

Daily Thought

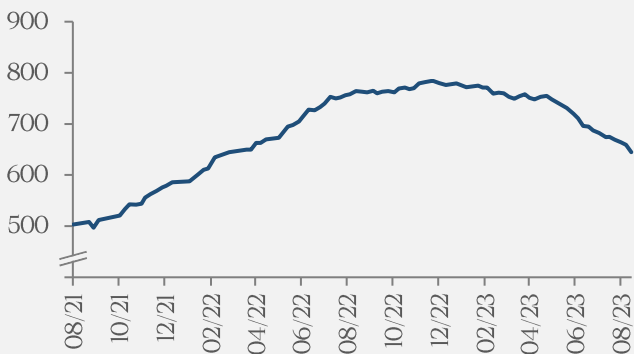
The Natural Gas Mania, Reborn? – August 21st, 2023

While rig counts continued to drop Friday, with oil rigs down 5 w/w, and total rigs down 12 w/w to 642 – the number one question on everyone’s mind – when does production start to roll? Maybe number two is – when do rigs start to bottom? Notably, the completion crew count is pretty well flat YTD, while -15% off 2022 highs. Frac crews seem to have found their steady state ~250 spreads. DUCs (according to the EIA) have fallen ~200 YTD, hinting at DUCs making up the shortfall from the falling rig count. We think the lack of distinctive production decline is attributable

(Fig. 1) US Frac Spread Count



(Fig. 2) US Drilling Rig Count



Source: Baker Hughes, Primary Vision, HTM Analysis

to both the DUC idea, but also the makeup of operators dropping rigs. During the first quarter of 2023, private operators were the first to drop rigs. Overwhelmingly so, private operators have less productive land positions, and added rigs to drill what we would consider “marginal” assets. With that in mind, using the EIA DPR to calculate the incremental impact of a dropped rig would overstate the production decline. We think public operators have gone back to semi-high grading their drills in a time of volatility (waiting for higher commodity prices). These combined have left production (per the EIA) flat to growing, while rigs continue to fall.

When will rigs bottom – it’s anyone’s guess, but ours is “soon”. Not because we’re necessarily bearish, but because we do believe that above \$80/bbl there is some discussion around adding rigs/barrels. Notably, in the past few weeks, the Q1 MEH price was hedge-able around \$80/bbl. We think the conversation of “hedge and drill” was prevalent across energy boardrooms. Afterall, the new E&P model is sustainable returns – what’s more sustainable than hedging a very respectable IRR and returning that cashflow to shareholders? It’s certainly a story that would fit the narrative. Of course, there’s the nagging idea that, at their core, drillers just want to drill – and hedging (to protect the dividend, or buyback, of course) lets them scratch that itch. We think rigs bottom around 630-640, and soon.

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Daily Pricing & Week on Week Benchmark Chg.

CAD Priced Liquids

Condy | \$104.77 (-2.0%)

Bonny Light | \$119.02 (-2.3%)

Synthetic | \$112.14 (-3.1%)

WCS | \$84.20 (-6.8%)

USD Priced Liquids

LLS | \$83.39 (-2.2%)

MEH | \$82.09 (-2.7%)

NYMEX | \$80.39 (-2.9%)

WTI FOB | \$82.53 (-0.4%)

CAD Priced Gas

AECO | \$2.63 (-14.0%)

Alliance | \$2.31 (-17.7%)

Empress | \$2.63 (-15.3%)

Station 2 | \$2.64 (+23.9%)

USD Priced Gas

Dawn | \$2.30 (-10.3%)

Houston | \$2.43 (-9.3%)

Malin | \$3.45 (-16.6%)

PG&E | \$5.20 (-8.8%)

