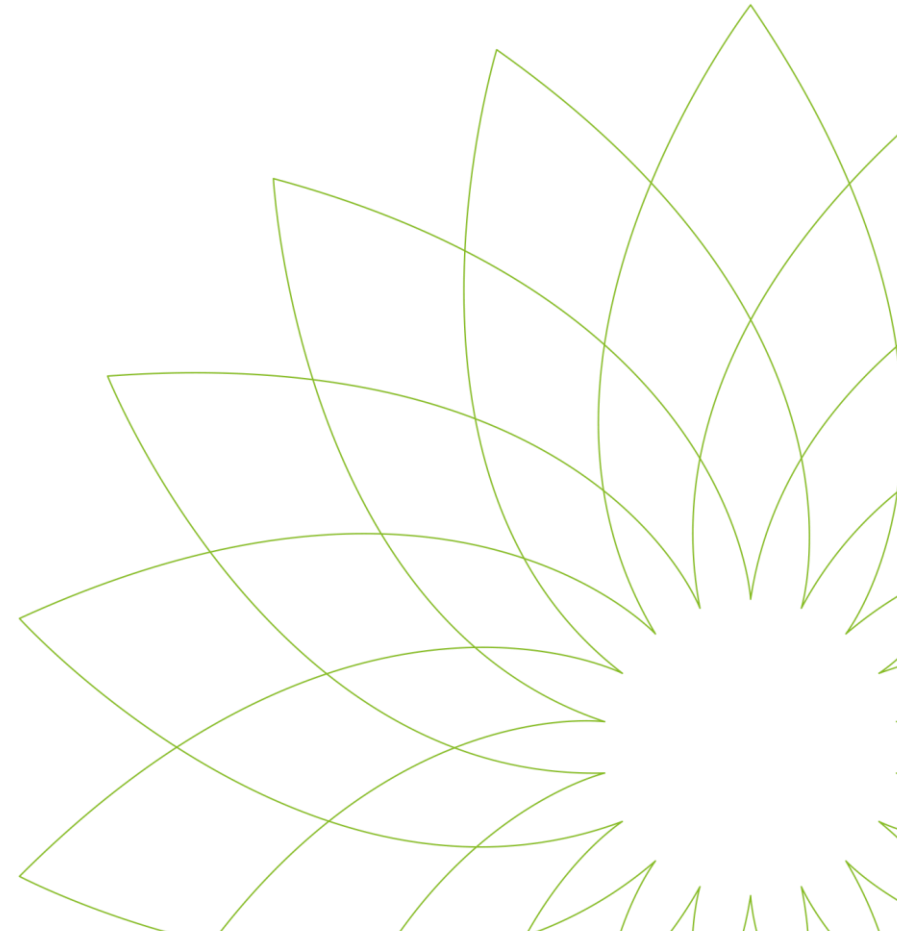




North American Fundamentals Update

March 22, 2024





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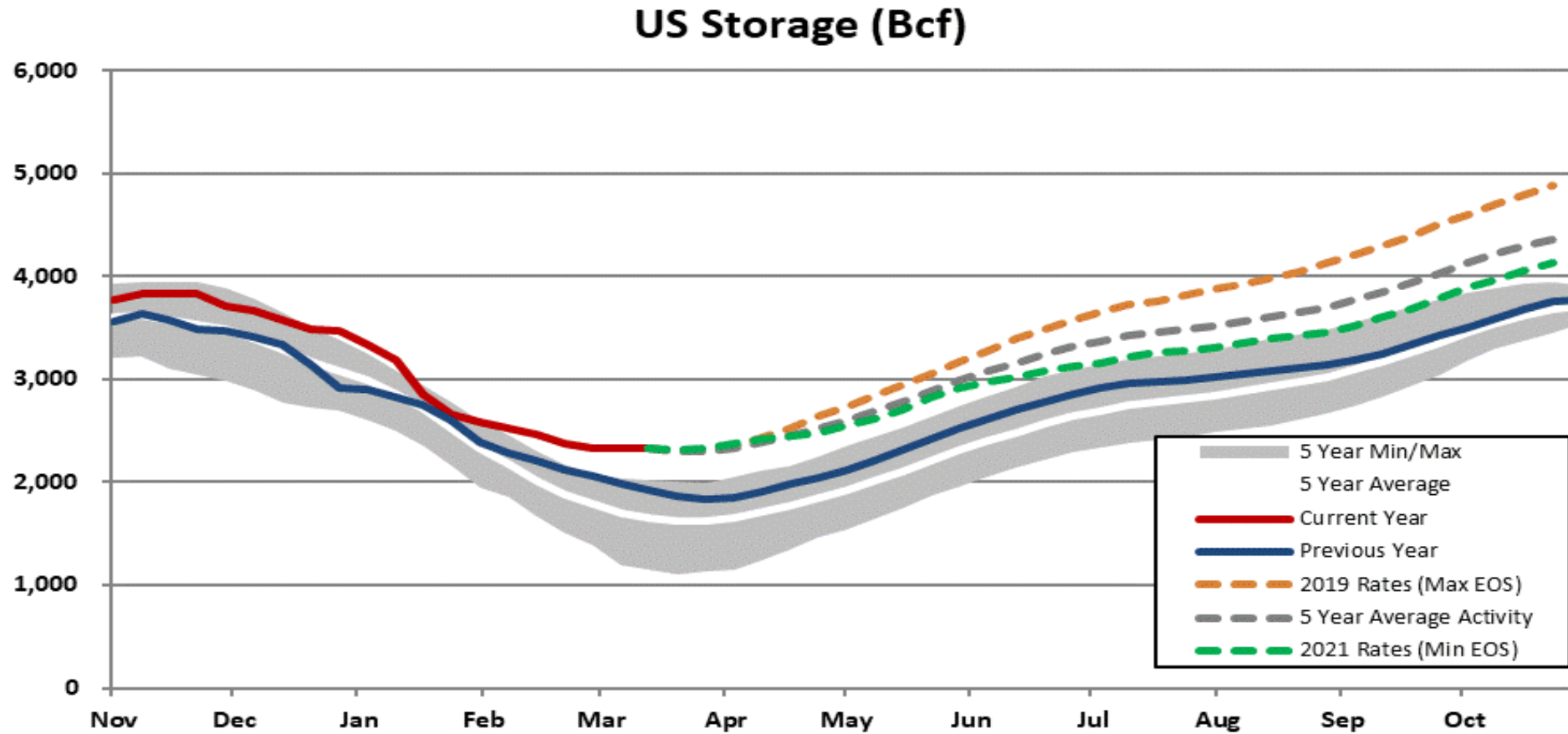
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US gas storage: Inventories are now at a 411 bcf surplus vs. previous year levels

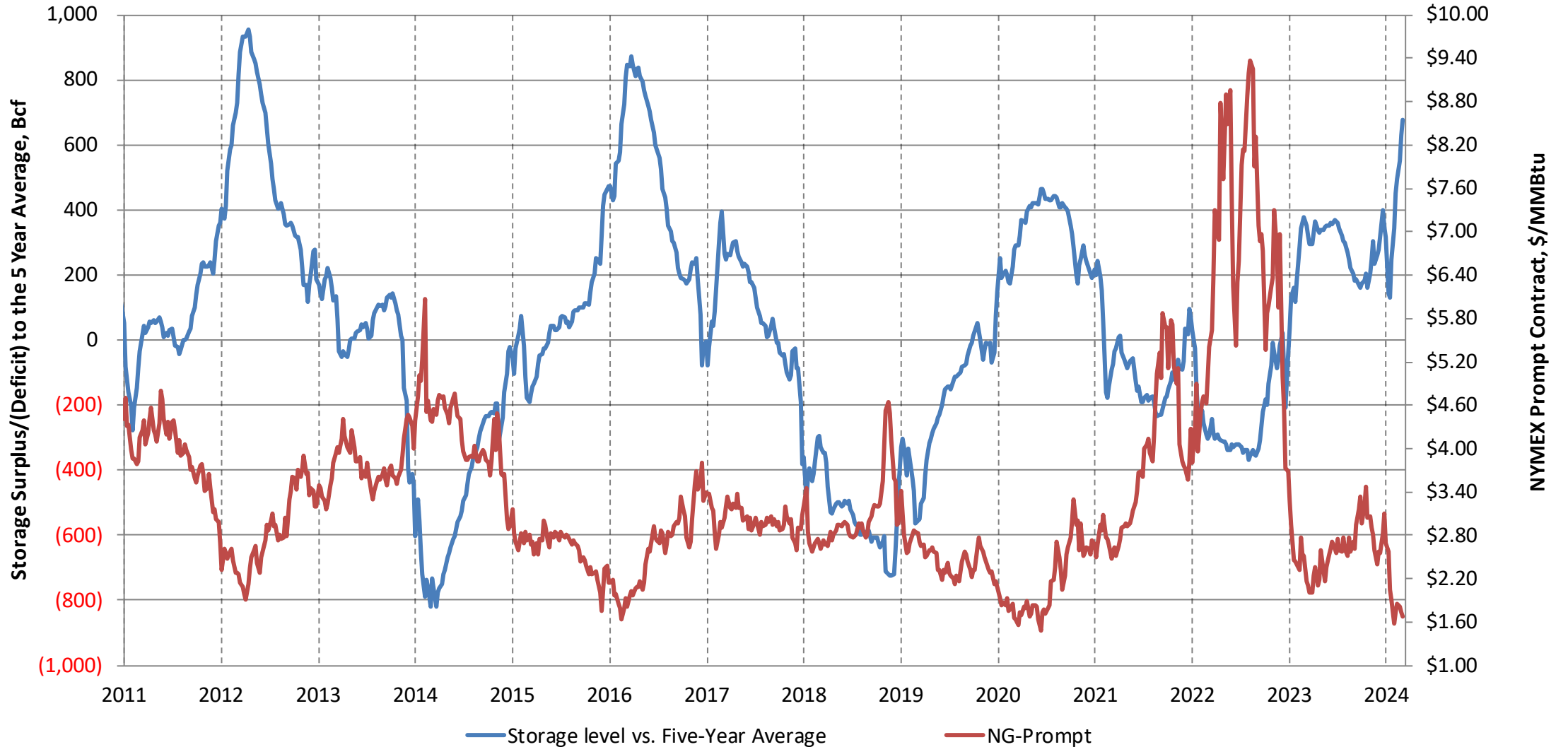
Source: EIA, 3/21/2024



Henry Hub remains correlated to storage; prices moved lower with the warm winter.



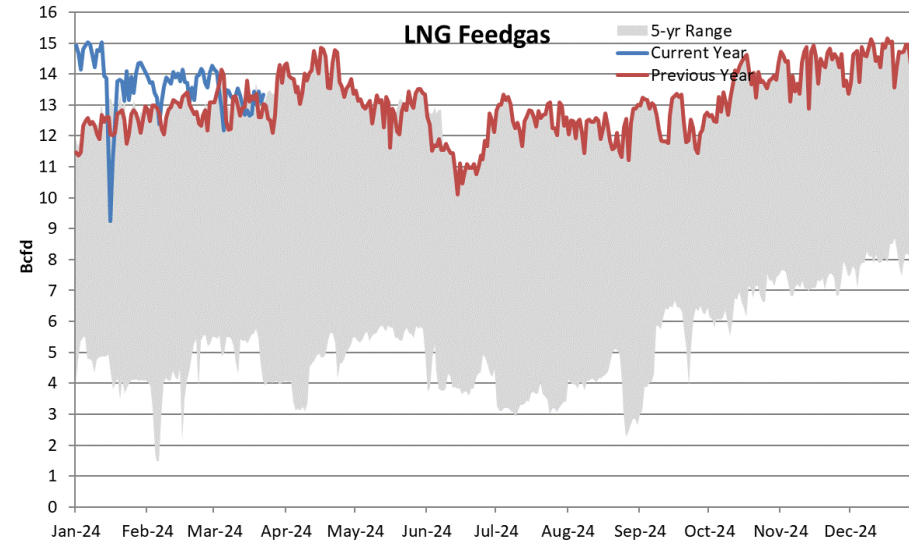
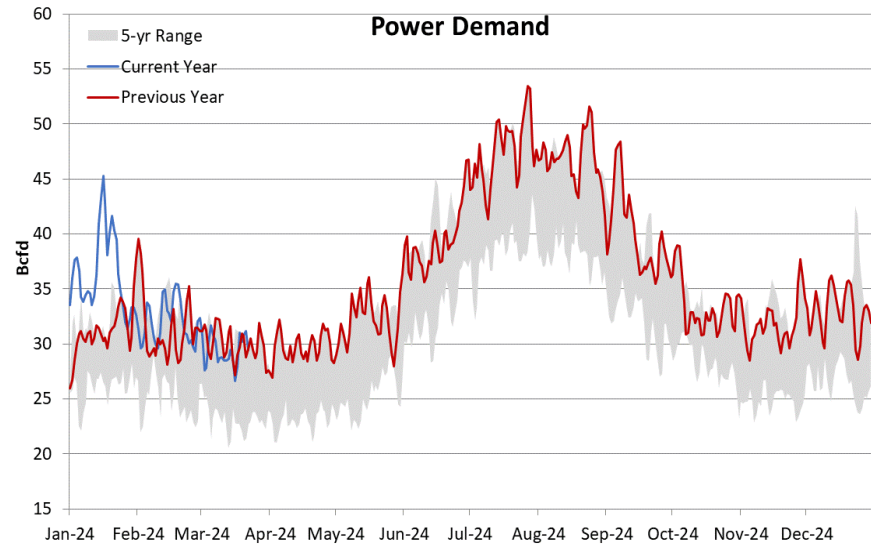
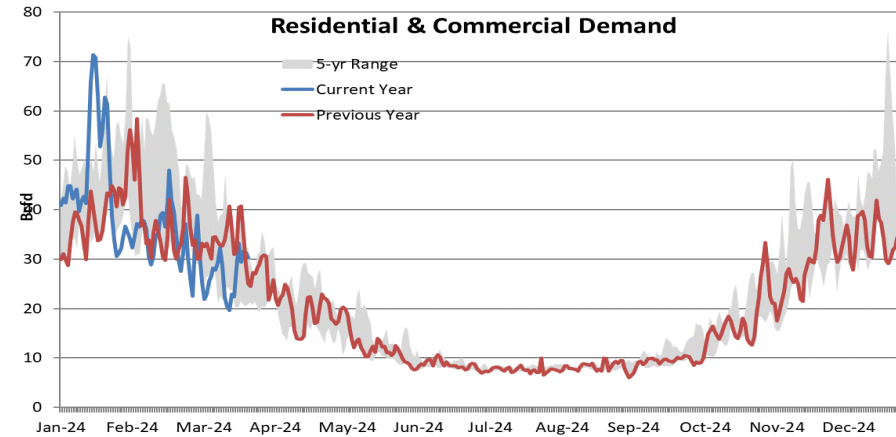
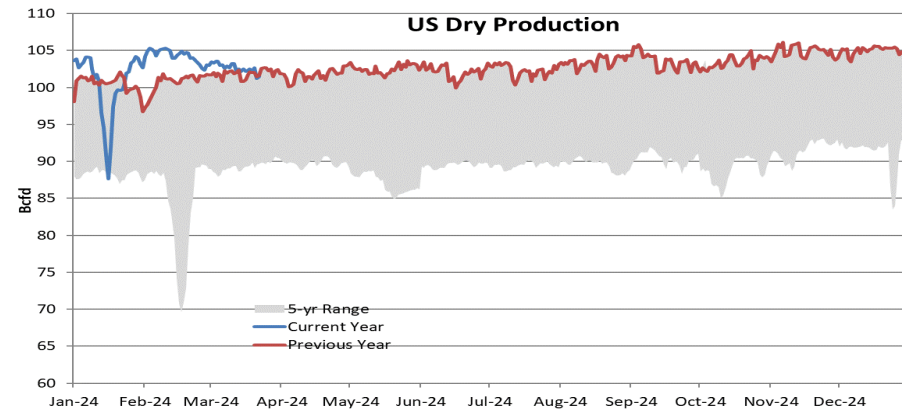
Source: EIA, 3/21/2024; NYMEX, 3/21/2024



LNG demand and production up YoY in Feb, Power burns and R/C flat y-o-y in Feb.



