

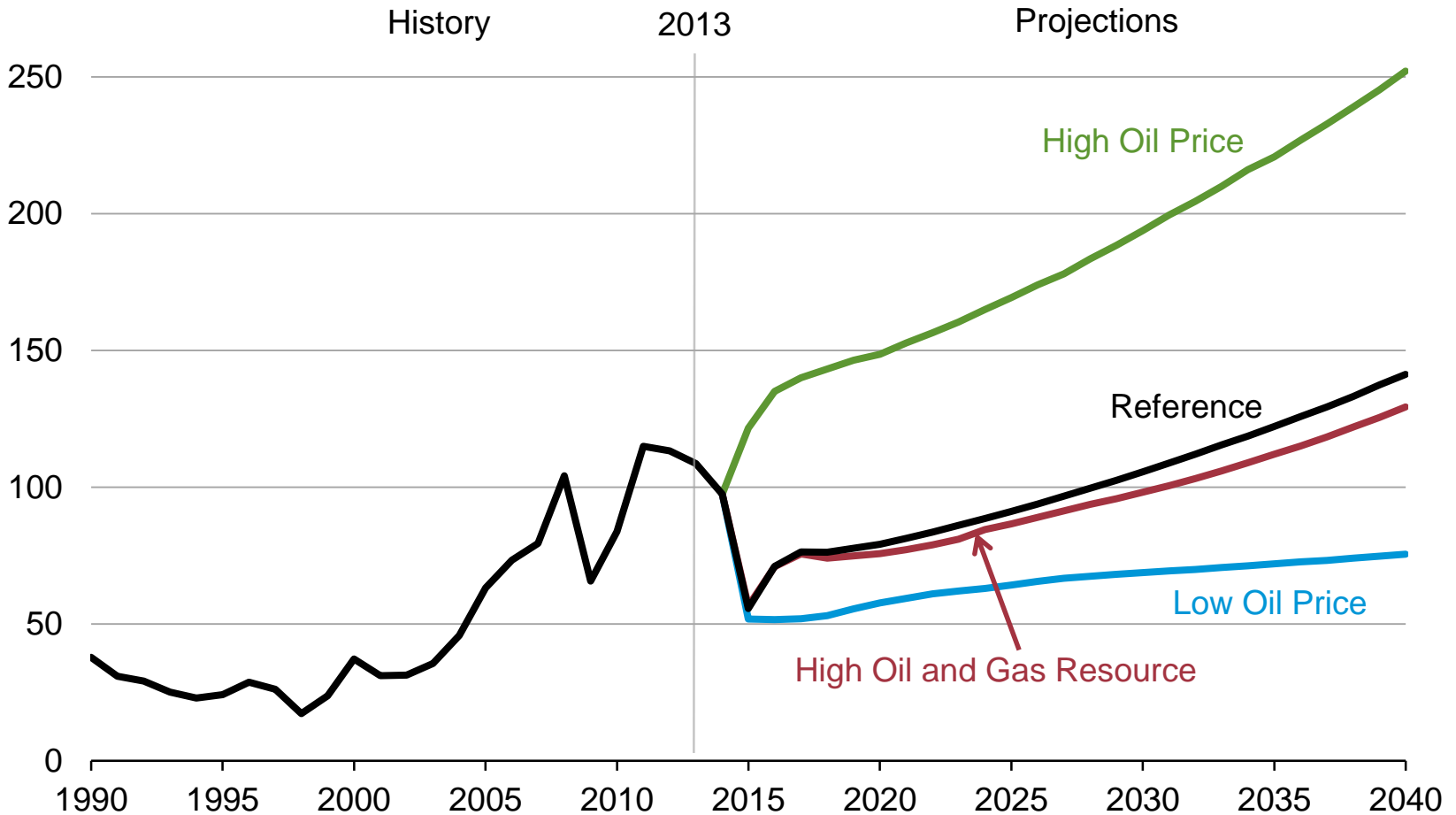
Price Cycles, Cost Controls and the Crisis of Utility Business Models: Discontinuities in Global Energy Markets and Drivers

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US EIA Oil Price Projections from 2015 Annual Energy Outlook