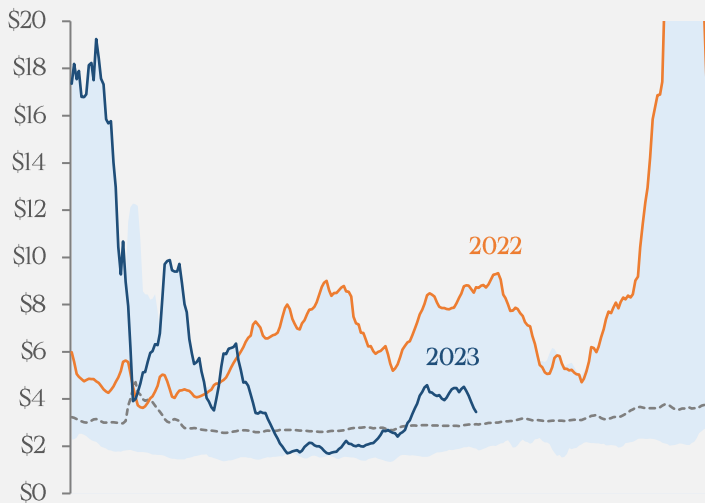
SoCal | \$5.74 (+16.0%)

Waha | \$2.14 (-12.0%)

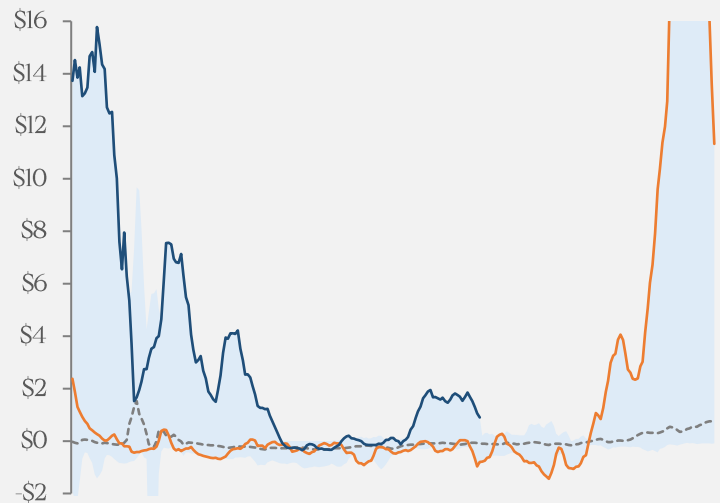
While Waha ended July at -\$0.52/MMBtu, in the West, Malin has been taking names, with basis to Henry Hub making new 10yr seasonal highs at +\$2.29/MMBtu in July. Much warmer temperatures have sent California gas basis soaring. While weekend demand is off due to tropical storm Hilary, there is a chance at warmer weather again next week. Notably though, solar production is way off during peak hours, giving some hope for natural gas during the storm. Looking longer term into the winter, NOAA is forecasting an average to slightly warmer November through March, but much hotter summer. If that's the case, Malin average spot price for the winter will certainly be lower than last year (regardless of what happens, thanks to rock bottom storage due to working gas reclassification in 2022, we are highly confident in saying winter prices will be lower than 2022) though, relative to street expectations for many of the Malin exposed E&Ps, there is upside. \$2/mcf higher spot for a single week can move yearly cashflows >250bps.

Annual Malin Hub Movement & 10yr Average/Range

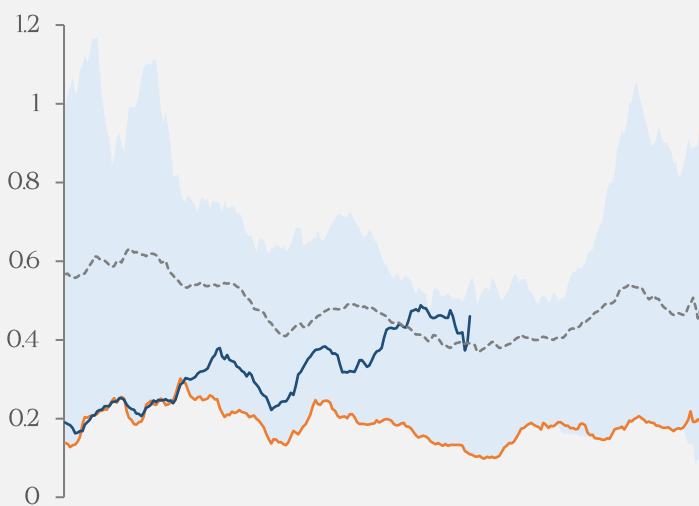
(Fig. 3) Outright Price (per MMBtu)



