal burn in NW Europe at recent low, Gas burn at recent high

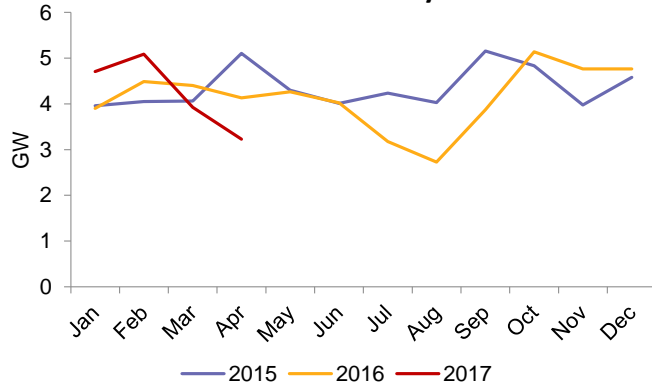
Germany Monthly Coal



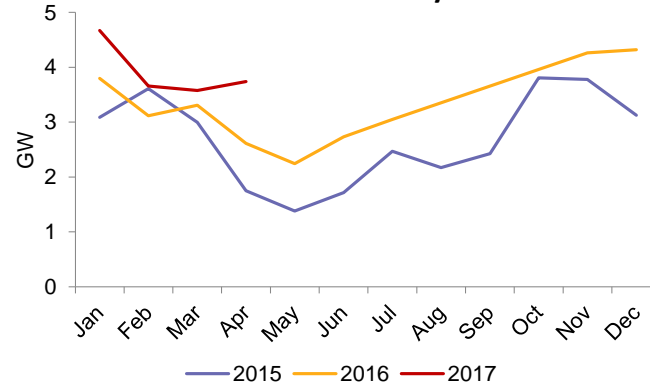
Germany Monthly Gas



Netherlands Monthly Coal



Netherlands Monthly Gas



Conclusions

- We see, despite increasing, global demand is not able to absorb increasing LNG volumes. **Western Europe remains the most likely destination for this surplus**
- Relatively **low storage stocks provides sink for increased LNG in S-17** but we do not see this scenario for S-18
- The **capacity for coal switching is there** in Western Europe and we have seen **evidence of switching in Q3-16**. The signs are there in 2017, however it is difficult to be certain with residual factors
- If the coal to gas switching is triggered, we see it as **a deep channel** and frictions may limit flexibility
- If Western European switching does become the anchor for summer prices, this could become a **driver of HH seasonality**