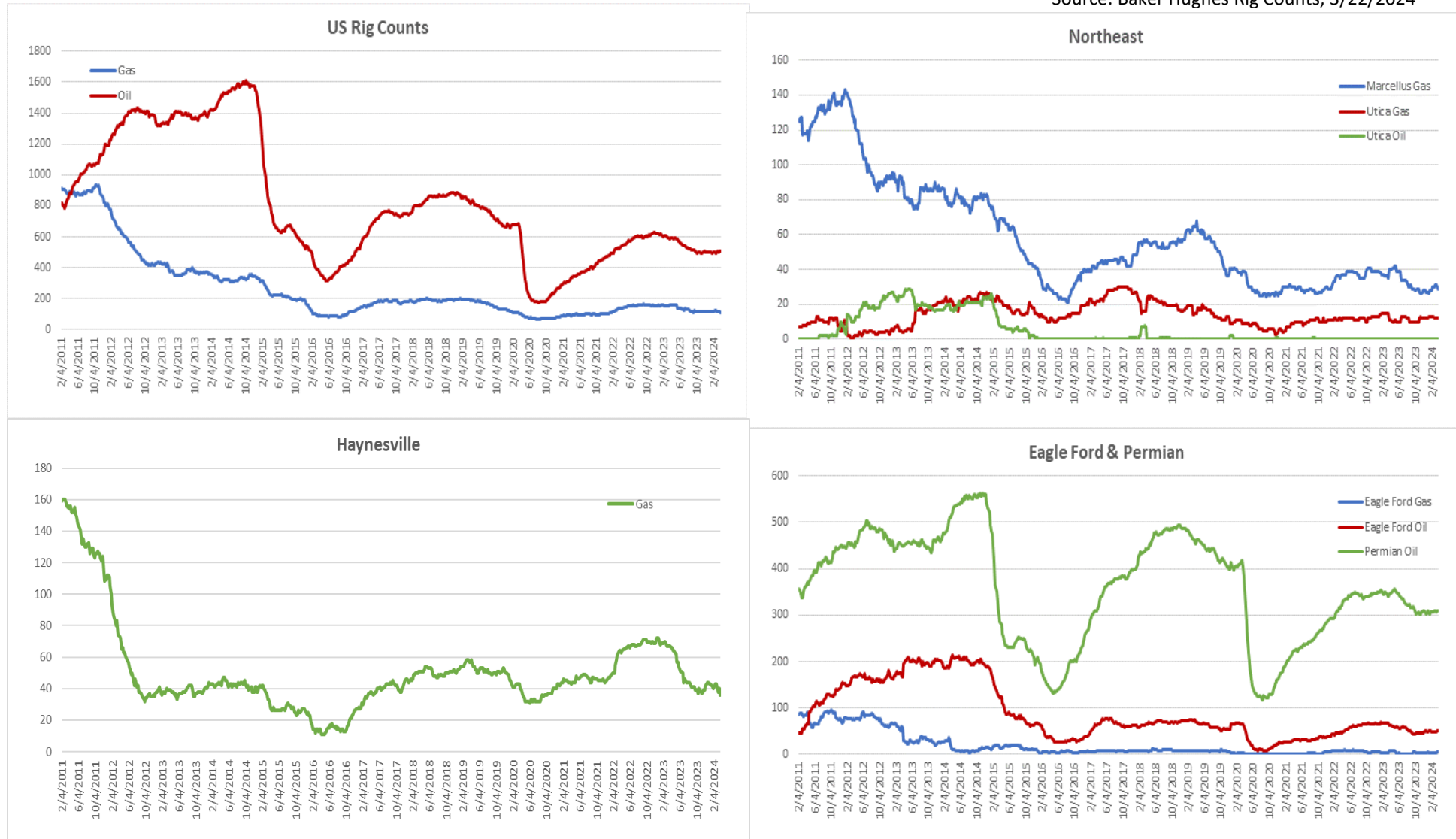
Source: S&P Global Platts Bentek Energy, 3/22/2024





Rig counts lower YoY in most plays with lower commodity prices

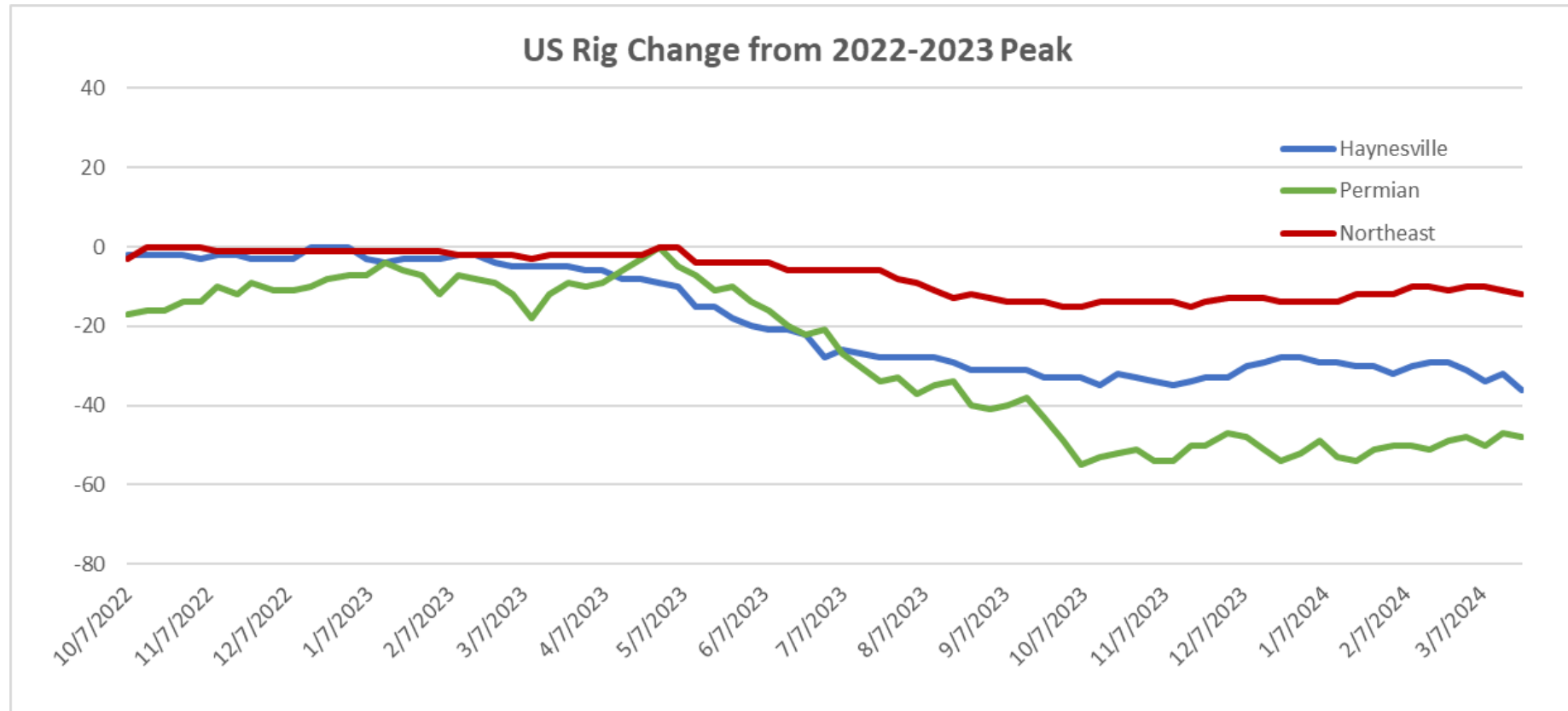
Source: Baker Hughes Rig Counts, 3/22/2024





Rig counts well below recent peaks in key US plays

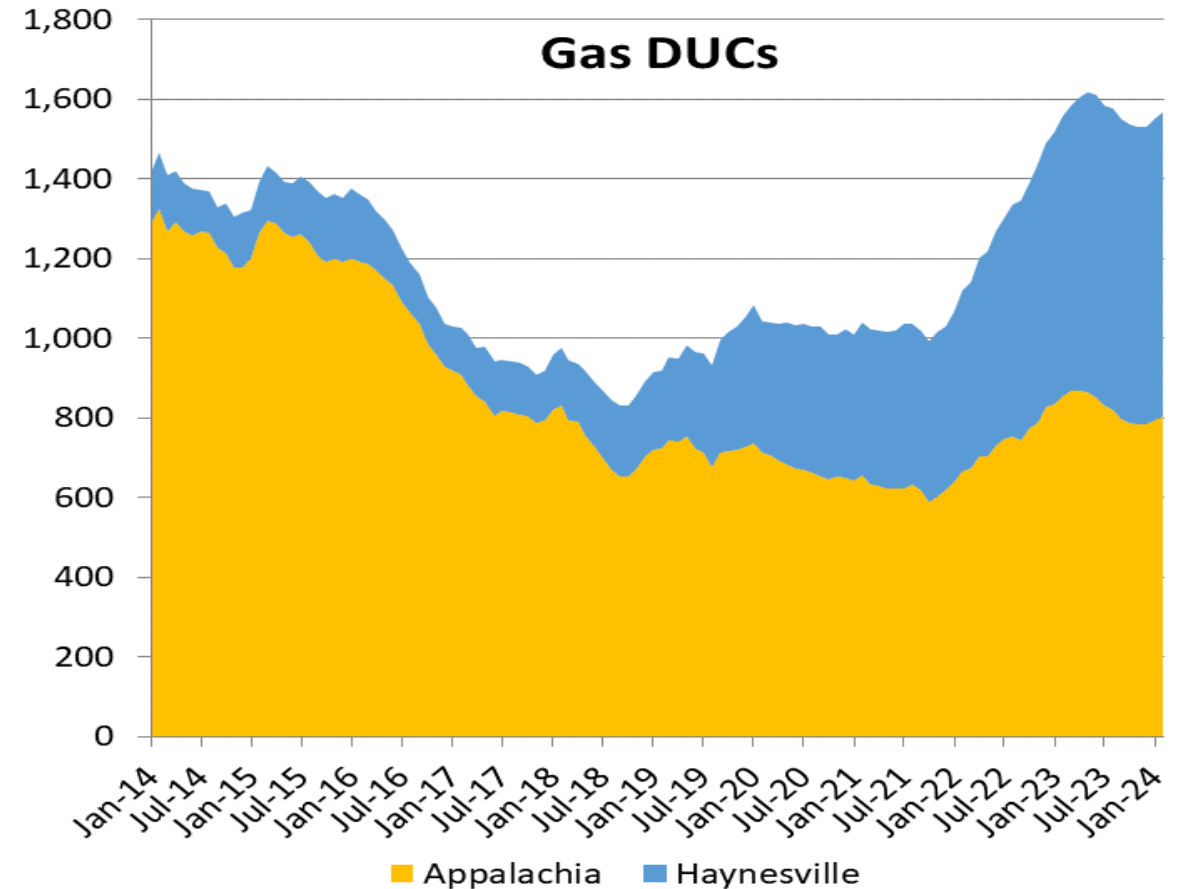
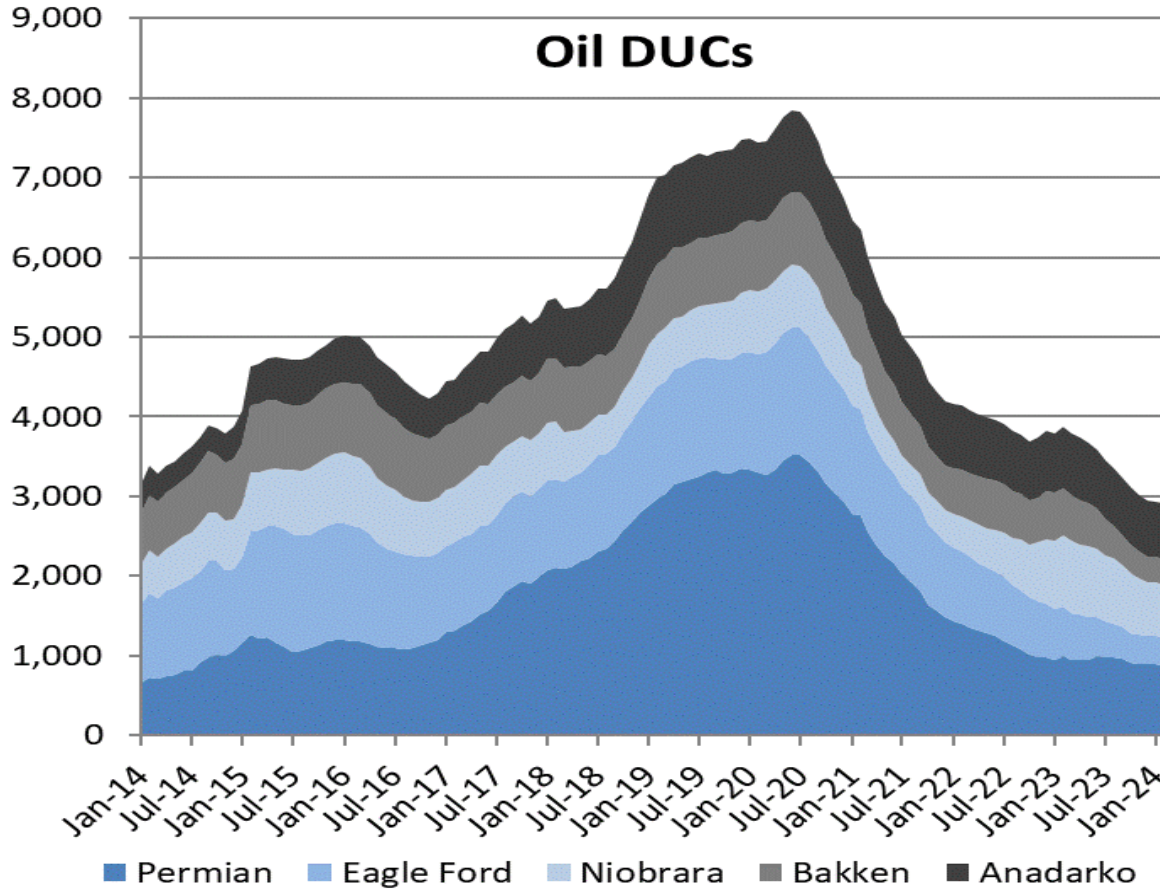
Source: Baker Hughes Rig Counts, 3/22/2024