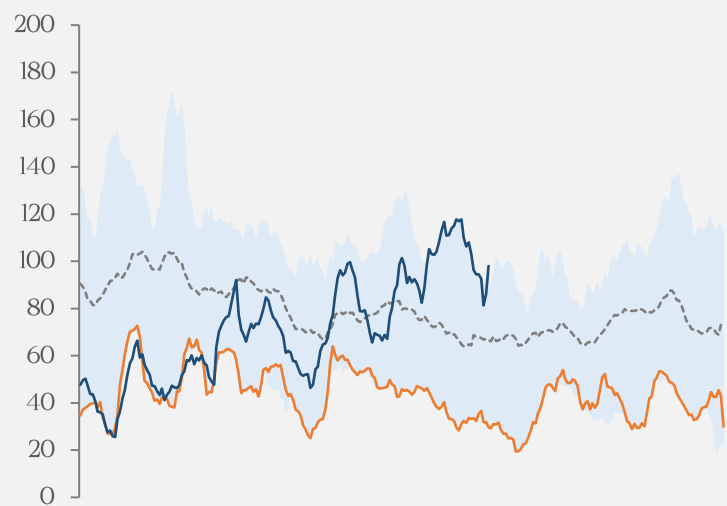
(Fig. 4) Differential to Henry Hub (per MMBtu)



(Fig. 5) Malin Hub Volume (Bcf)



(Fig. 6) Malin Hub Transactions (Deal Count)



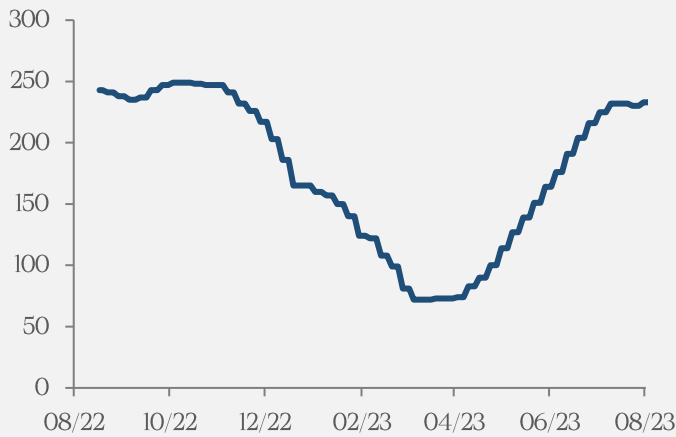
Source: ICE NGX, HTM Analysis

This year, unlike last, PG&E has closer to adequate natural gas in storage. Historically, storage doesn't increase much past September, so at 22Bcf, there is enough-ish to get them through another winter without the volatility of 2022,

(Fig. 7) PG&E Natural Gas Storage (Bcf)

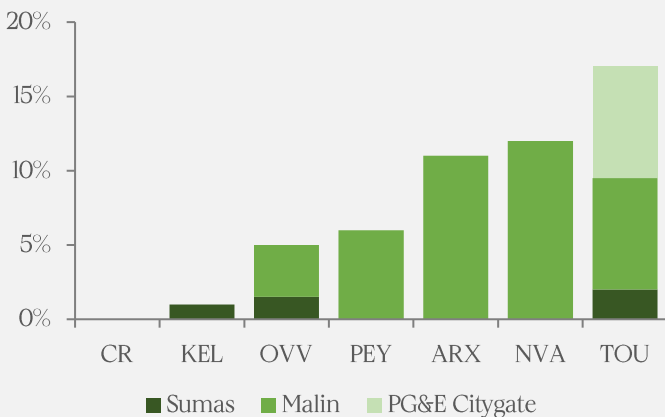


(Fig. 8) Pacific Natural Gas Storage (Bcf)



Source: PG&E, HTM Analysis

(Fig. 9) Production Piped to Pacific Region



Source: Bloomberg, Company Reports, HTM Analysis

but we are not counting on a walk in the park by any means. Malin (the northern California hub, on the border with Oregon) set pretty well seasonal lows (especially considering where it was in January) during the spring, but has been surprisingly strong into the summer. While we had originally downgraded Tourmaline on the basis of less volatility, California cash gas prices, the continued volatility, and strong volumes at Malin certainly has us interested in this winter, and willing to quickly reconsider. While Pacific region gas storage is lesser than last year, PG&E share of that is significantly higher. We had forecasted California gas noticeably lower in 2023 than 2022, though should the volatility persist a few names become even more interesting.

