Natural Gas Comment: Europe Winter Tracker: LNG Supply Uncertainty Supporting TTF Risk Premium

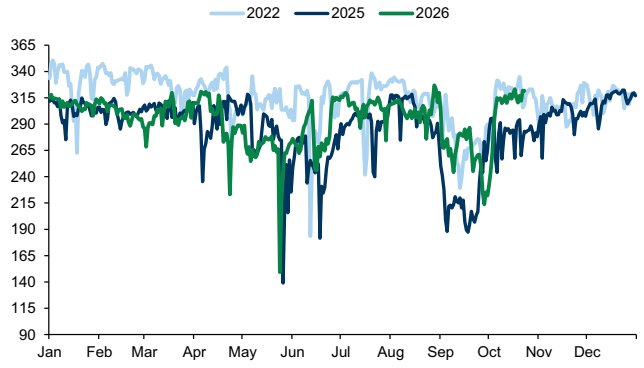
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- **NW Europe gas storage marginally higher this week…** We see a marginal improvement in NW European gas storage week-on-week, with strengthening Norwegian gas production contributing to take our estimated end-October storage level to 63% of capacity (vs 62% prev.) (Exhibit 1). However, this is far from enough to guarantee a comfortable storage path through the winter without higher Mideast LNG supply over the coming months.
- **…But not enough to offset Mideast supply concerns.** While we continue to base case a gradual rise in Persian Gulf LNG exports through winter, reaching 65% of pre-war levels in Jan27, Mideast LNG supply uncertainty has been increasingly priced into the market, consistent with the sharp rise in tanker attacks reported by the UK Maritime Trading Operations center (UKMTO) near the Strait of Hormuz earlier this month (Exhibit 2). The Dec26 TTF contract, currently at 88 EUR/MWh, implies a 51% (vs 47% last week) market-perceived chance that Hormuz LNG flows average well below our base case, at only 25% of normal this winter (Exhibit 3).
- **Preliminary data supportive of supply, if confirmed, can bring the TTF risk premium lower.** To be sure, preliminary UKMTO tanker attack data point to a drop in the number of incidents for the past four days, as shown in Exhibit 2, and Persian Gulf exports for both oil and LNG have been revised higher today, with the latest data from Kpler suggesting Oct-to-date LNG crossings are just above 30% of normal (up from 28% in Sep). Given the recent noise in crossings data, however, we will wait for further confirmation of such elevated volumes. If confirmed and sustained, we would expect TTF prices to reduce its low-Mideast-supply risk premium, which we currently estimate at 18 EUR/MWh.

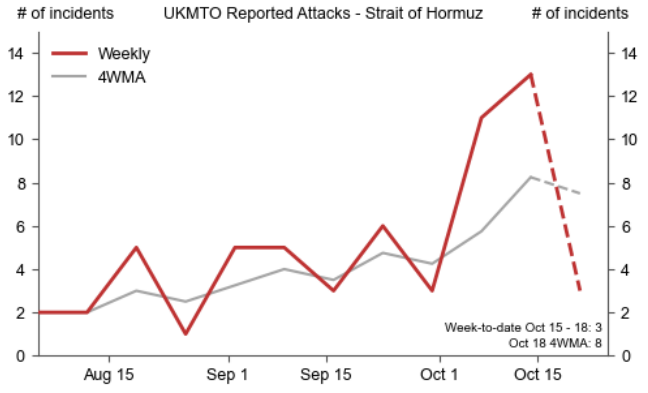
Investors should consider this report as only a single factor in making their investment decision. For Reg AC certification and other important disclosures, see the Disclosure Appendix, or go to www.gs.com/research/hedge.html.

Exhibit 1: Norwegian gas exports to NW Europe have climbed back to the 2022 highs
Mcm/d