EIA showing oil DUCs drawing, but gas DUCs building

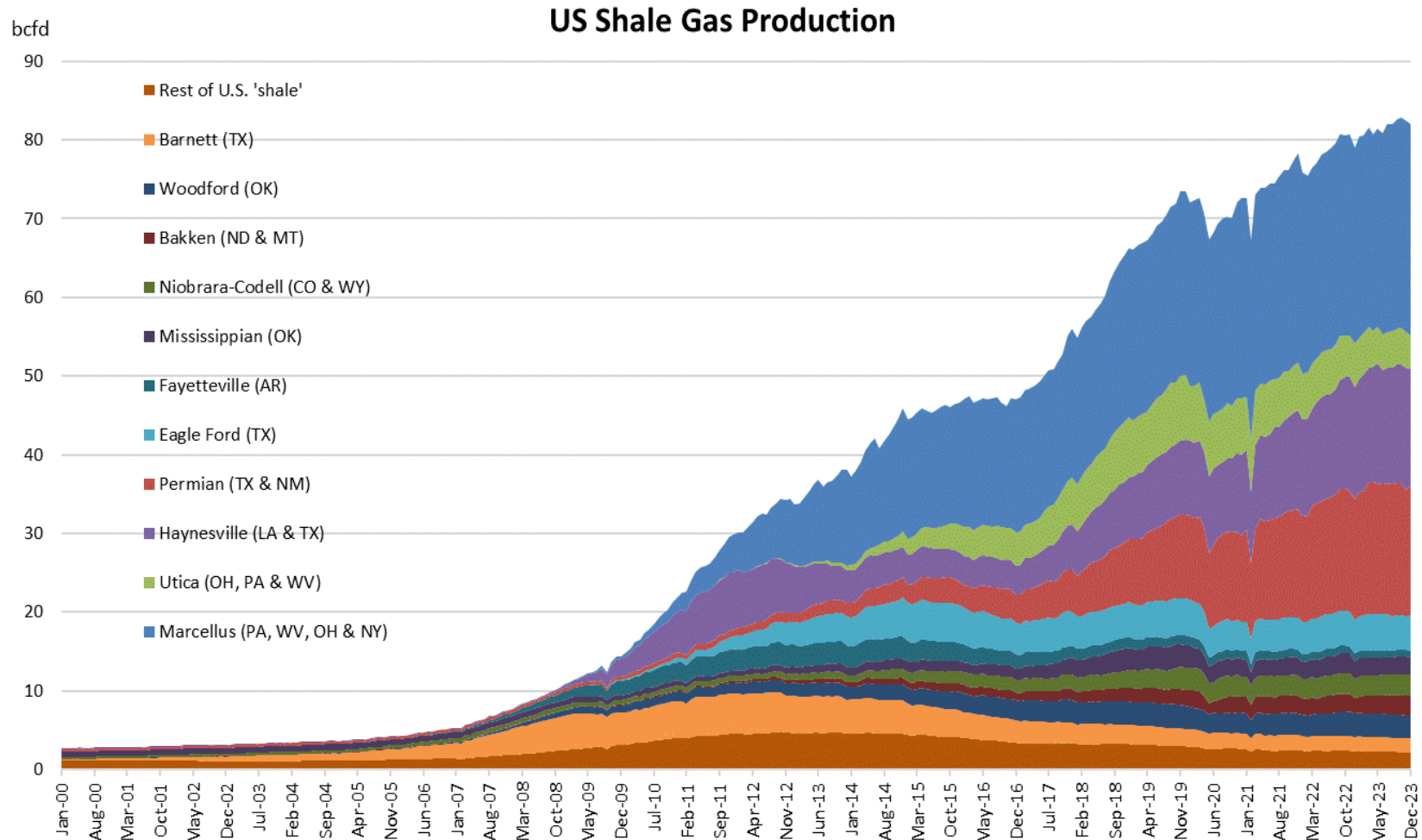
Source: EIA Drilling Productivity Report, March 2024



US Shale Gas Production: Oil prices supportive of Perm growth, will Haynesville growth continue?



Source: EIA Shale Gas Production, January 2024

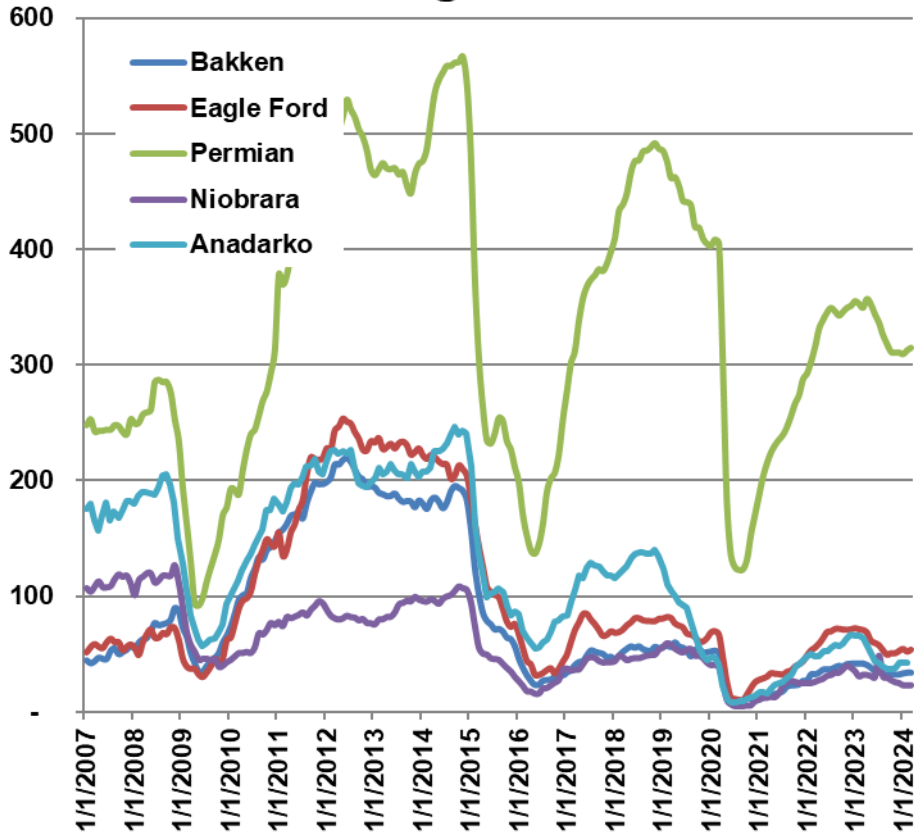


Unconventional oil plays have contributed to strong oil and gas production growth; Perm predicted to be a key driver going forward

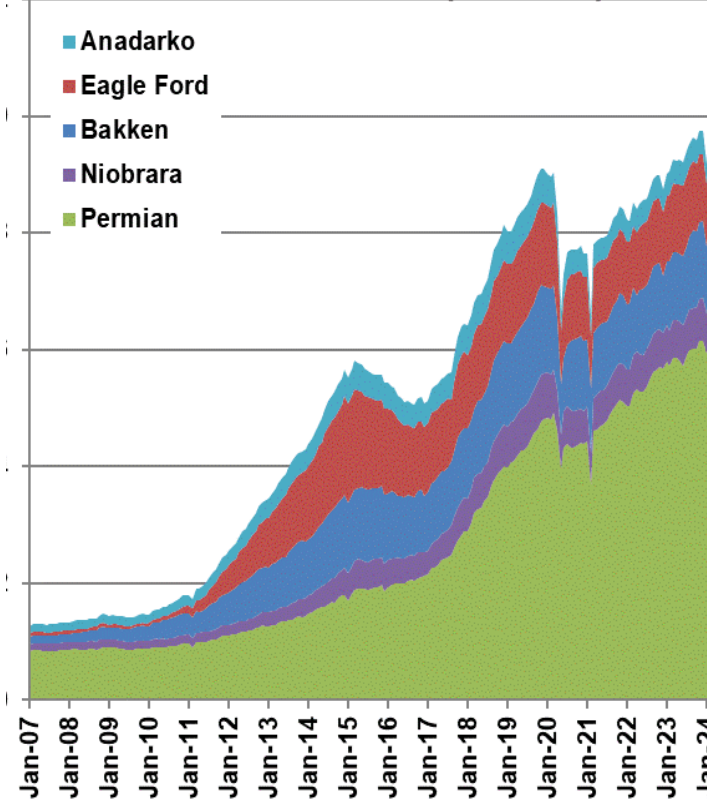


Source: EIA Drilling Productivity Report, March 2024

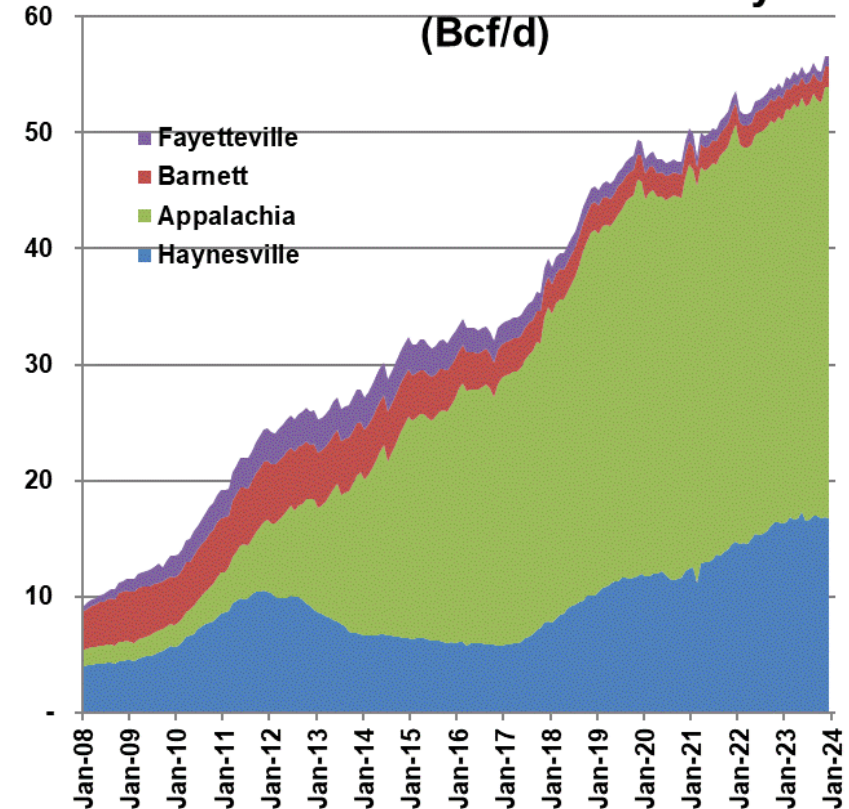
Rig Counts



Oil Production (MMb/d)



