

The US LNG Price and Beyond That

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Beyond the US LNG Projects’ Cost & Pricing

- The International Energy Agency (IEA) has warned Asian LNG consumers that US LNG will be more expensive than they think as moving LNG over long distances is expensive - up to 10 times higher than moving an equivalent amount of coal or oil around the world.
- IGU suggests that US gas price would need to rise to \$4-\$5/MMBTU to encourage investment in new projects and to guarantee a continued abundance of gas supply.
- Fitch suggests that recent nearly 50% drop in oil prices may slow the momentum behind the development of US LNG project as it could increase Henry Hub gas pricing, weakening US LNG project economics. The recent drop in oil prices has also tempered longer term market oil price expectations, which could challenge off-take contract negotiations creating delays and/or changing the US LNG projects' terms of tolling arrangements.
- Excelerate-proposed Lavaca Bay FLNG project was the first victim of an oil price slump threatening the economics of the US LNG export projects as “a halving in the oil price since June has upended assumptions by developers that cheap US LNG would muscle into high-value Asian energy markets, which relied on oil prices staying high to make the US supply affordable.”

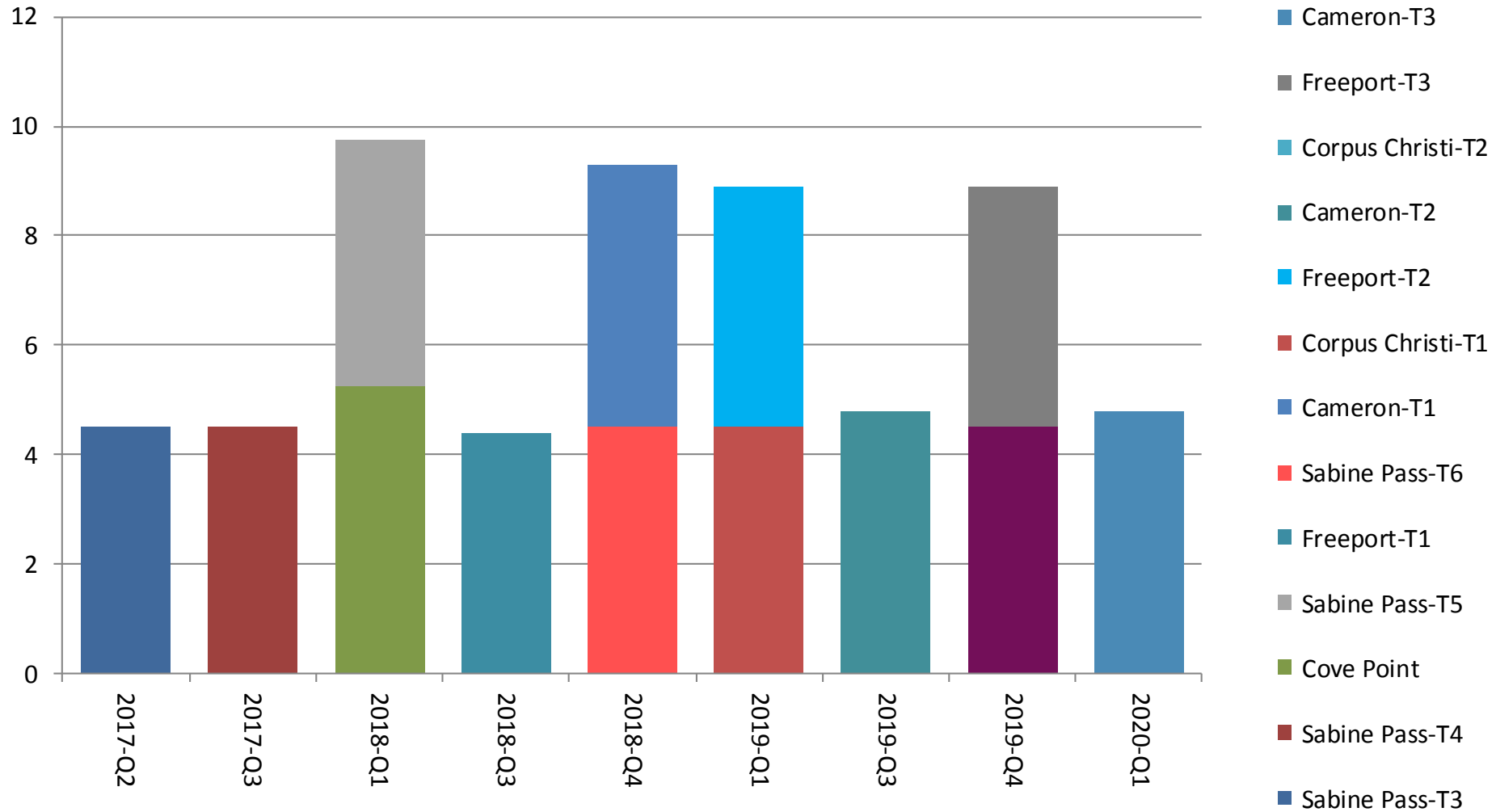
Therefore,

LNG from the US may not be less expensive than LNG from other suppliers while some investments in North America and some long-term purchases by Asian and European players may not look viable at least in the current market situation.