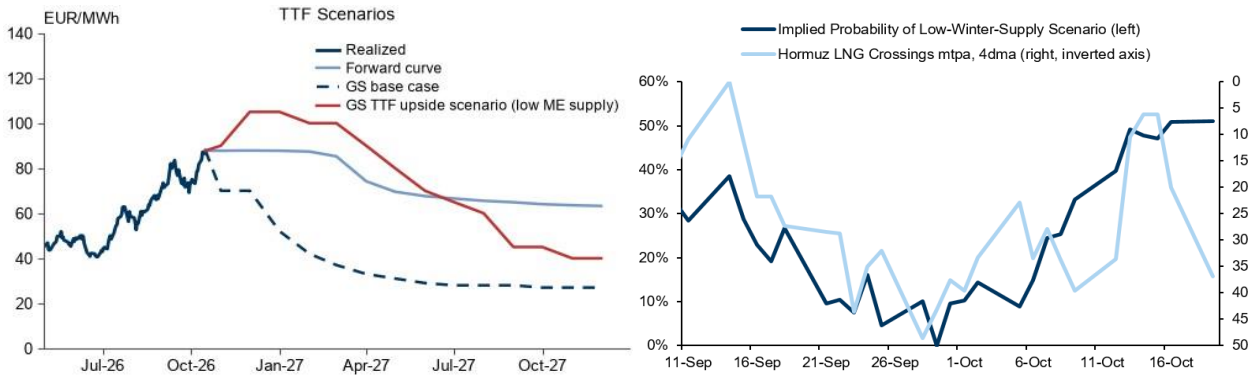
Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 2: Reported tanker attacks near the Strait of Hormuz increased sharply earlier this month



Source: UKMTO, Goldman Sachs Global Investment Research

Exhibit 3: Dec2026 TTF currently implies a 51% market-perceived probability that Mideast LNG supply remains low this winter
EUR/MWh (left chart); % (right chart, left axis), mtpa (right chart, right axis)



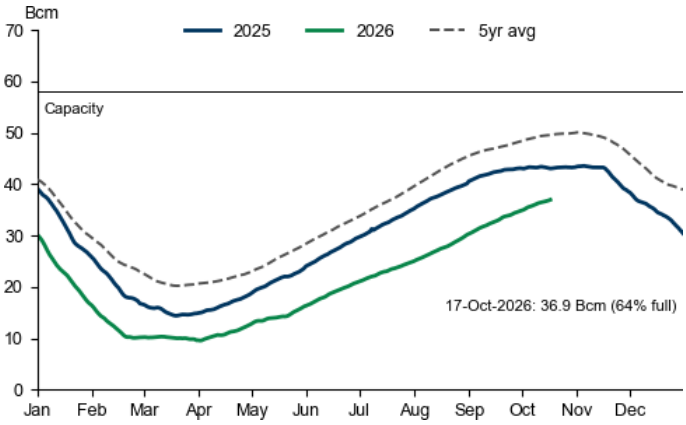
TTF forwards as of Oct 16th. Implied probability of a low-supply winter is calculated as the Dec26 TTF premium vs our 70 EUR/MWh base case, divided by the Dec26 TTF premium we would expect under a low Mideast winter LNG supply scenario and average winter weather (35 EUR/MWh).

Source: Kpler, ICE, Goldman Sachs Global Investment Research

Europe Winter Tracker

1. Storage

Exhibit 4: We expect NW Europe gas storage to end Oct at 63% full, as withdrawals start mid-month
Bcm