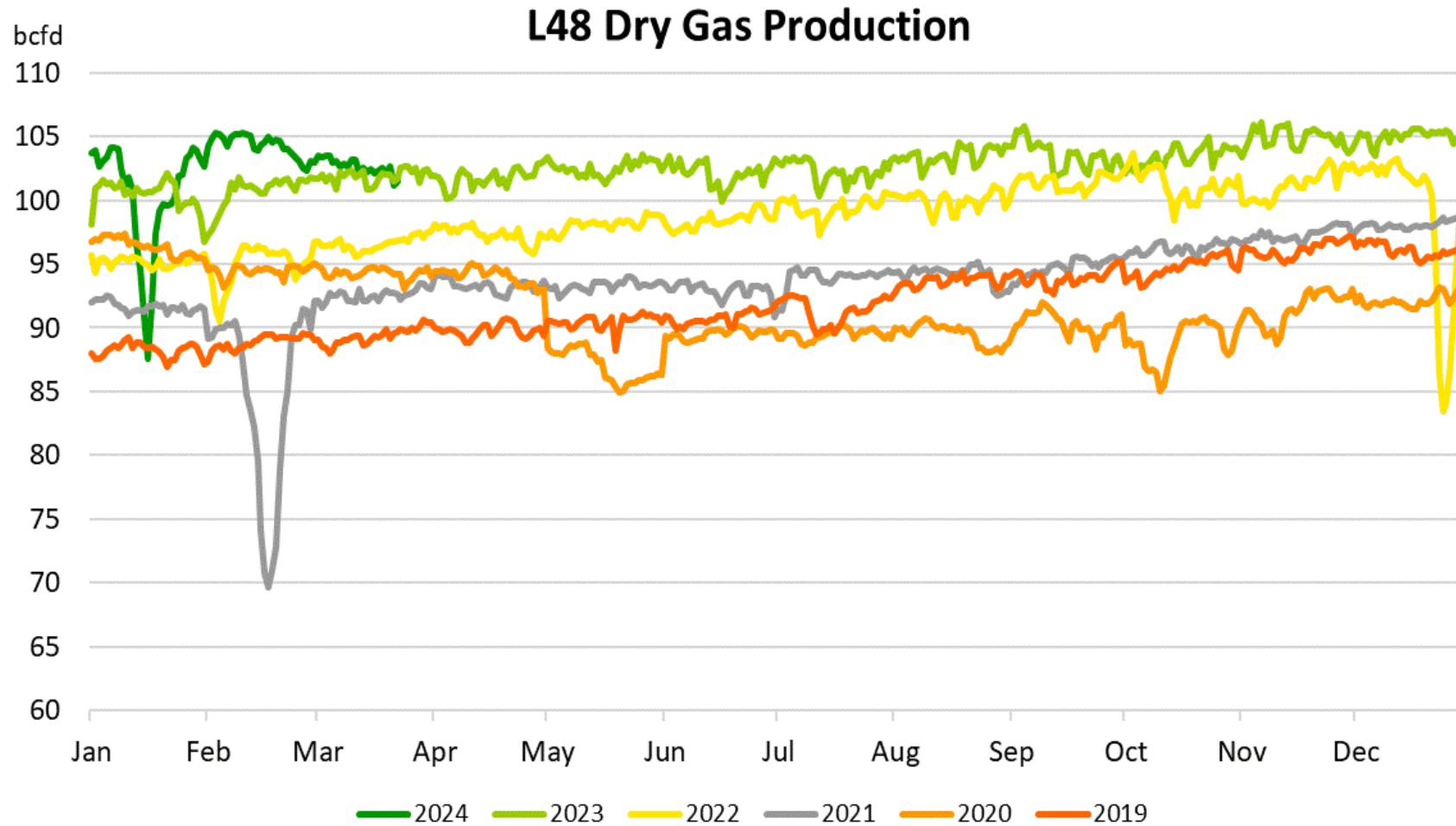
Gas Production from Gas Plays (Bcf/d)





Gas production steady with 480 active gas rigs

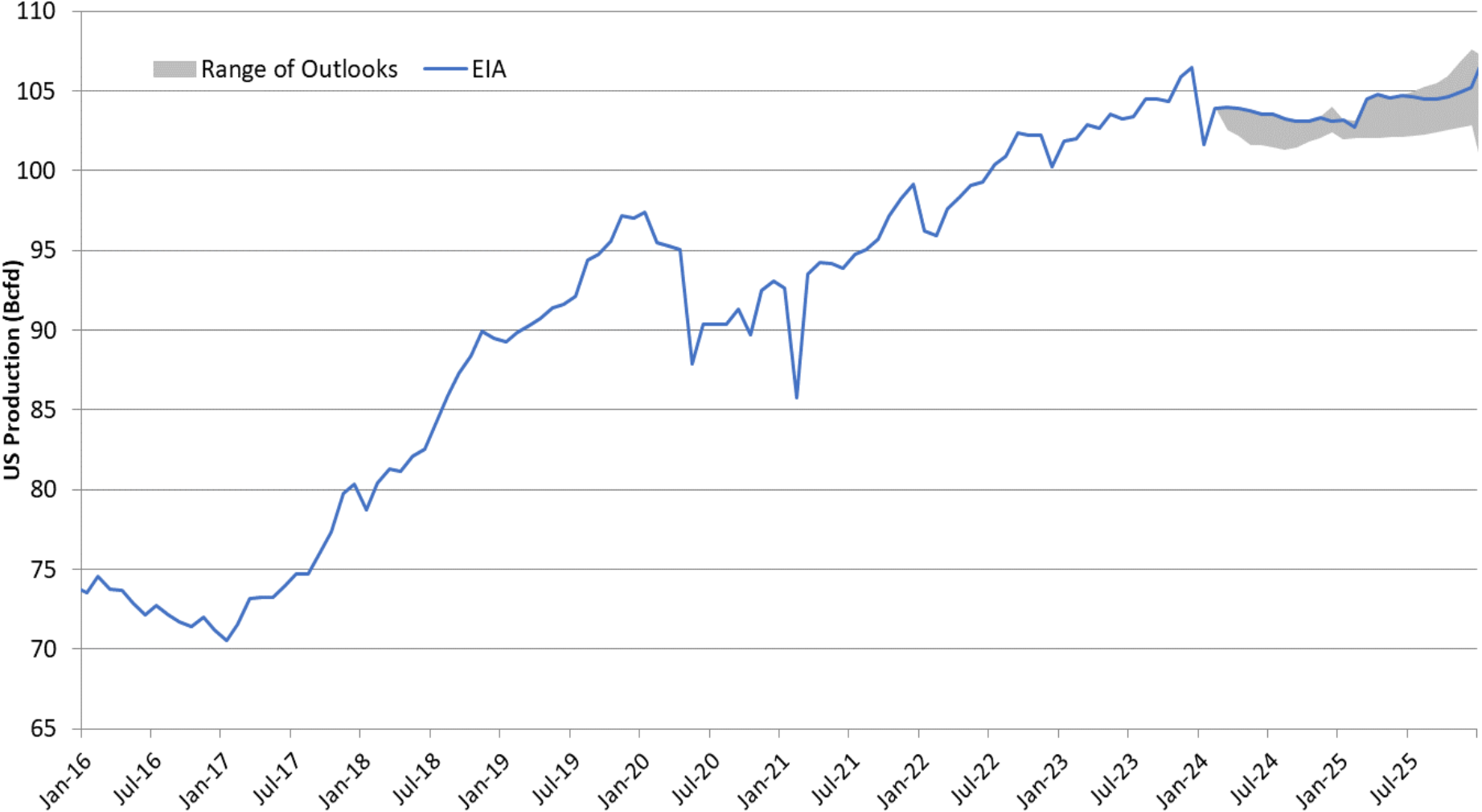
Source: S&P Global Platts Bentek Energy, 3/22/2024





US Production: Will growth continue or could declines emerge in the current price environment?

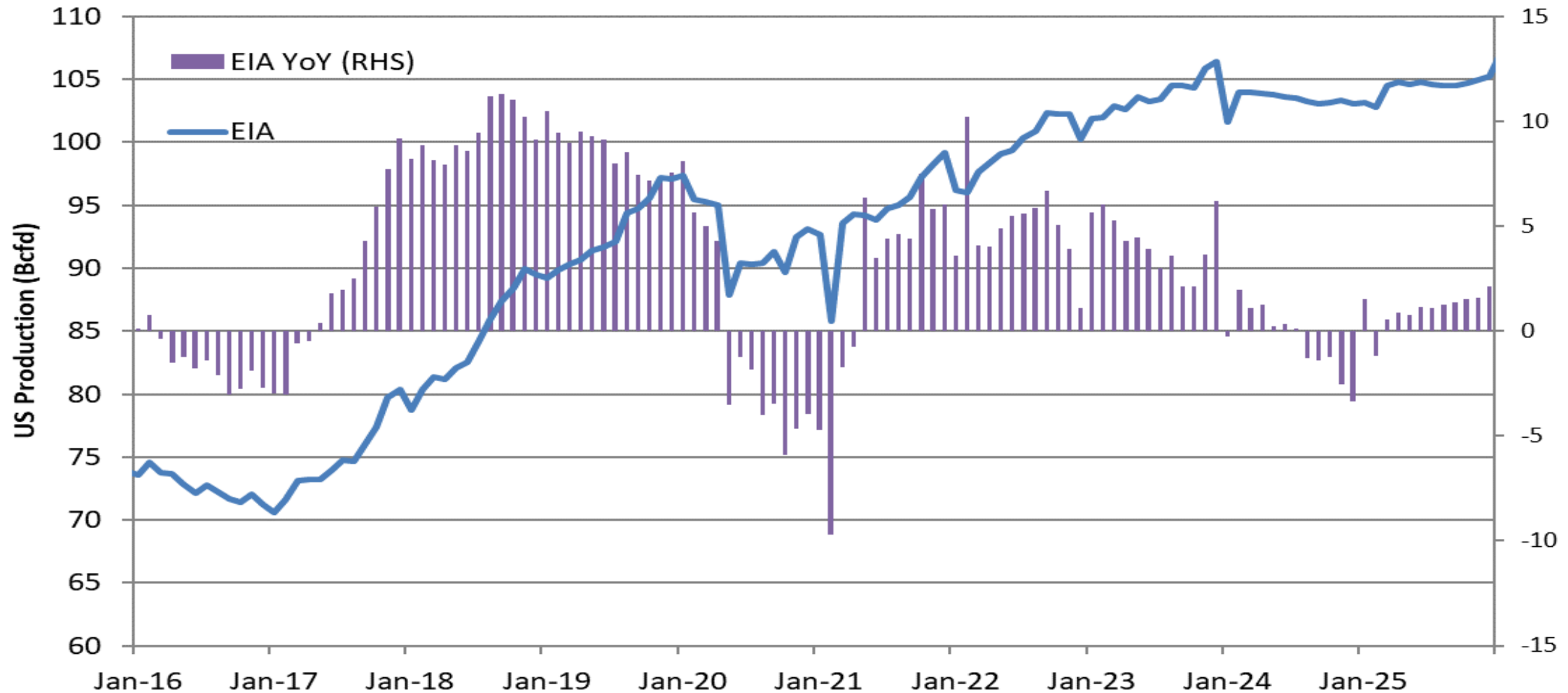
Source: EIA STEO, Various External Consultants, March 2024



US Production: EIA predicting production to continue growing midway into 2024, but at a lower pace than 2023. EIA predicting production declines in the 2H of 2024.