Of the Canadian E&Ps with pipeline agreements into California - Tourmaline and NuVista have the most exposure, with Tourmaline having physical gas storage at Wild Goose that lets them capture strong spot pricing. In IQ23, Tourmaline's marketing had added \$2bn of revenue, while this is partially attributable to a \$32/MMBtu JKM hedge that ratchets down to \$22/MMBtu in 2022 - the cash volatility in California was a significant contributor, hubs that Tourmaline has said they prefer to keep un-hedged.

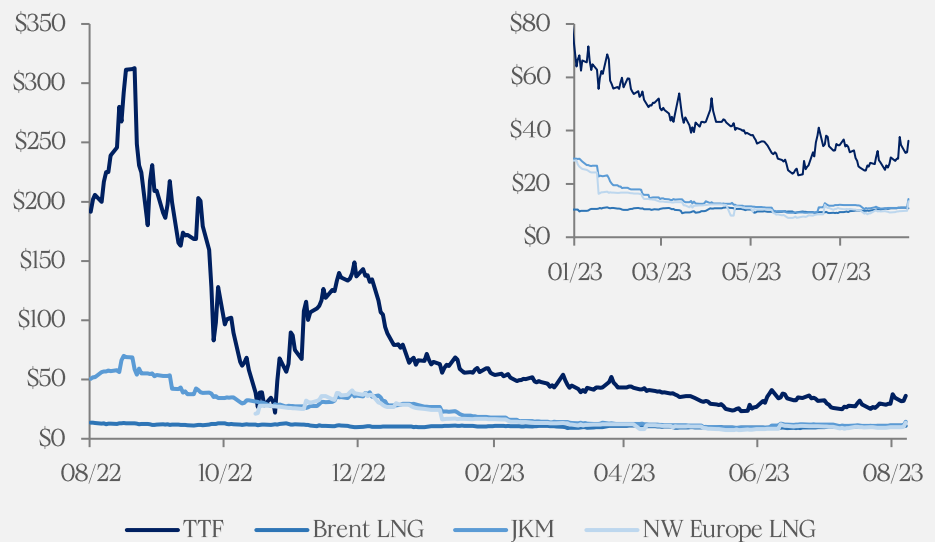
While we see Tourmaline's 4Q23 cashflow at ~\$850m (compared to the street at \$880m), if Malin continues its current trajectory, we think that there's room for us, and the street to be wrong by ~\$200m, which would amount to \$0.50/sh in special dividend capacity. At year end, Tourmaline will send ~0.5Bcf/d into California, and soft pricing represents a notable comp risk, continued volatility (even in the face of higher storage, but significantly less than the trailing 10yr average of 88Bcf) would have Tourmaline beating current estimates handsomely. While street 2023E cashflow estimates have fallen ~25% from YE22, currently at \$3.8bn (HTM at \$3.6bn), they have done \$2.5bn YTD, with \$1.9bn thru YE (view as possible), they would lap estimates.

We don't see NuVista as having the same upside to estimates. Overall - nothing guaranteed yet, Malin could be having one of those months, but we believe it to be worth paying attention to to further support a solid long term hold.

Across the pond – gas volatility isn't anything new, and has begun to pick up again as we roll through summer and into the fall. While TTF is hundreds of collars off its previous price per MWh (shown in fig. 10) during the past months the trading point has moved from almost touching €20/MWh to €40/MWh. Without anchoring to last year, this is quite the extreme move – fueled mostly by fears the Woodside LNG plants in Australia may see their workers go on strike, and thus, tighten international spot supply (of which Europe currently relies very heavily on their ability to buy spot). Though, with multiple less than 10yr LNG contracts signed in the past month, we are seeing perhaps the long-awaited shift to increased spot supply (which would be short, and long term incrementally bullish for boat operators like CoolCo). While this is far in the future, and we have this winter to get through first, we don't see the Woodside strike threat as having a significant impact on European gas prices. While, spot may move to some €100/MWh this winter, if Woodside does strike, we are very confident that Europe will not see any of the mongered ill effects from their cut of Russian natural gas imports. The market has arranged itself where, we believe, with the current levels of reduced demand, winter TTF strip is currently at fair value, and see downside risk given a Woodside agreement. We will see clarity on that, hopefully in the coming weeks.