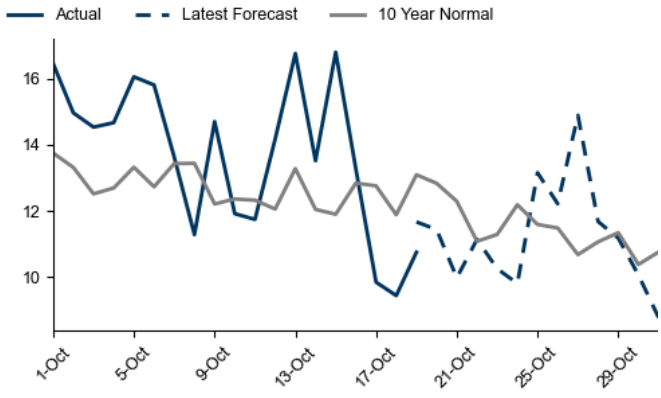


NW Europe includes Belgium, Germany, France, Netherlands, and the UK

Source: Bloomberg, Goldman Sachs Global Investment Research

2. Weather

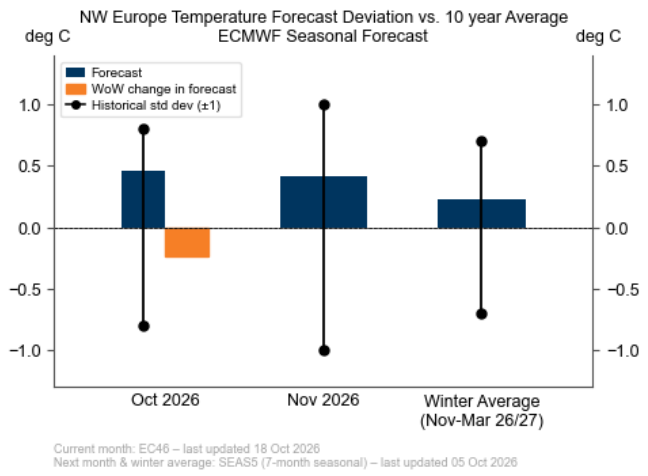
Exhibit 5: After warm spells in the first half of the month, NW Europe temperatures are forecast to move closer to seasonal averages
Degrees Celsius



Temperature forecast is based on the GFS Operational model

Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 6: NW Europe Oct temperature forecasts were revised down WoW
Degrees Celsius

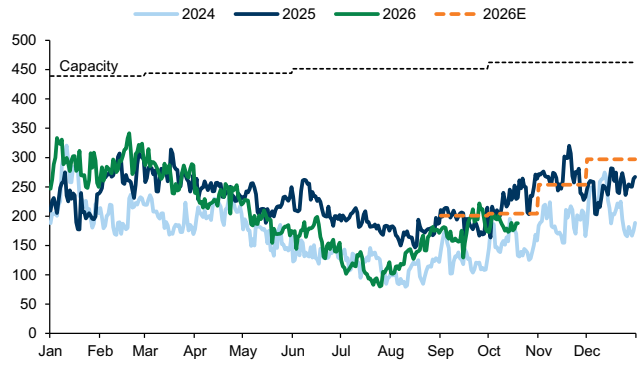


The EC46 model is used for current month seasonal forecast and SEAS5 model for the winter average seasonal forecast. Current month is inclusive of realized actuals and forecast through the remainder of the month.

Source: ECMWF, Copernicus, Goldman Sachs Global Investment Research

3. LNG

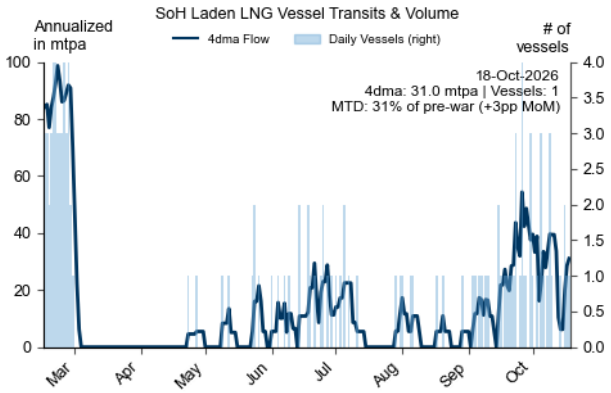
Exhibit 7: NW European LNG imports this month have been modestly below our expectations
Mcm/d



NW Europe includes Belgium, Germany, France, Netherlands, and the UK

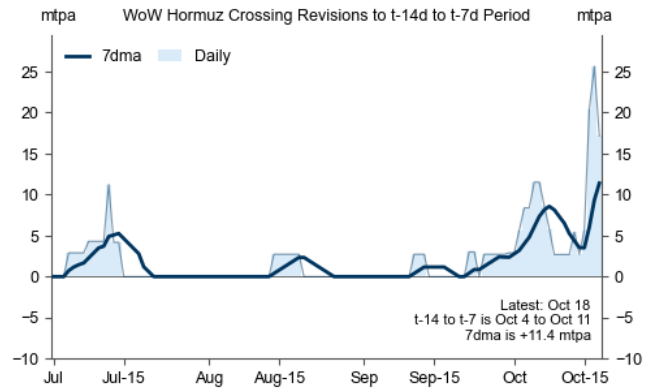
Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 8: Preliminary data shows a recovery in Hormuz LNG crossings
Mtpa 4dma (left axis), number of vessels (right axis)