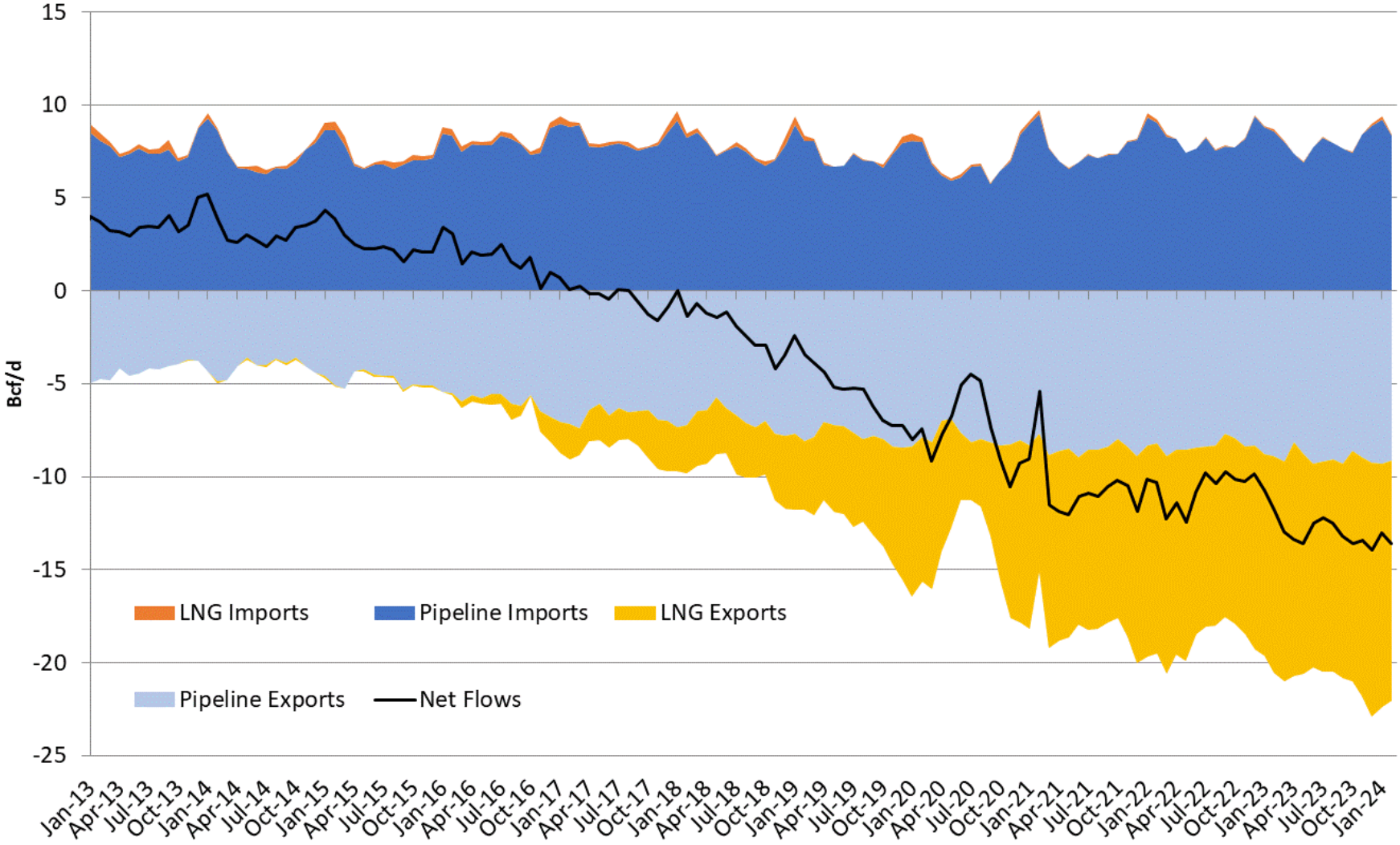
Source: EIA STEO, March 2024



The US has shifted to being a net gas exporter with LNG capacity additions



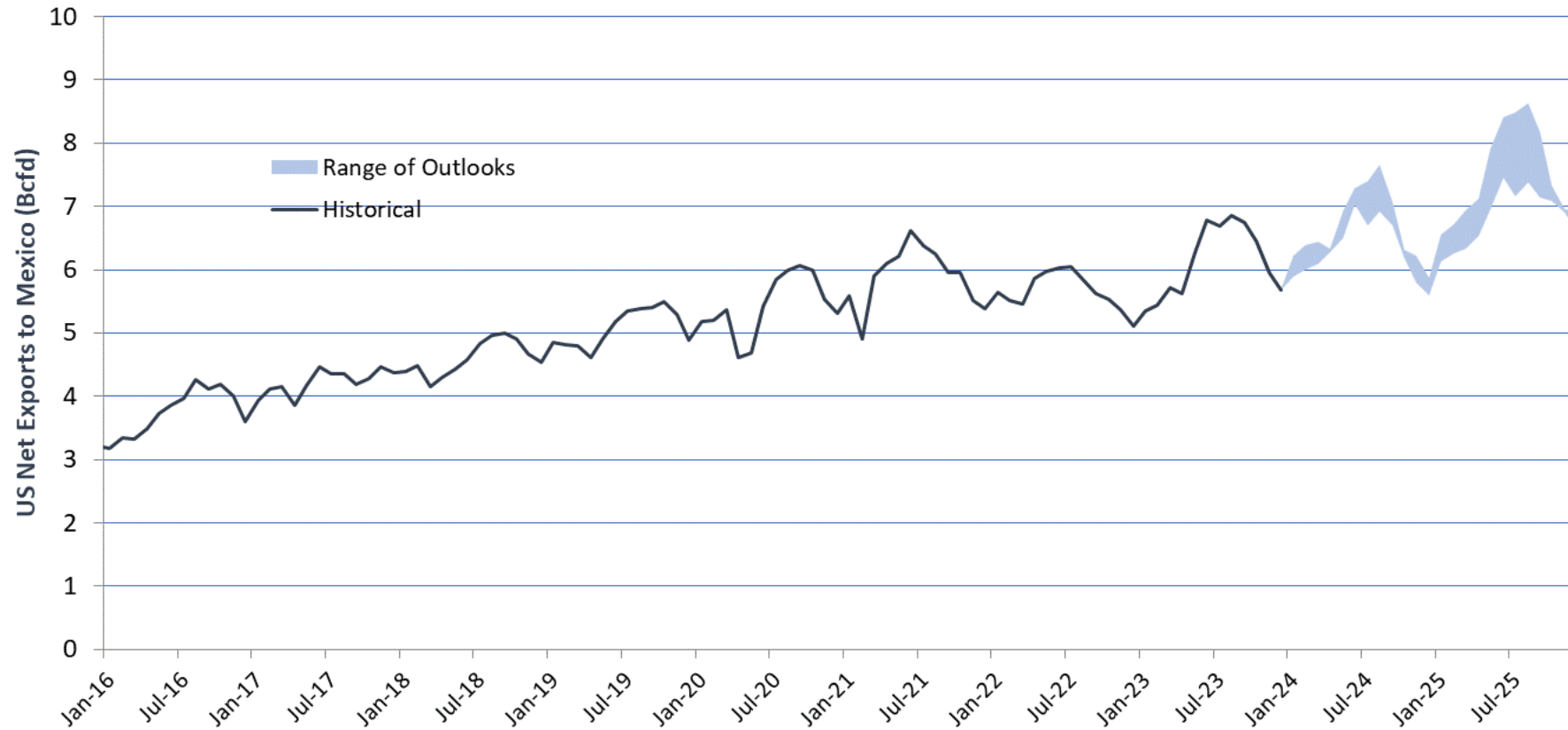
Source: EIA STEO March 2024



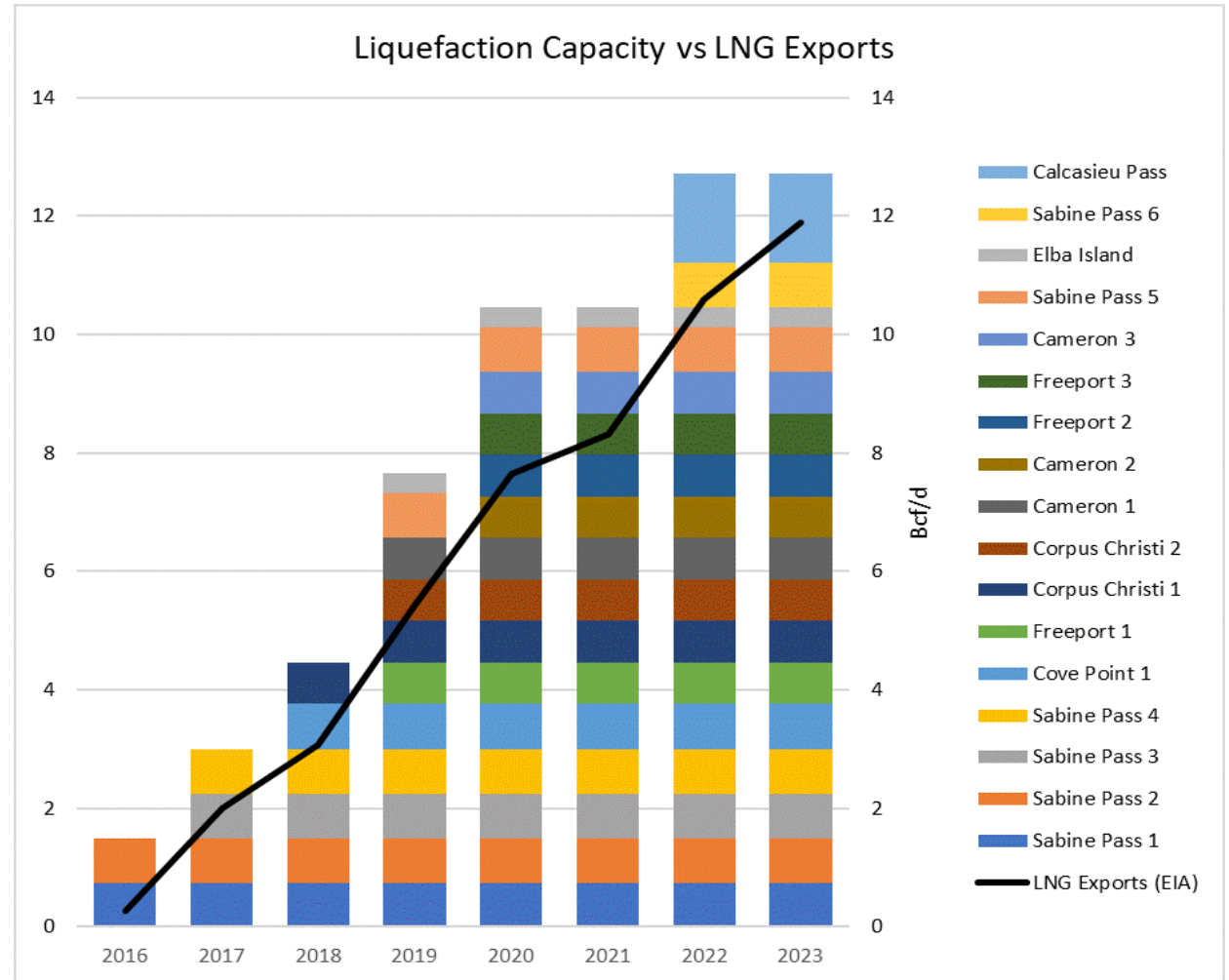
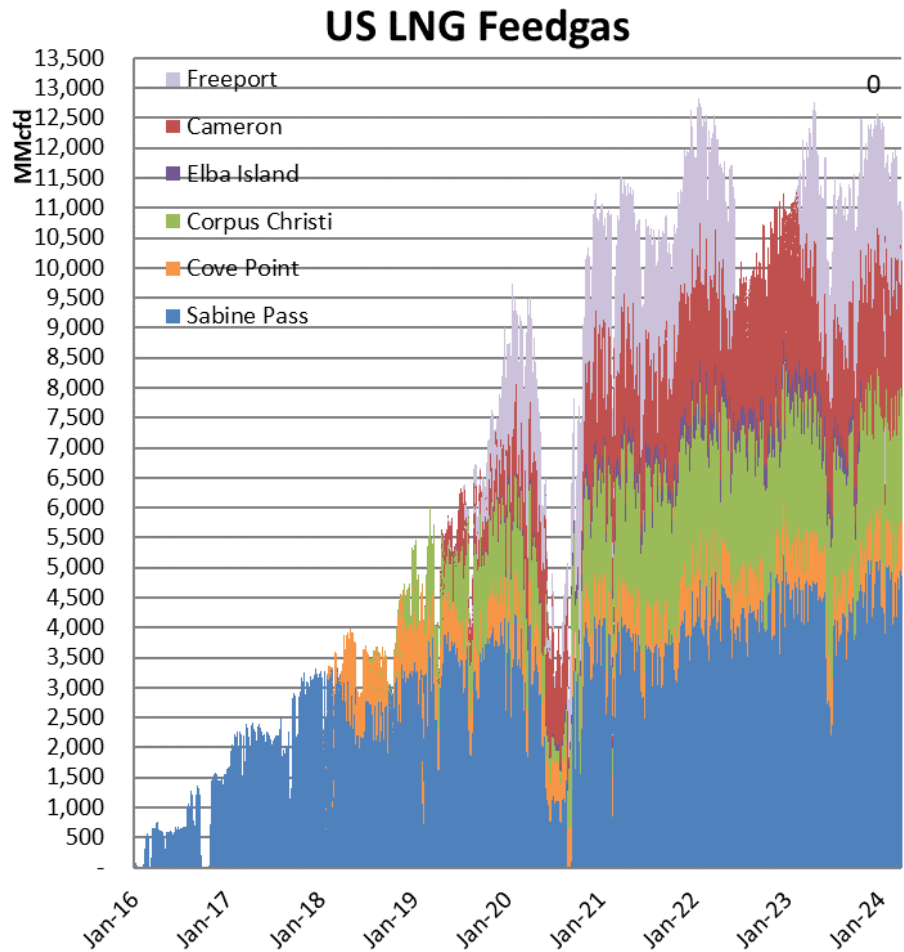
US Gas Exports to Mexico: Mexico liquefaction to drive more US pipeline exports?



Source: Various External Consultants, February 2024



LNG Exports: Export capacity has surpassed 14 bcf/d; Total exports impacted by Freeport outage

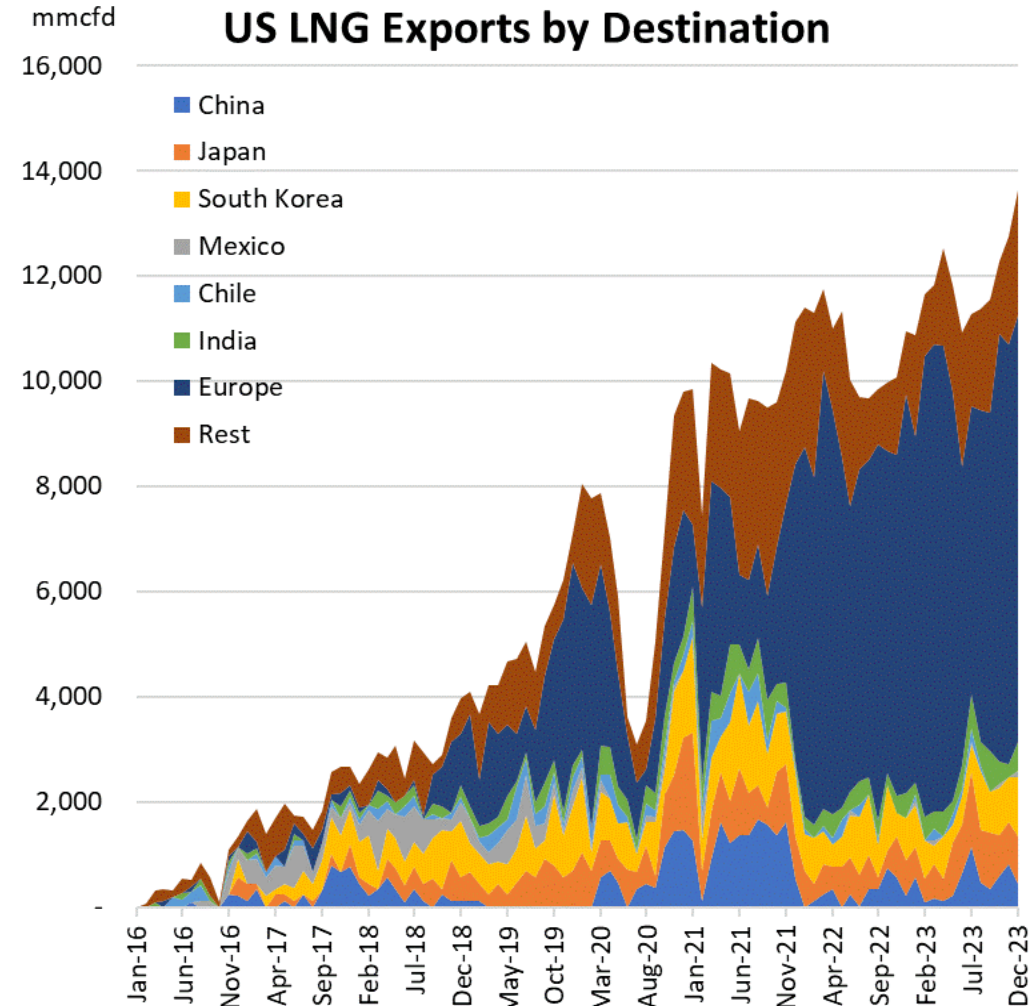
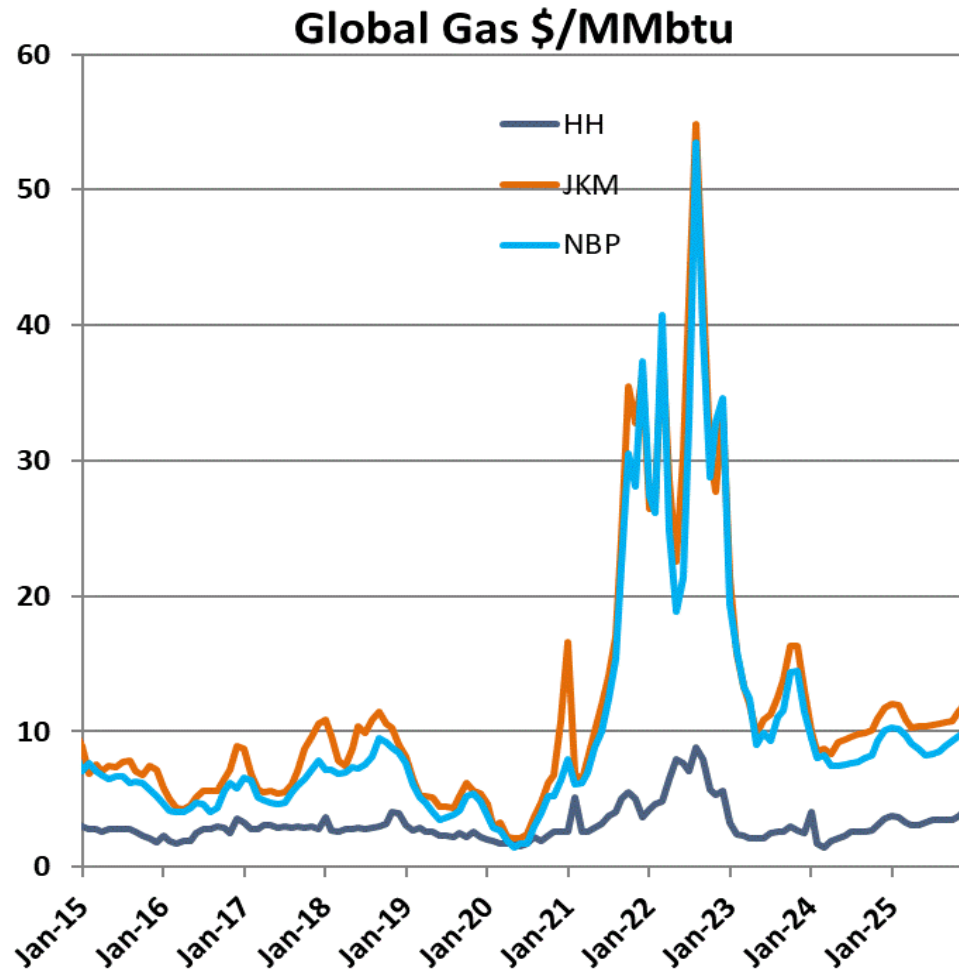