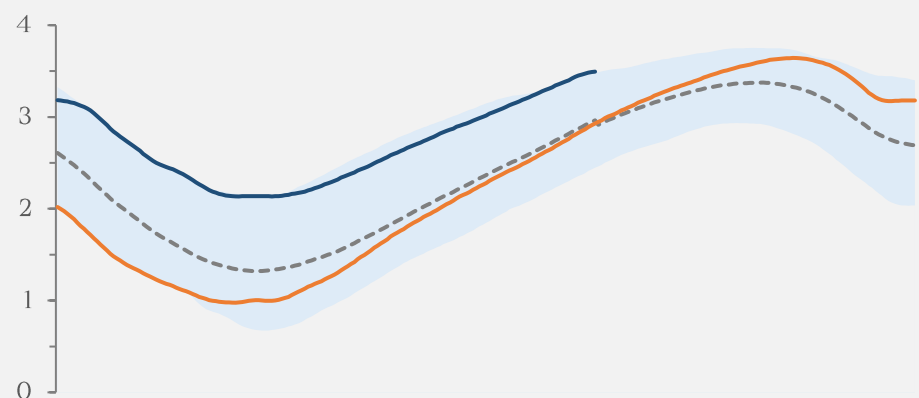
Obviously, Vermilion has the most exposure to TTF prices, while Tourmaline has most of their volumes hedged to JKM for the year. Tenaz would be the greatest beneficiary of €100/MWh TTF, as it would give them some relief on the surety bond they will have to post, though we believe that is priced into the stock. We would see Vermilion as the best way to gain TTF exposure, and believe, in broader strokes, that the core business has inflected.

(Fig. 10) 1yr Historical LNG Prices (€/MWh, Inset YTD)



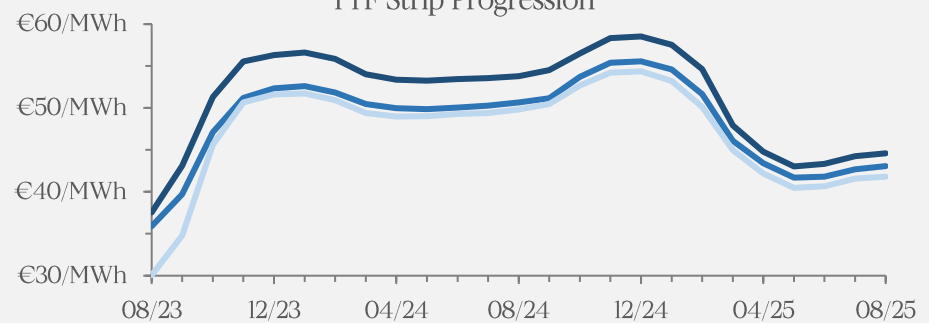
Source: Bloomberg, ICE NGX, HTM Analysis

(Fig. 11) EU Natural Gas Storage (Tcf)



Source: Gas Infrastructure Europe, HTM Analysis

TTF Strip Progression



Source: Bloomberg, HTM Analysis

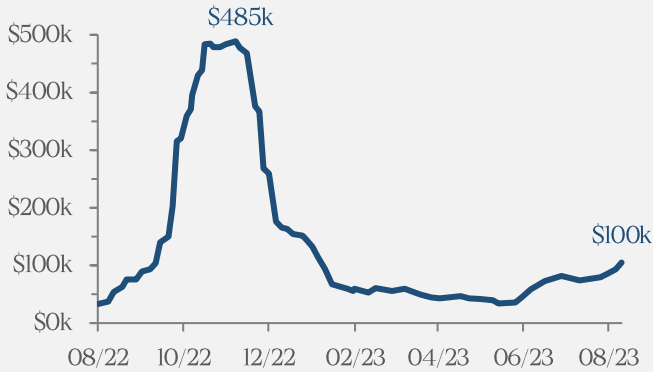
LNG traders were active in the past weeks as charter rates in both basins ticked into the triple-digits. Really, any gas storage that traders can get their hands on, pretty much guarantees a 20% return given where winter gas strip is at (see fig. 11), after carrying costs. Then, as Ukraine opened up their gas storage last week - pretty much ensuring that Europe will have enough natural gas this winter. Before Ukraine's announcement, we would have expected negative local spot prices, as Dutch, German, Polish, and Portuguese natural gas inventories at >90% full, while Spain clocks