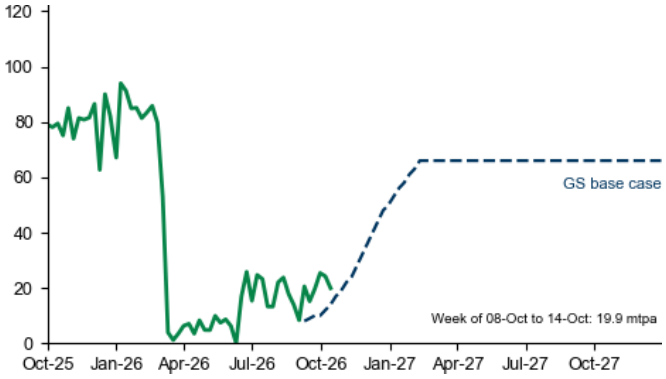
Source: Kpler, Goldman Sachs Global Investment Research

Exhibit 9: Positive data revisions of Hormuz LNG crossings have recently picked up
Mtpa



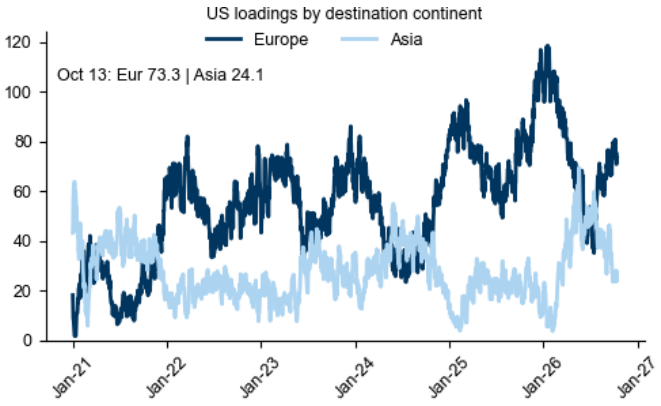
Source: Kpler, Goldman Sachs Global Investment Research

Exhibit 10: Qatari LNG loadings still have a long way to go to stay in line with our base case increase
Mtpa



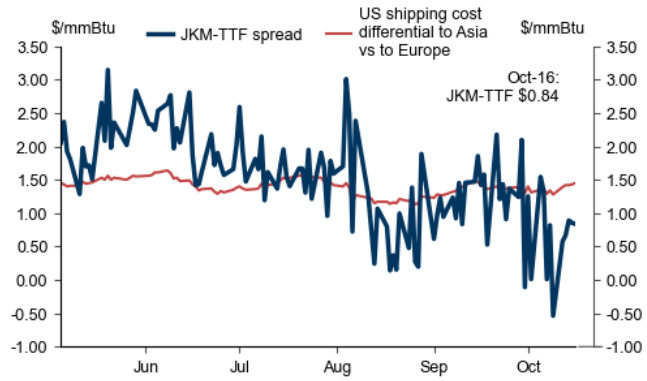
Source: Kpler, Goldman Sachs Global Investment Research

Exhibit 11: US LNG loadings continue to favor Europe over Asia...
Mtpa



Source: Kpler, Goldman Sachs Global Investment Research

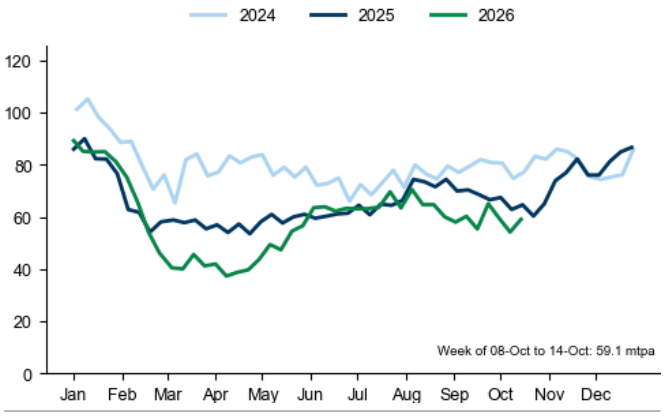
Exhibit 12: ...consistent with the drop in the JKM-TTF spread relative to the Asia-Europe delivery cost premium
$/mmBtu



Red line is the US shipping cost differential to deliver LNG in Asia vs in Europe calculated based on the S&P Global Commodity Insights daily published full shipping cost by route. US LNG cargoes are incentivized to go to Europe if the Asia-Europe LNG price premium (JKM-TTF spread) is below the red line.