US Natural Gas Exports: International forwards off 2022 highs on a warm winter and elevated inventories



Source: NYMEX, ICE, Heren, 3/5/2024

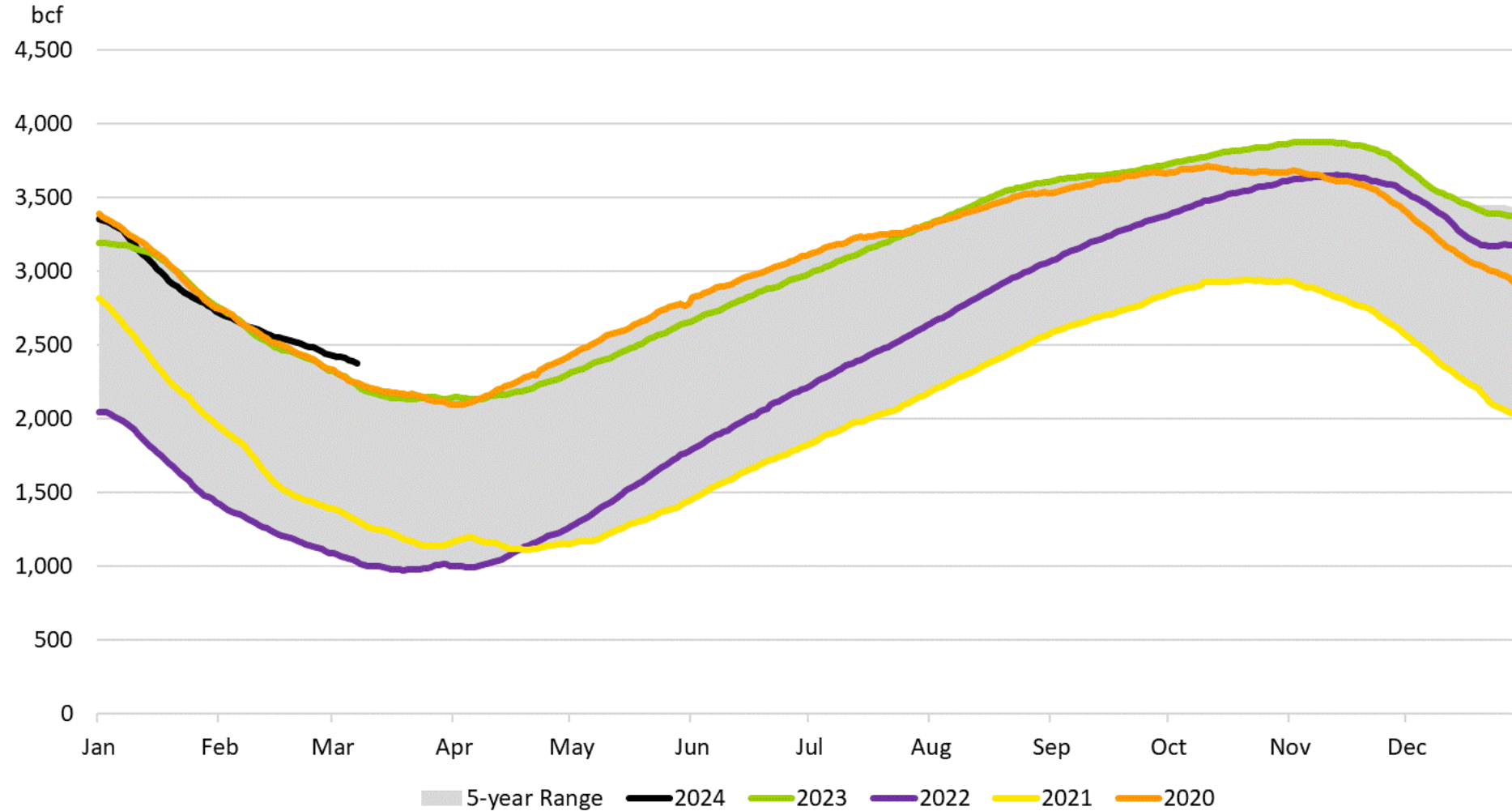
Source: EIA, February 2024



European gas storage levels continue to be elevated versus the 5-year range



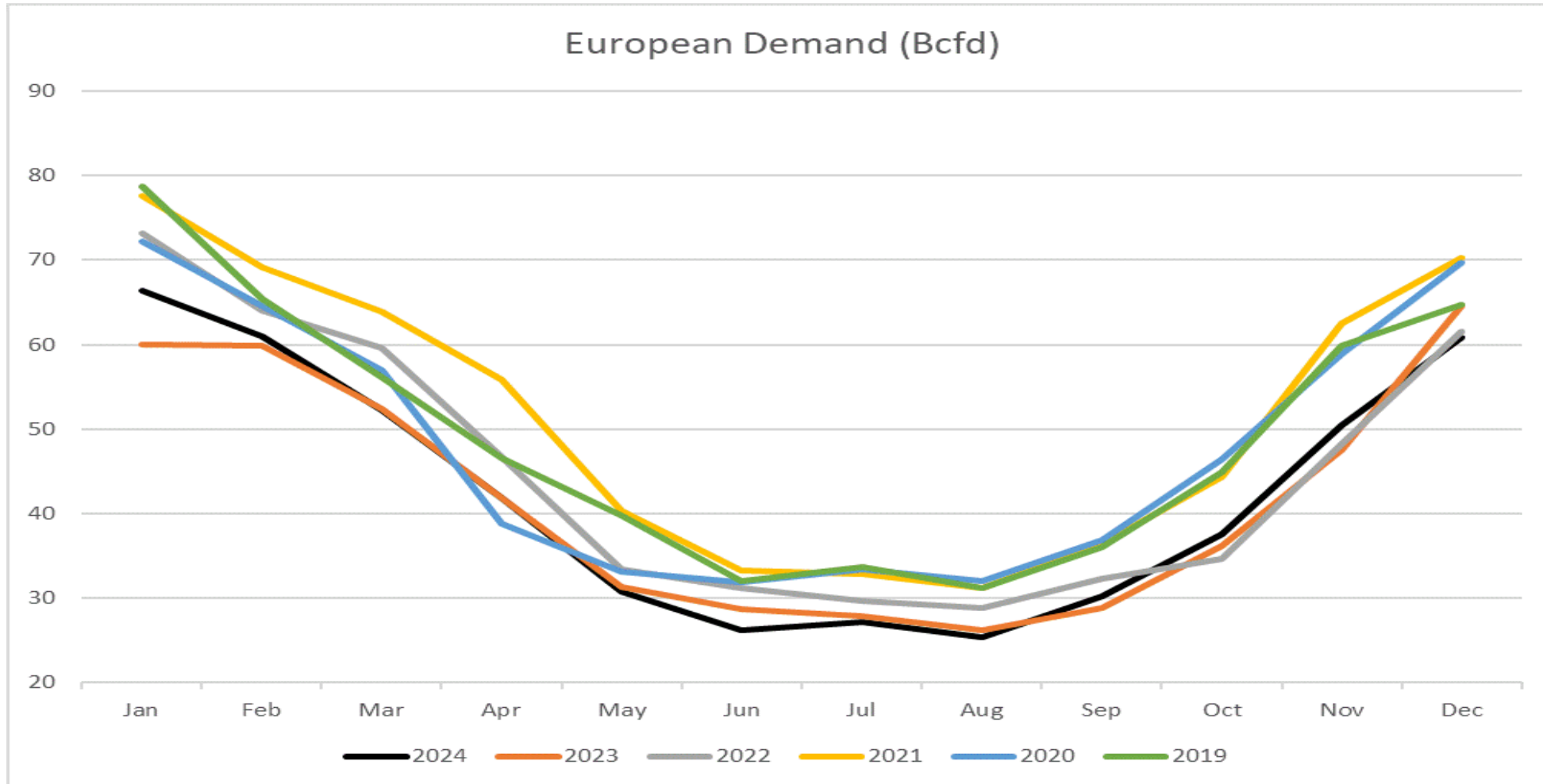
Source: GIE Storage, 3/7/2024



Wood Mac estimating 2024 European gas demand to be roughly in line with 2023 levels



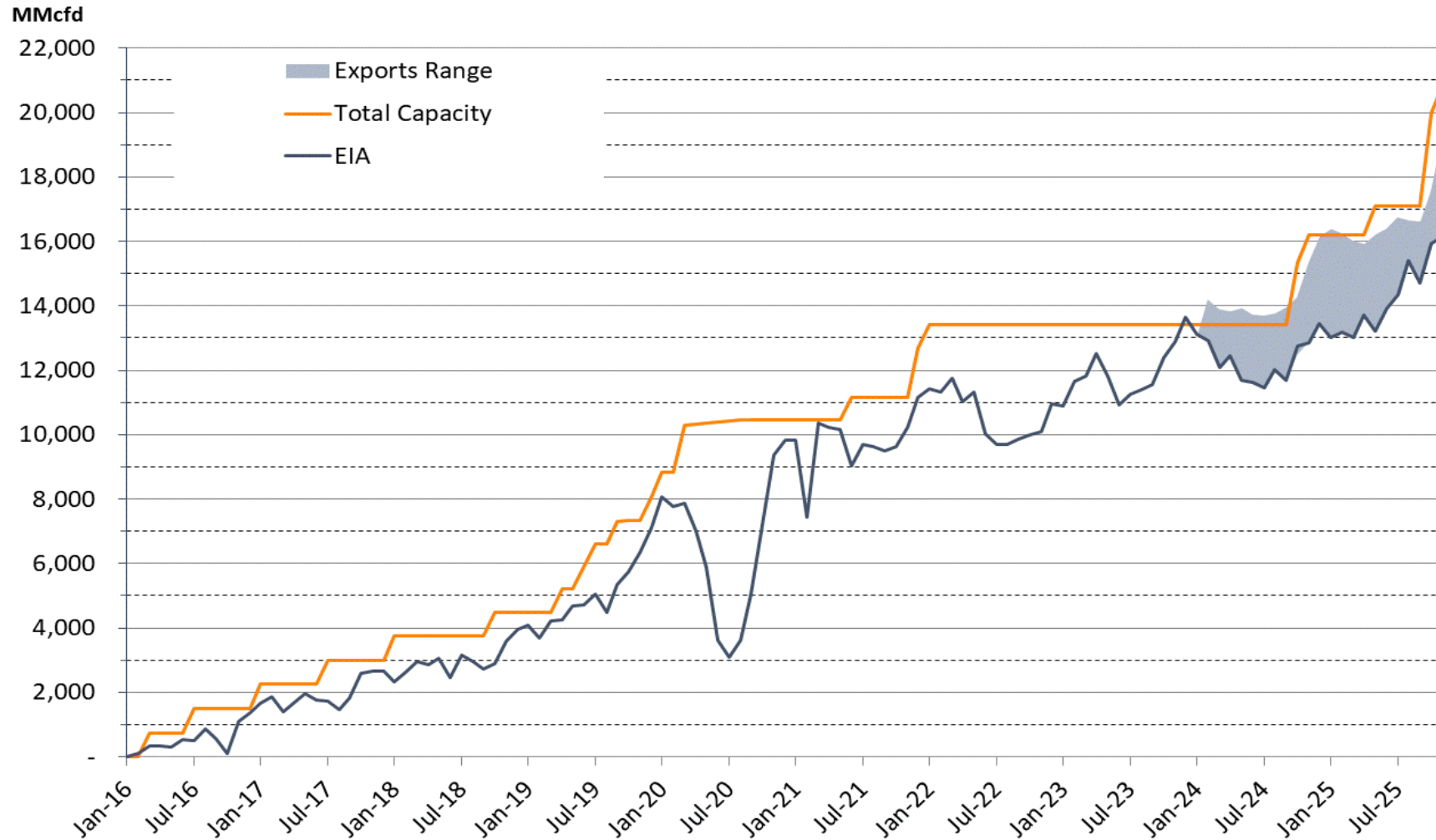
Source: Wood Mackenzie European gas and power markets short-term outlook, Q4 2023