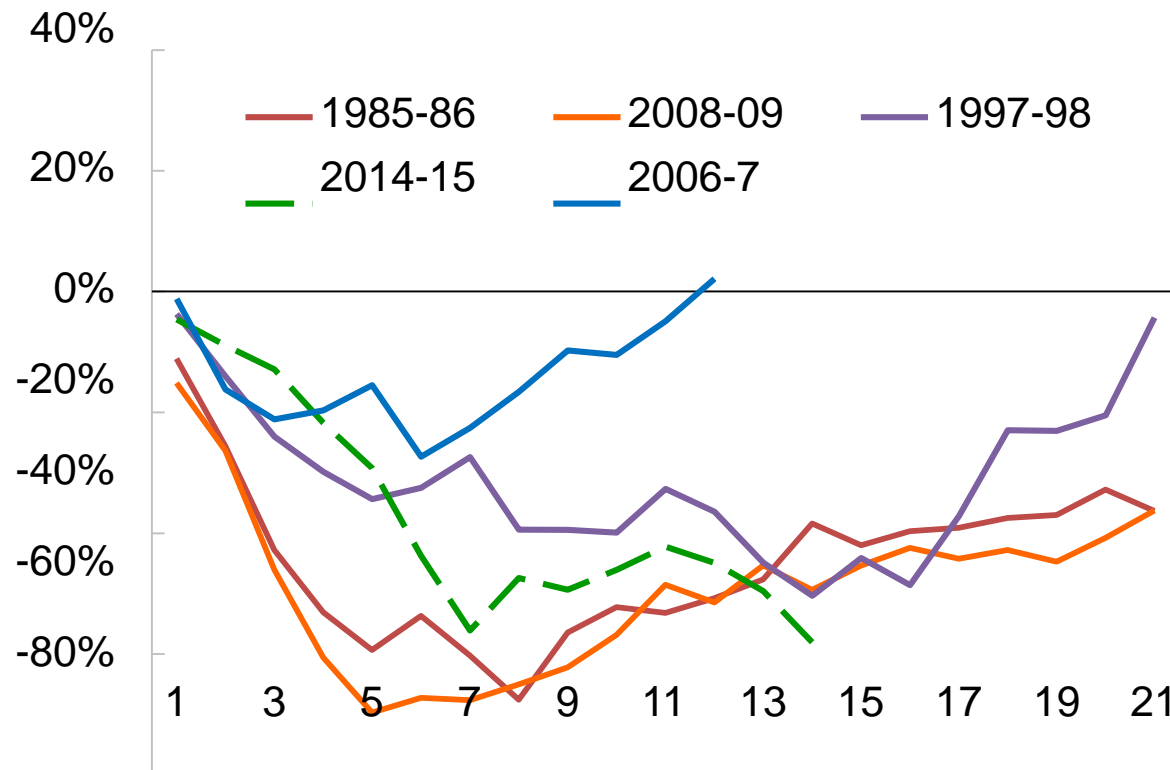
Brent crude oil spot price
2013 dollars per barrel



Source: EIA, Annual Energy Outlook 2015

Comparison to previous price decline episodes

% cumulative decline from peak (adjusted for inflation)



Oil Supplies and Prices: short-term and long-term impact factors

Bearish Factors

- Level of stocks high
- Refining margins weak
- Macroeconomic concerns spreading to oil market
- Dynamics within OPEC

Bullish factors

- Response from US shale more visible
- Implied stockbuild keeps being revised lower as demand surprise on the upside while supply surprise on the downside
- Too many shorts