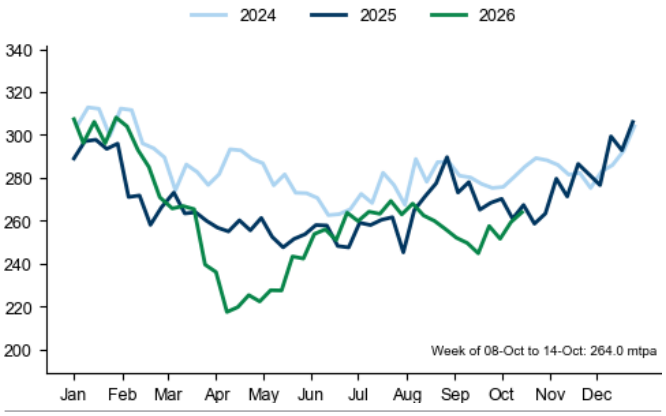
Source: S&P Global Commodities Insights, ICE, Goldman Sachs Global Commodities Research

Exhibit 13: Even though China LNG imports remain down YoY...
Mpta, 4wma



Source: Kpler, Goldman Sachs Global Investment Research

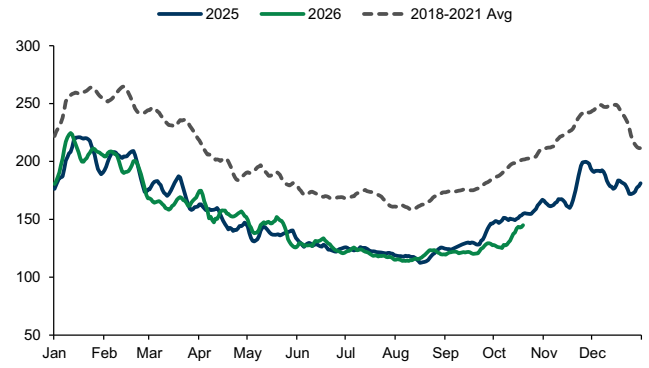
Exhibit 14: ...total Asia LNG imports have reached 2025 levels
Mcm/d, 4wma



Source: Kpler, Goldman Sachs Global Investment Research

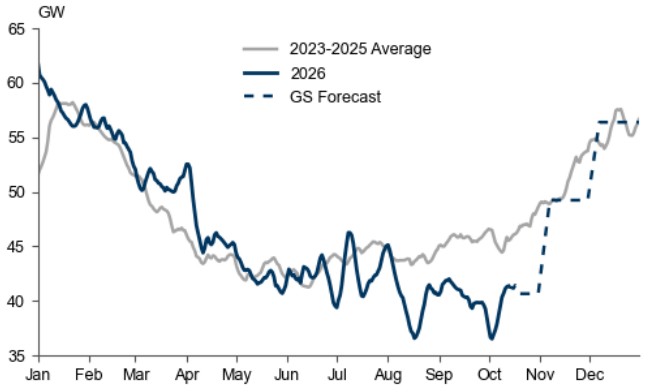
4. Other Drivers of European Natural Gas Prices

Exhibit 15: NW Europe industrial demand for gas has nearly recovered to 2025 levels
Mcm/d, 7dma



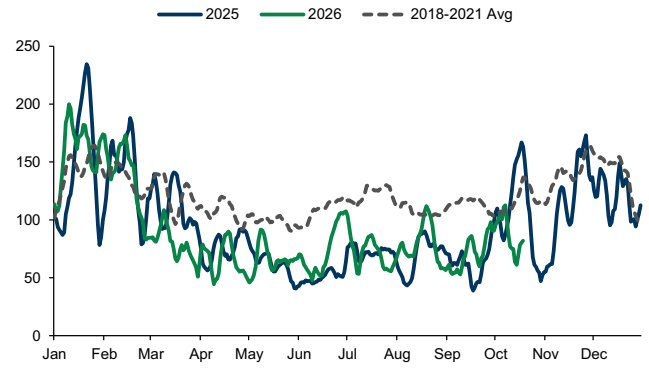
Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 16: Low river water levels continue to weigh on NW European nuclear generation...
NW Europe nuclear generation (7dma), GW



Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 17: ...lending support to gas demand for power
NW Europe power burns, mcm/d



Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 18: We continue to see risks to our winter TTF forecast skewed to the upside

Peak Winter (Dec26) GS Price Scenarios for European Natural Gas (TTF), €/MWh			
		Mideast Supply	
		Base Case	Low Supply
2026-2027 Winter	Base Case (10-Year Average)	70	105
	1 St. Dev. Colder Than Average	115	150
	1 St. Dev. Warmer Than Average	45	90

Source: Goldman Sachs Global Investment Research

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