LNG Exports vs Capacity: Liquefaction additions in 2024 now look to be towards the back end of the year



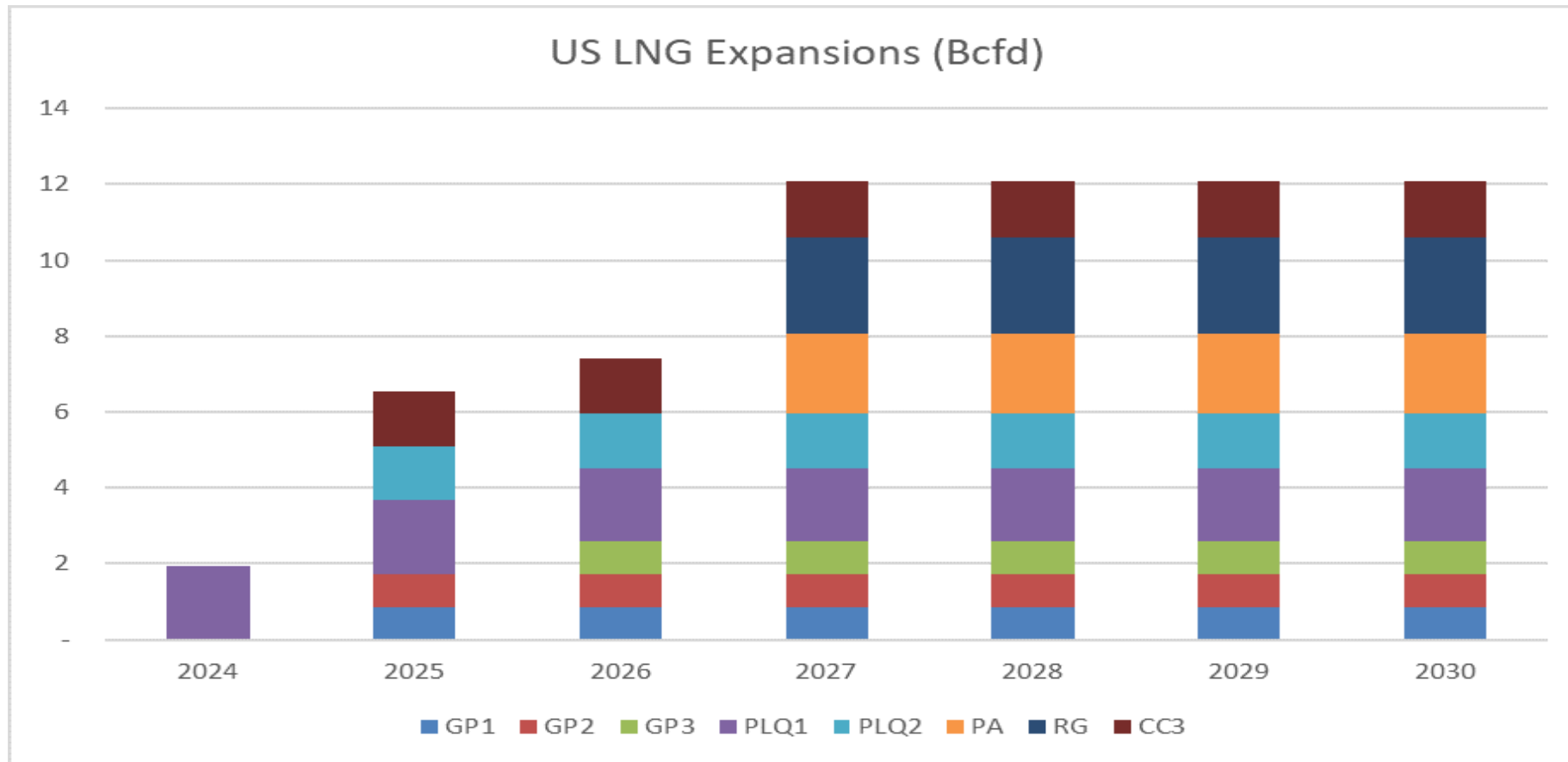
Source: Various External Sources, EIA STEO, March 2024





Over 12 Bcfd of new US LNG capacity is under construction or has made positive FID (end of year capacity shown)

Source: Various External Sources, December 2023

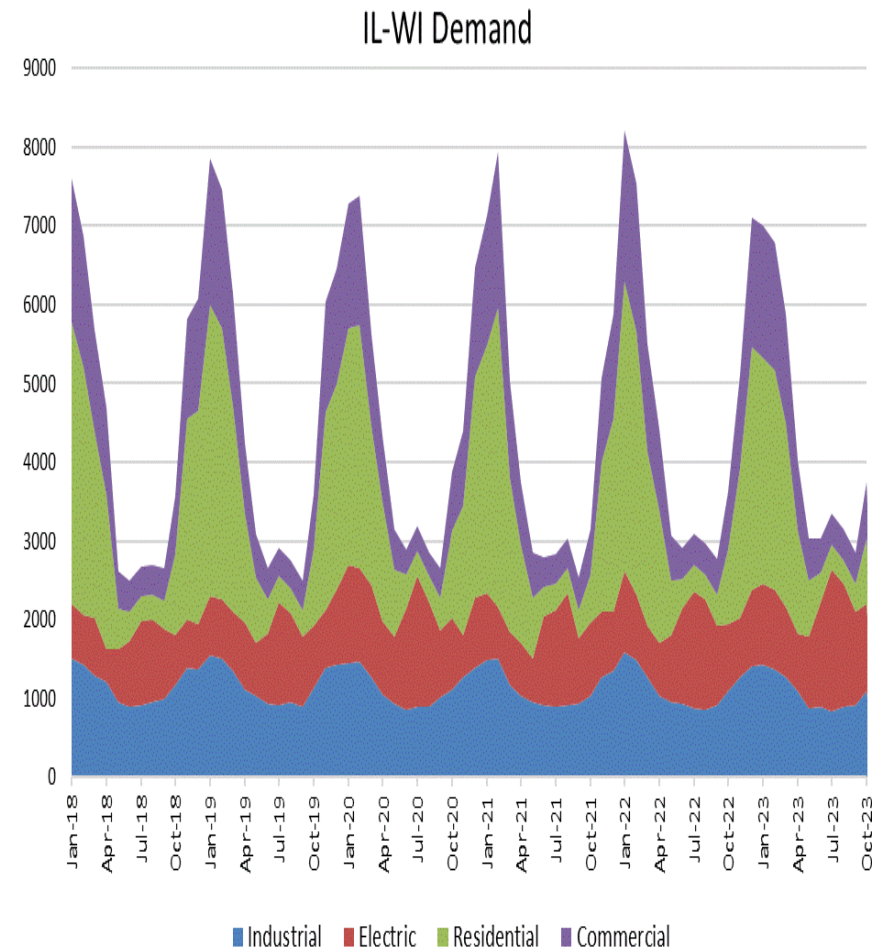
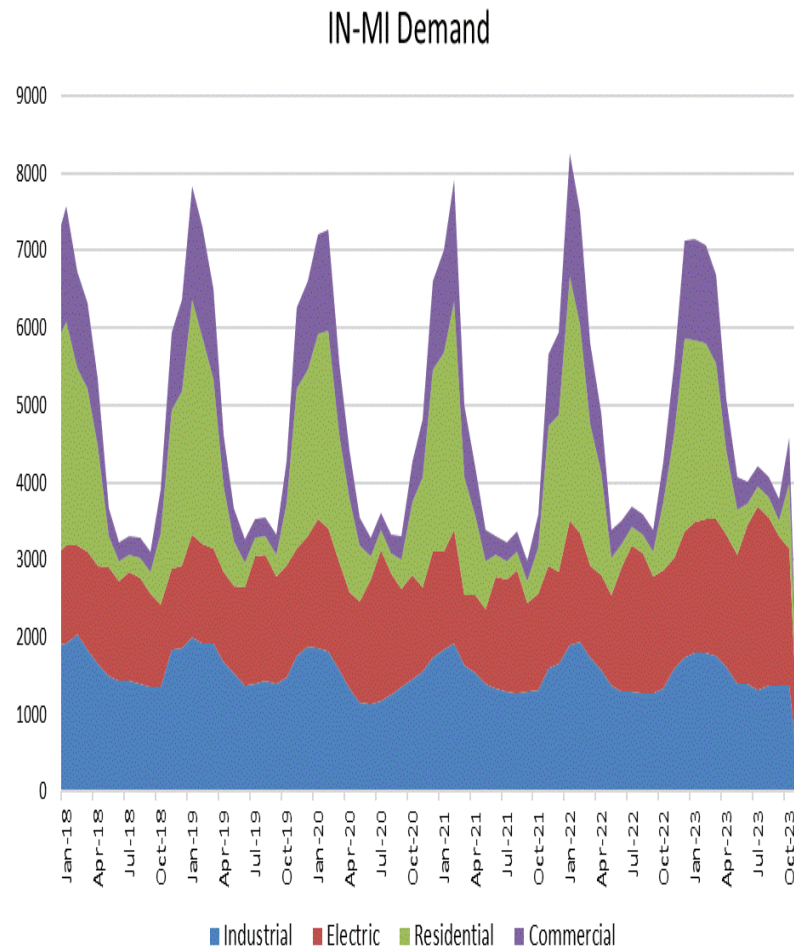
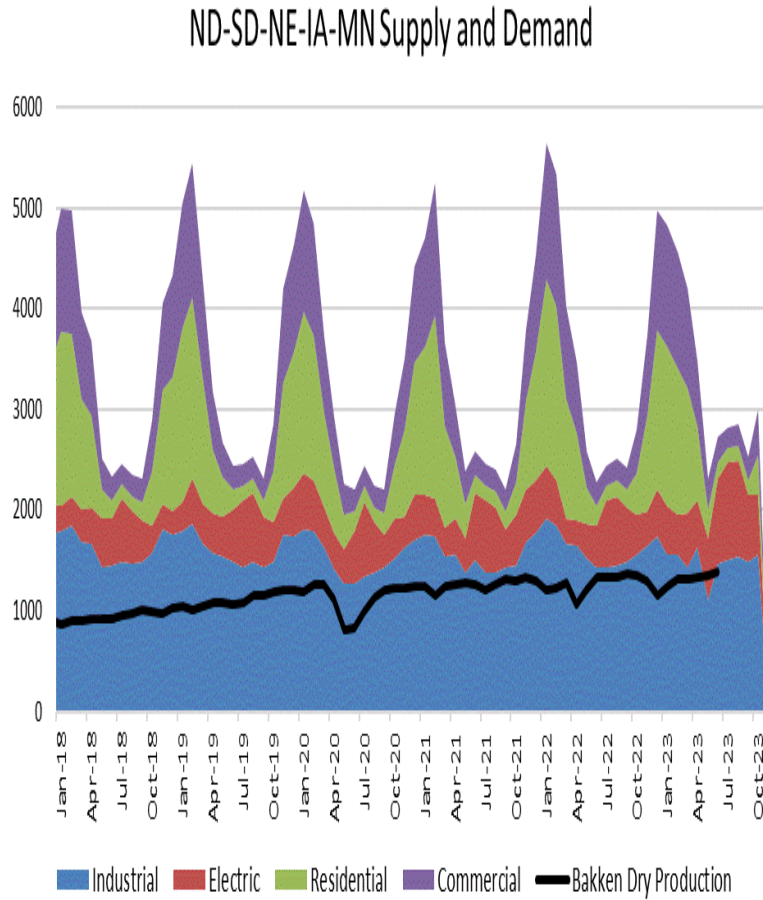


In addition to US capacity depicted, roughly 2.4 Bcfd of export capacity in Canada and 0.5 Bcfd in Mexico is under construction