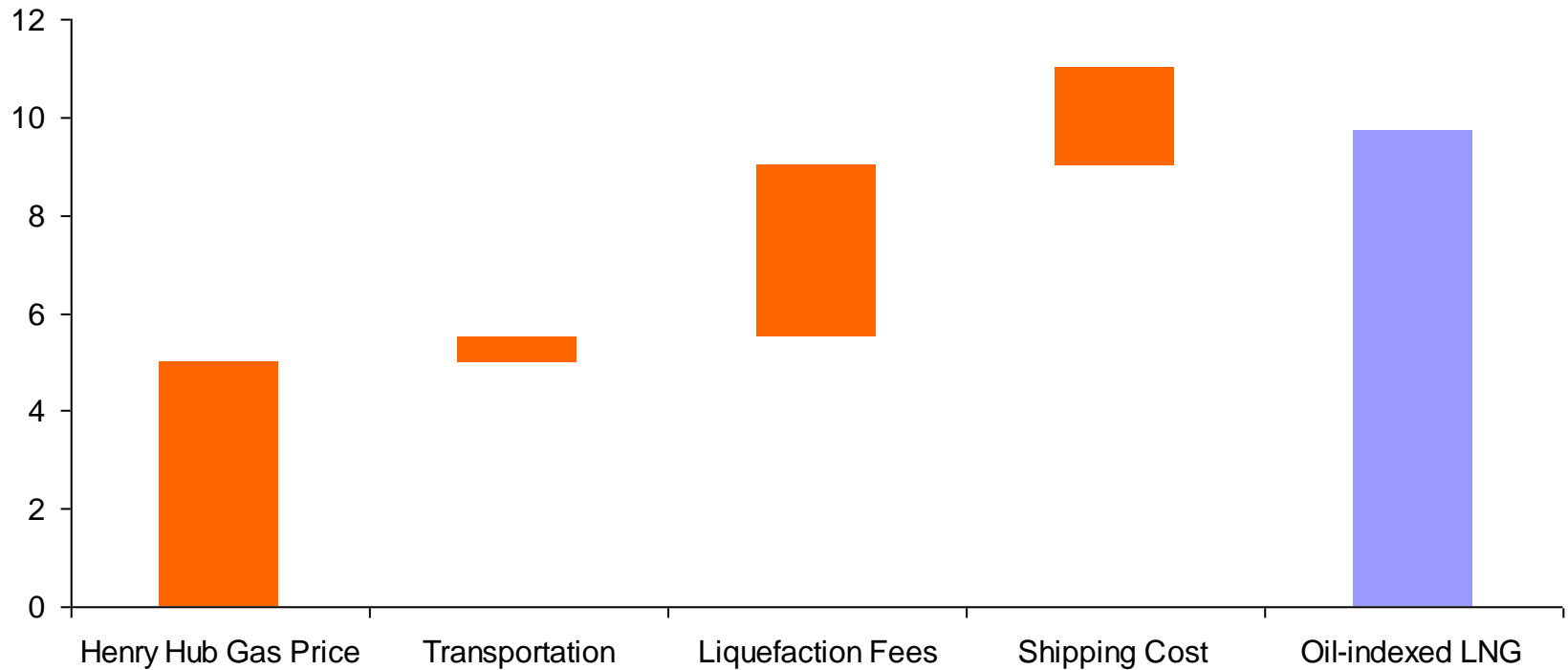
However,

- The US LNG projects will diversify the buyers' pricing of imported LNG.
- It will increase flexibility since there will be no destination clauses in the US LNG Sales Purchase Agreements (SPAs).
- The penalty for not lifting cargoes will be payment of the liquefaction fee which will be much lower than “take-or-pay” in a traditional long-term LNG SPAs.
- US gas production remains strong despite price declines and drop in drilling activity due to efficiencies, though growth has slowed.

The US Under-Development LNG Export Projects (MMT/Y)



Assessment of the US Gulf LNG Price at Japan in 2020 (\$/MMBTU)



Notes:

- GLNGI forecasts for HH gas price in 2020 range from \$4/MMBTU to \$6/MMBTU.
- EIA forecasts for HH in 2035 range from \$6/MMBTU to \$11/MMBTU therefore HH-linked price DAP Asia could range between \$13/MMBTU and \$19/MMBTU by then.
- Oil-indexed LNG DES price has been estimated in accordance with some newly signed, extended and revised contracts. Oil price of \$60/bbl considered for 2020.