Bearish Factors

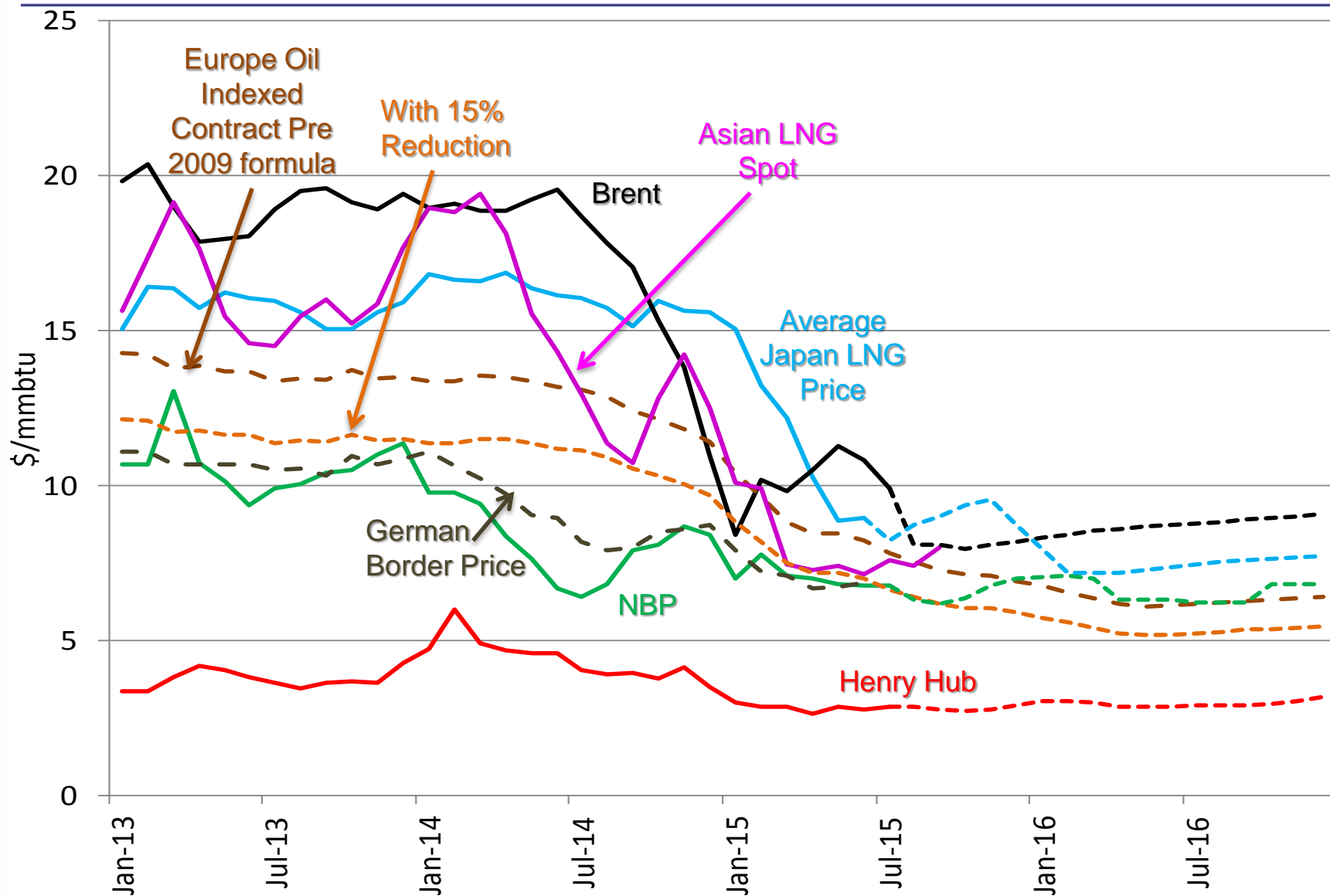
- US supply responds strongly to higher oil prices
- Iran delivers on its announced plans
- Macroeconomic concerns hit demand growth

Bullish factors

- Cuts in capex affecting supply in key non-OPEC areas
- US supply not responding quickly even in a low oil price environment
- Spare capacity remains at low levels
- Costs in industry start rising