in at >95%. European gas has traded higher as Norwegian maintenance has lasted longer than anticipated. Headline risk likes in Norway, and Australia figuring out their supply issues. While we believe (and not just us), that this rally in spot charters is due to the threat of Australian LNG strikes, we still are modeling enough natural gas this winter.

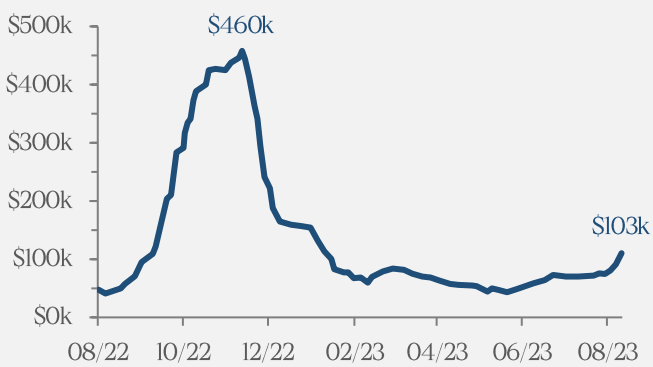
We note that, decreased gas flows to Spain are really inconsequential at this point. Not only do they have abundant spare LNG import capacity, their local storage is almost full (recall >95%), and they are poorly connected, pipeline wise, to their EU neighbours. Italy, which has much better pipeline interconnection to their EU friends, is a much better beneficiary of Algerian gas, as it can easier find its way deeper into the EU. With the Transmed pipeline at it's capacity (reference fig. 16), and the Medgaz pipeline also pushing capacity, Algeria has been the strong beneficiary of Russia's invasion into Ukraine. While Algiers and Madrid has been feuding over Western Sahara (Spain backs Morocco's declaration of sovereignty over the territory), and Algeria has since stopped trade with Spain - they are still allowing gas flows into the country. Algeria has stepped up and, we believe, will continue to solidify their spot as a reliable gas provider into

Europe. Typically, Algerian gas would be flared (the local markets are plenty supplied), they have been maxing pipeline capacity where available. Either way, we see many sources of small supply increases for Europe, that add up to, not entirely displace Russian losses - but do entirely (well, 99.99%) remove the possibility of the crazy calls for wood fired heating, and other mania induced daydreams we saw last year.

(Fig. 12.) Atlantic Basin Spot Charter Rate

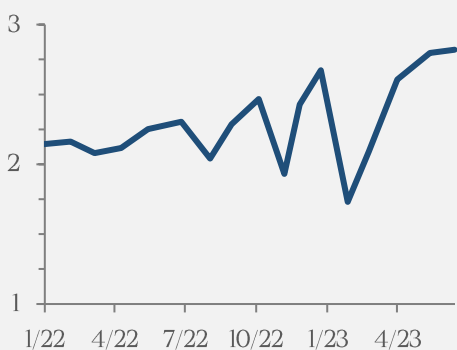


(Fig. 13) Pacific Basin Spot Charter Rate

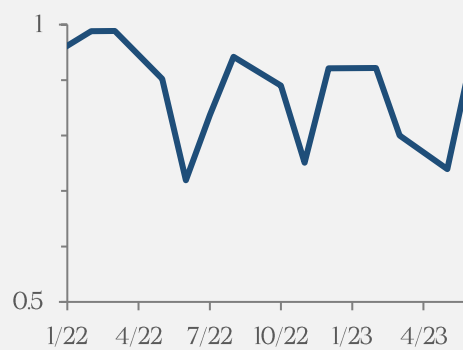


Source: Bloomberg, ICE, HTM Analysis

(Fig. 14) Flows to Italy (Bcf/d)