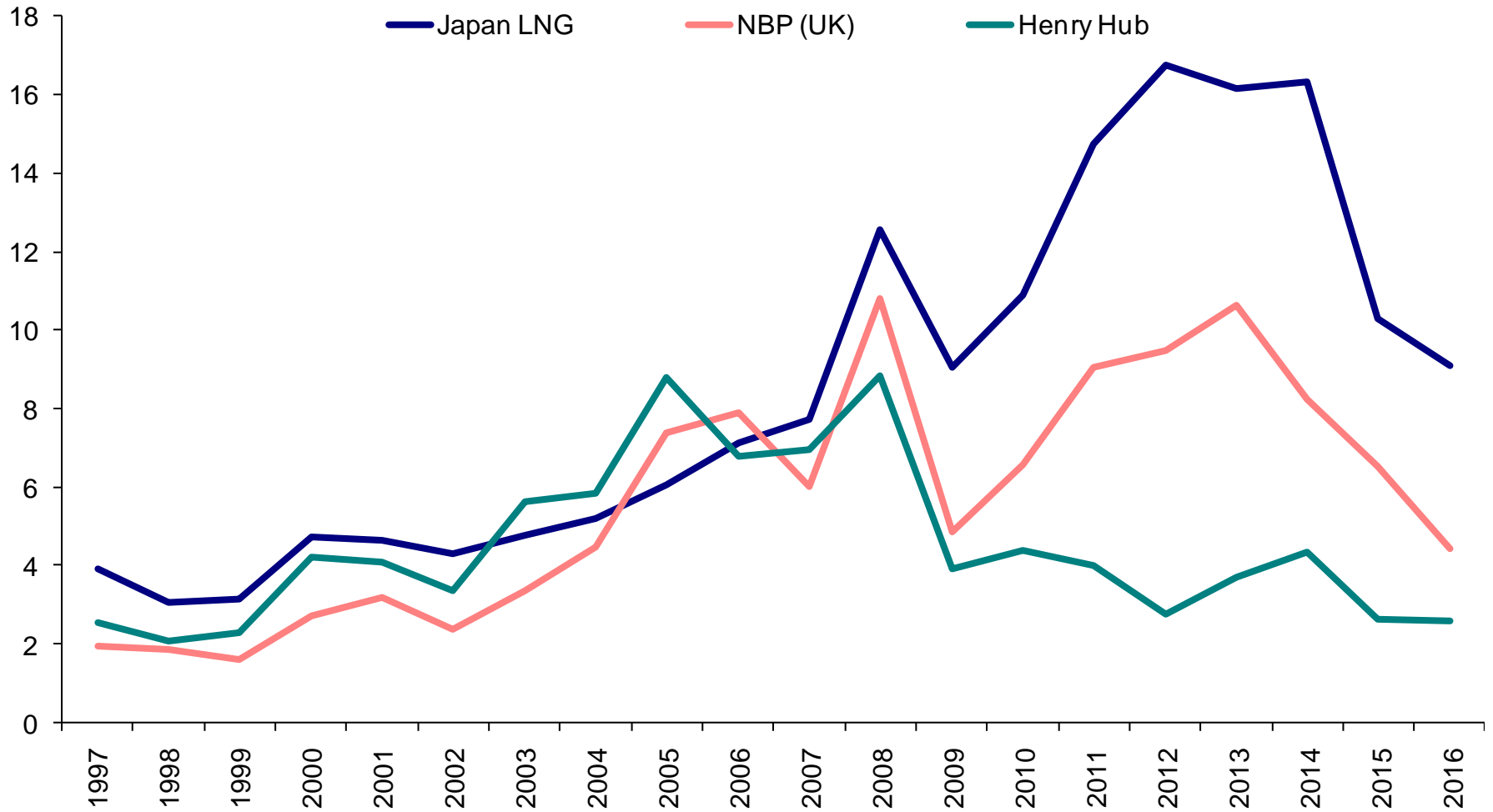
Assessment of the US Gulf LNG Price at UK in 2020 (\$/MMBTU)