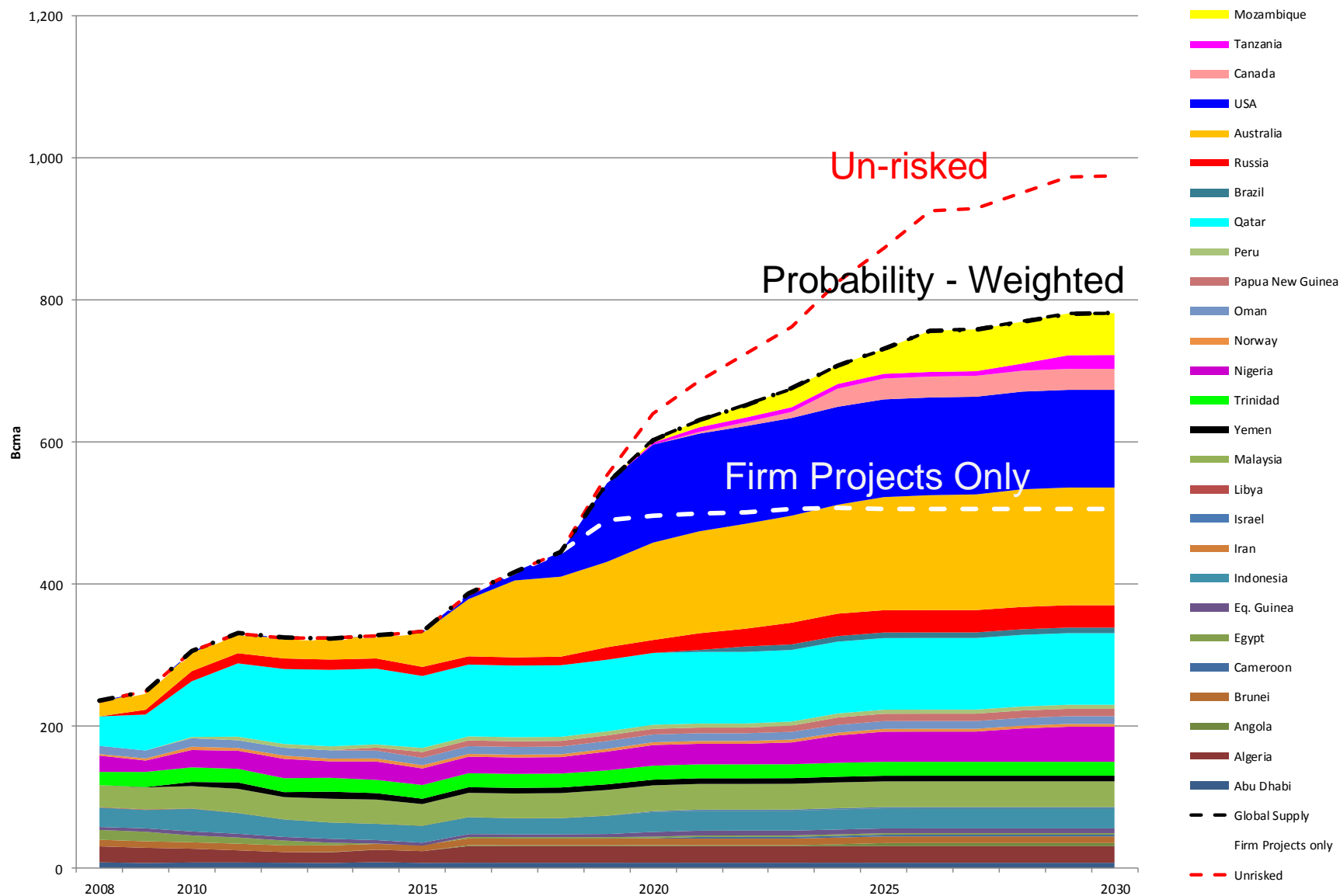
Progressive disconnect between oil and gas prices (outside Asia) and supply/demand cycles