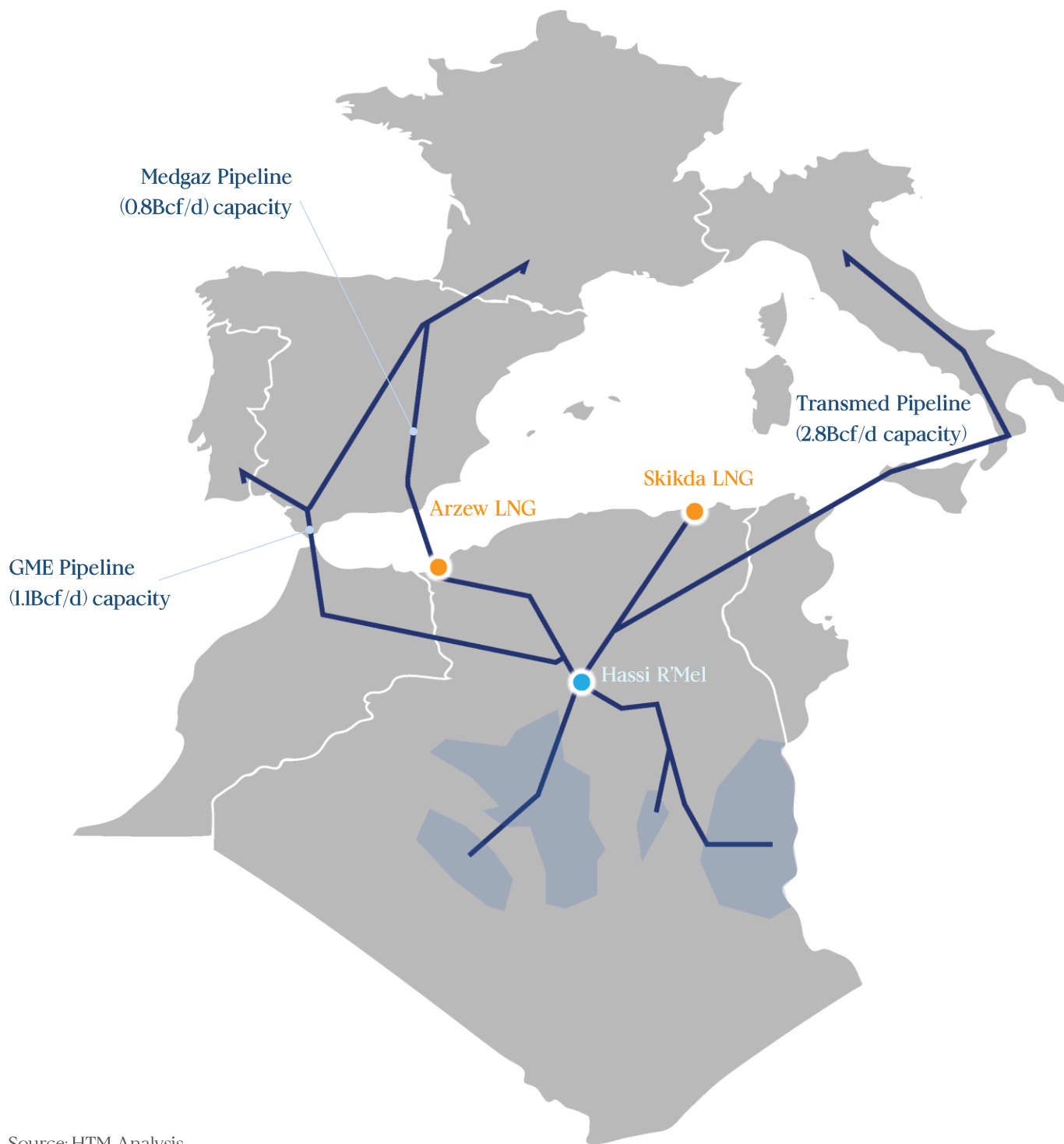
(Fig. 15) Flows to Spain (Bcf/d)



Source: Bloomberg, S&P Platts, HTM Analysis

Overall, we see European gas as relatively fairly valued here, yes, risk in both directions up and down, though we believe that it skews negative. Will keep a keen eye on how inventories develop - we expect a >95% print soon.

Algerian Natural Gas Export Infrastructure (Fig. 16)



Source: HTM Analysis
Note: For illustrative purposes only