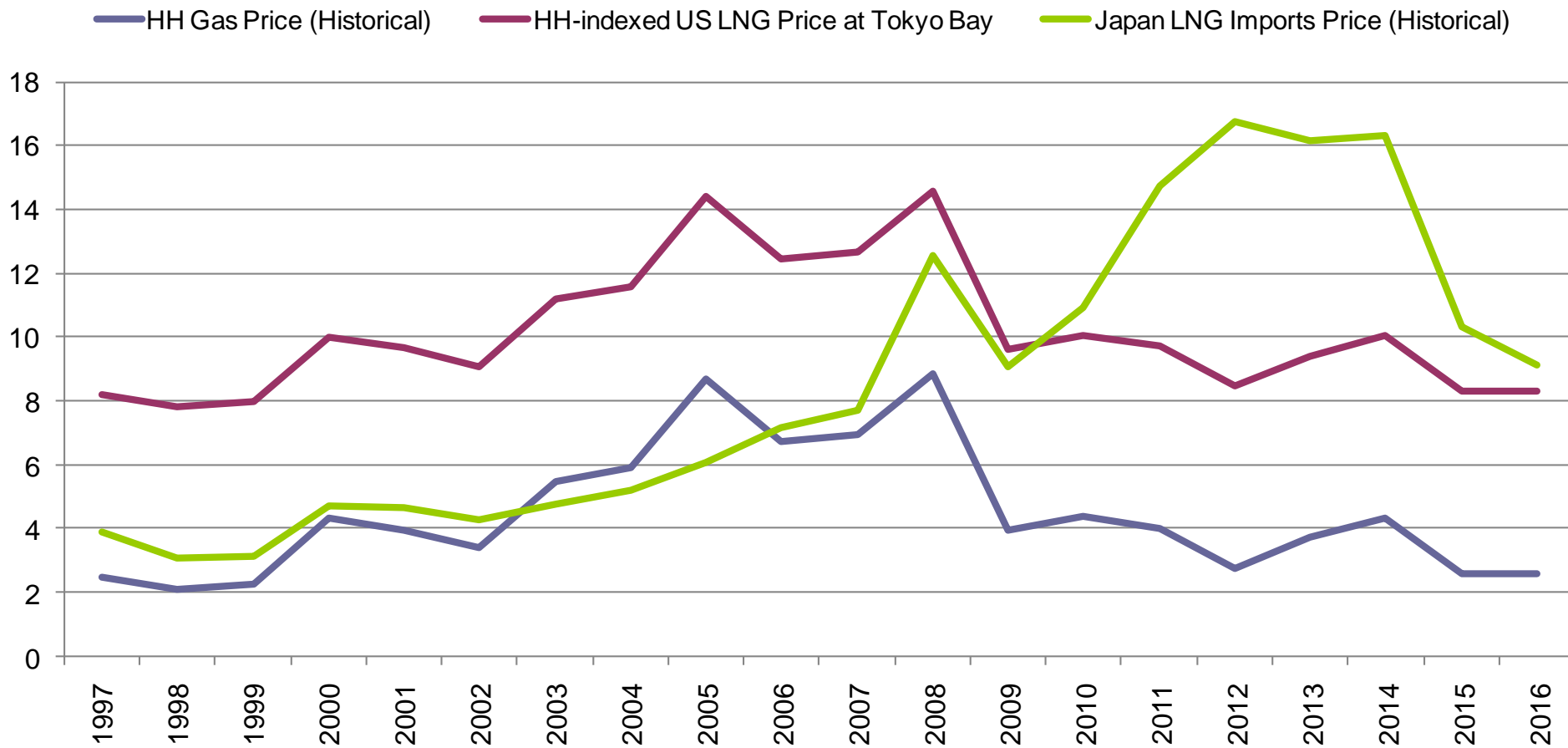
Note:

- GLNGI forecasts for UK NBP gas price in 2020 range from \$7/MMBTU to \$9/MMBTU.

Gas Hubs and Japan LNG Imports Prices (\$/MMBTU)



HH-linked LNG Pricing Has Not Been Historically Cheap (\$/MMBTU)



Note:

HH-indexed US LNG price is calculated on the historical Henry Hub gas prices plus liquefaction and shipping costs.

In addition to the US LNG projects' cost and pricing issues, there are a number of other risks and challenges that have to be considered by the US LNG developers and customers:

- **Price Volatility:** spot prices could be very volatile, often affected by local supply/demand factors, winter seasonality and abnormal weather or accidents.

GLNGI also reckons that recent oil prices fall could affect US gas production economy as its associated condensate and NGL prices follow the oil prices.

- **Political Risk:** there may be domestic energy cost implications as a result of LNG exports. Gas-intensive industries that have recently gained competitive international advantage with low US gas prices are adamantly opposed to LNG exports.

The US government always retains the right to issue and/or to revoke export licenses. In addition, there simply are some concerns about the political dismay of selling large amounts of gas to China.

- **Environmental Risk:** rising environmental oppositions. For instance, local opposition to Maryland, Oregon projects.

- **Heating Contents:** The US LNG projects offered “lean” gas while Asian customers typically prefer “rich” gas. This causes potential incremental costs to manage lower heating value.

- **Upstream Performance:** Shale gas wells' performance in long run hasn't been tested.

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Any comment will be welcomed

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