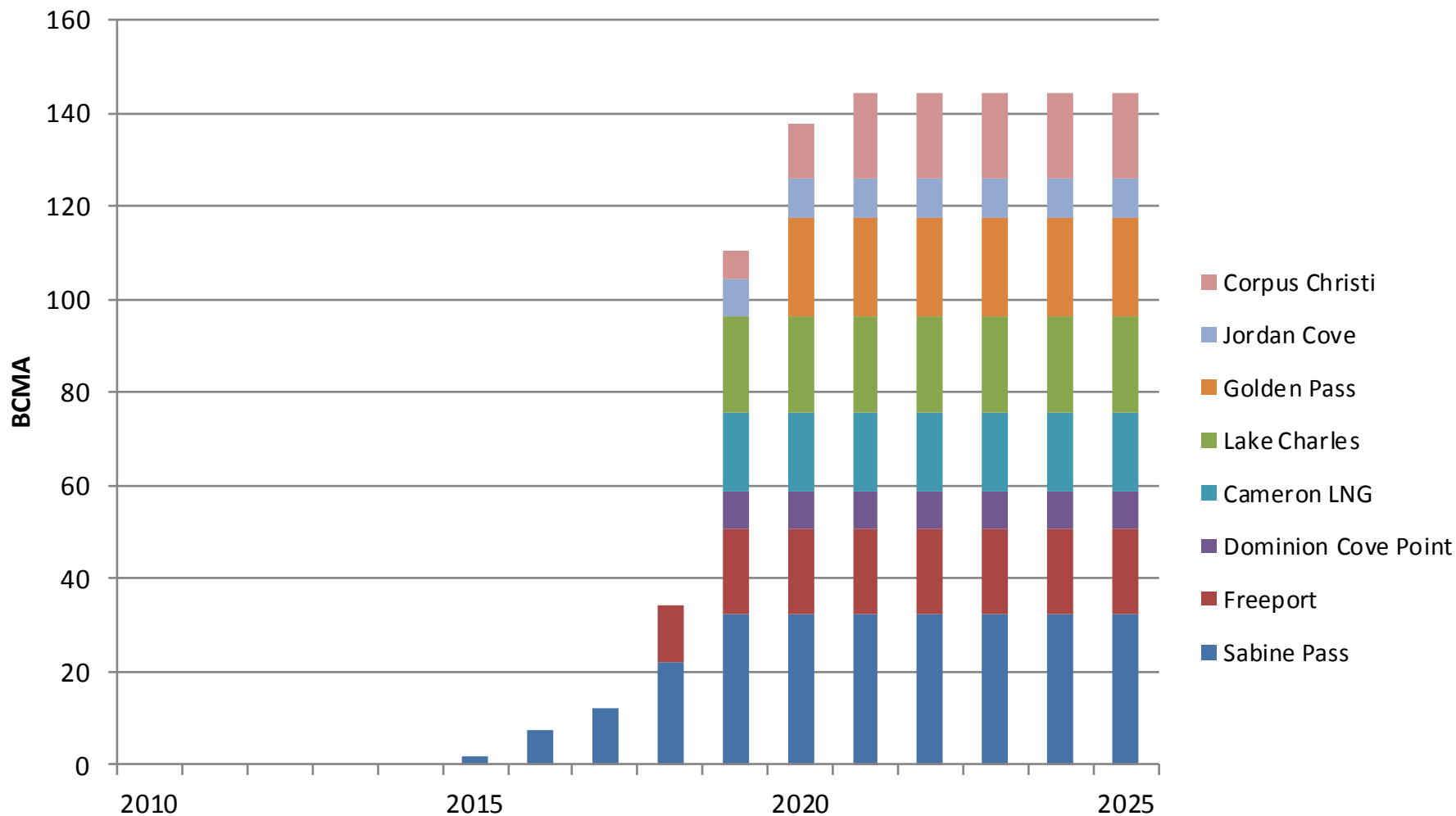
SOURCES: Platts, EIA, Argus, CME



Global LNG supplies will increase 50% by early 2020s: Australia in the lead position



US LNG export projects become Important post-2018 (if no slippage of FID's occurs)



Sources: Company & Media Reports, OIES Assumptions

Whatever Happened to Cost Controls?

- Major oil and gas projects: exploration and production, LNG
- Nuclear power projects
- Renewable energy projects – the exception?

Almost wherever you look in the energy industry you see projects behind schedule and over budget; another reason why – in a lower price era – nobody wants to risk building anything significant

European Utility Business Models: an unfolding story

- Renewable energy – falling load factors for conventional stations
- Managing legacy physical and financial assets – long term contracts, nuclear stations
- Increasing competition, decreasing margins
- Increasing taxation of various kinds
- Uncertain investment environment – new regulation, new taxes

Some Continental European utilities face existential threat – need to reinvent themselves and their business models – is there a profitable private sector model and if so, what is it?

Is the E.ON Demerger the future midstream model: ie no synergies between low carbon and fossil fuel assets and businesses?

In early 2016 E.ON will demerge into:

- **a renewable power generation, energy networks and sales, and customer solutions company (with a nuclear subsidiary managing legacy assets) - E.ON**
- **a conventional power generation, energy trading and E&P company containing all fossil fuel assets - UNIPER – managing stranded assets or restructuring for profits??**

Is this a uniquely “German” solution or is it applicable more widely?

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