Midwest Market Snapshot: May - Sept 2023 demand up YoY on extreme summer heat



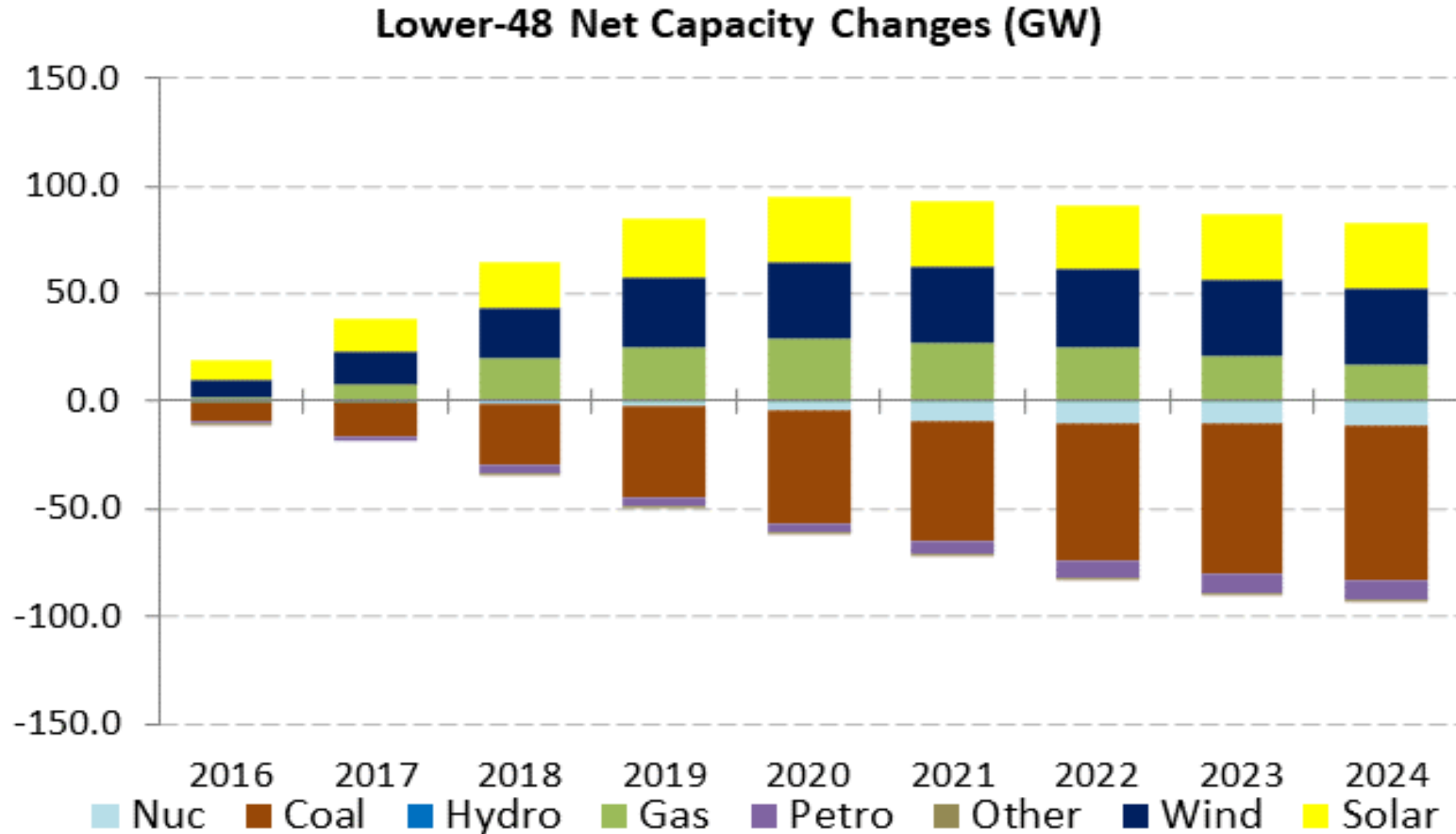
Source: EIA, Natural Gas Monthly, January 2024





Lower-48 U.S. net capacity changes: Increasing retirements in coal, nuc, and petro aided by higher gas & renewables

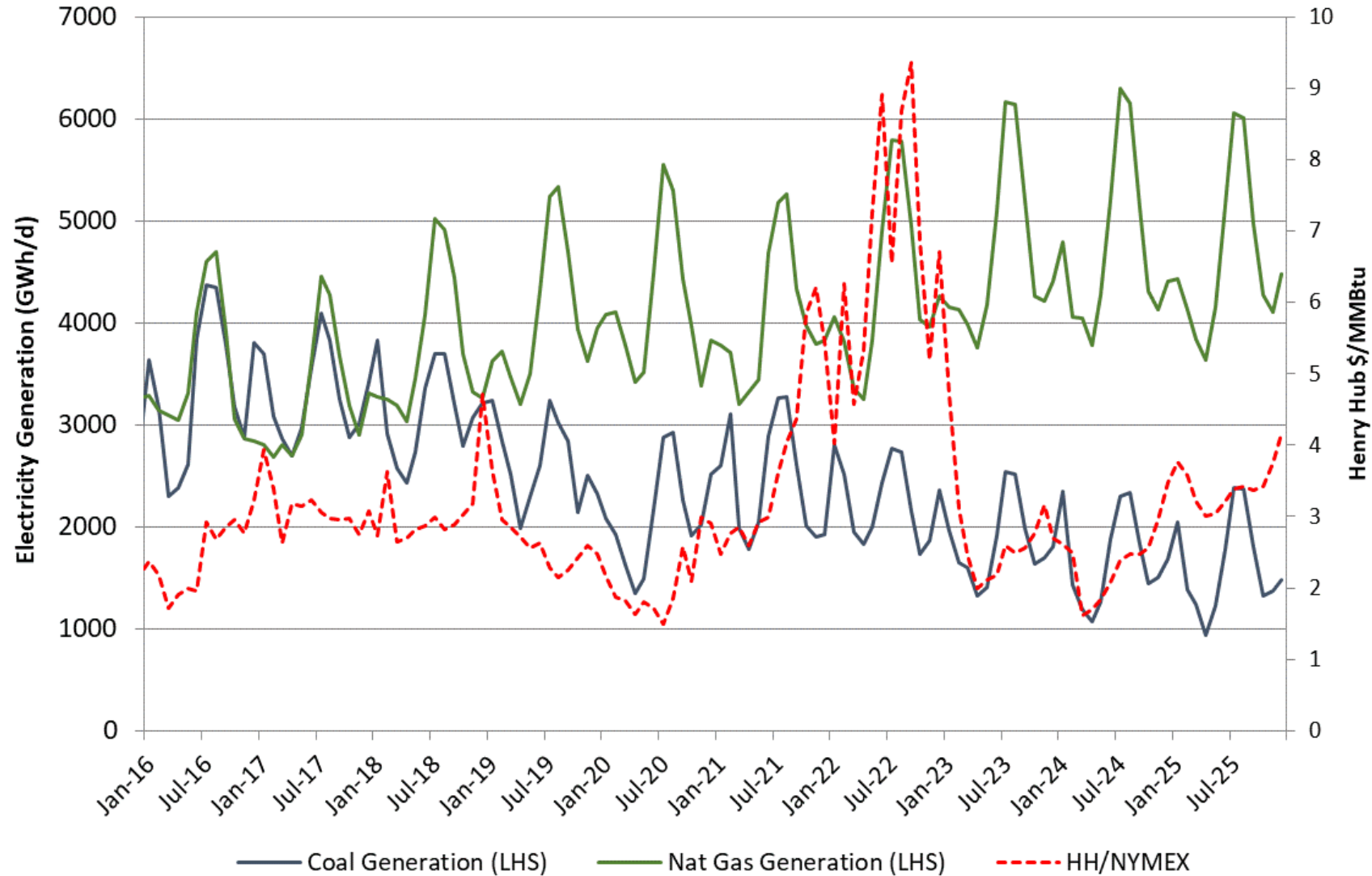
Source: Velocity Suite, ABB Enterprise Software, March 2024



EIA projecting natural gas generation at 42% of US total in 2024; flat to 2023



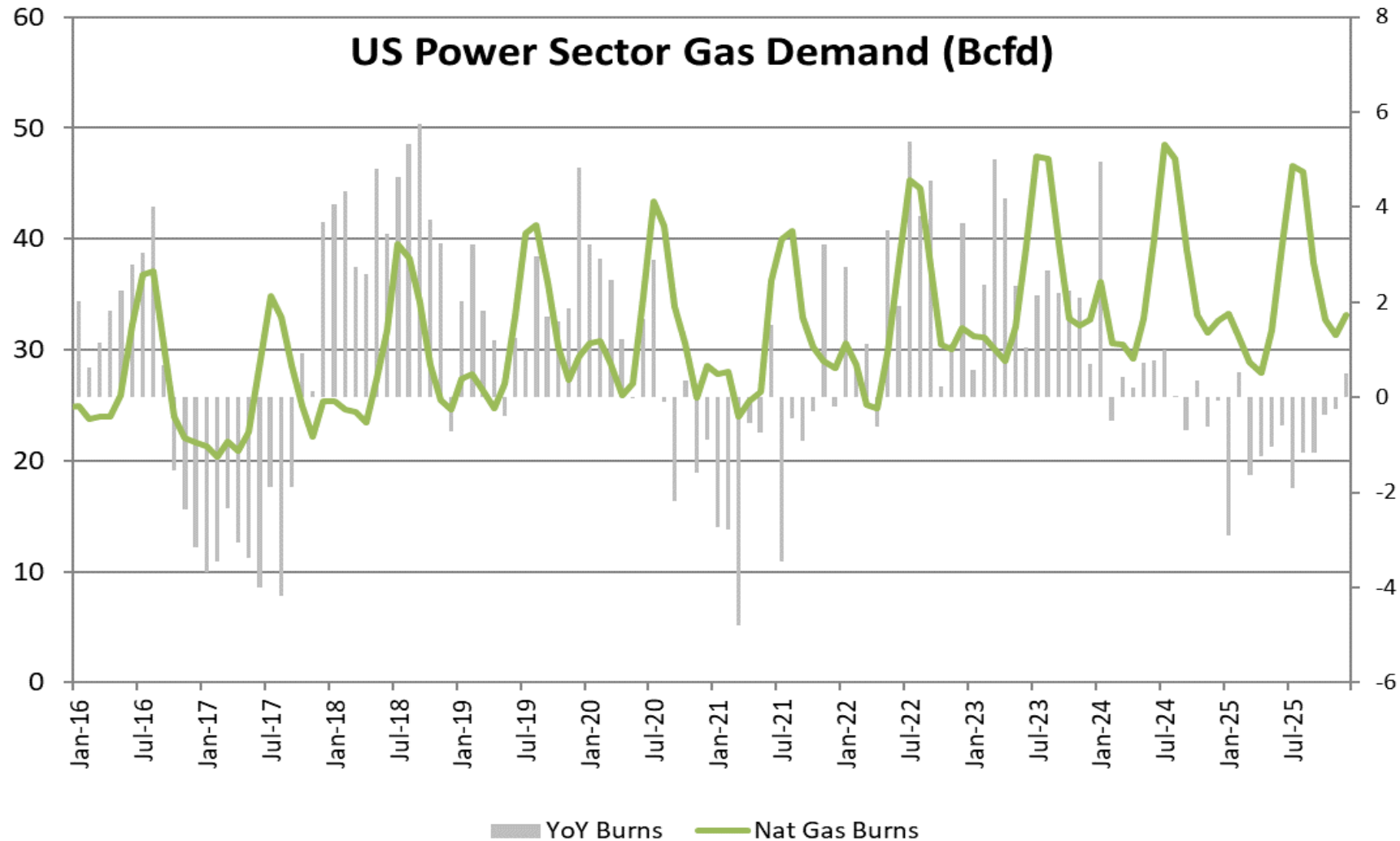
Source: EIA STEO, March 2024





EIA expecting power sector natural gas demand to be increase 0.7 Bcfd YoY in 2024 after increasing 2.1 Bcfd YoY in 2023

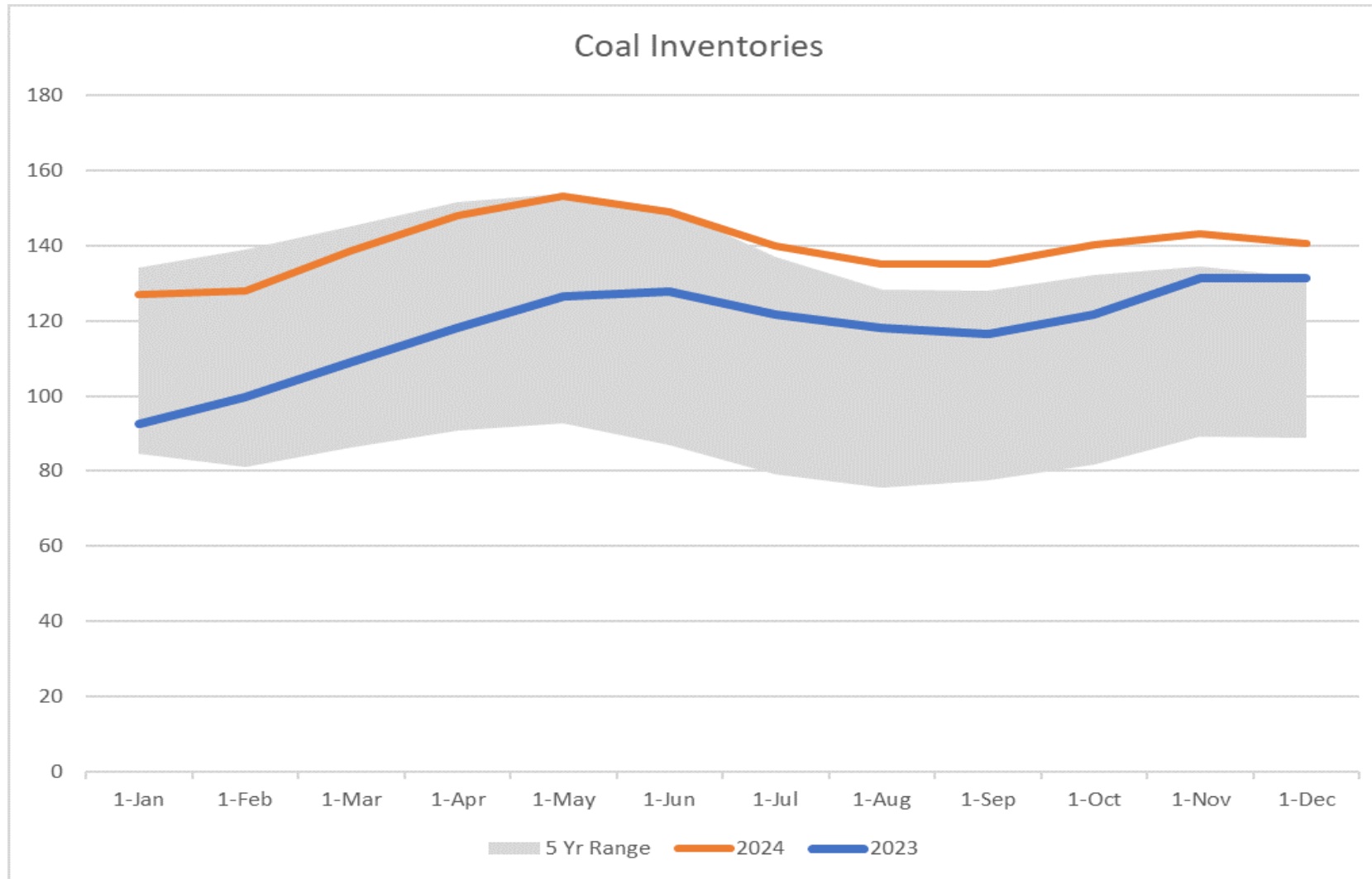
Source: EIA STEO, March 2024



EIA projecting above normal coal inventories in 2024 after increased inventories towards the 2H of 2023



Source: EIA STEO, March 2024

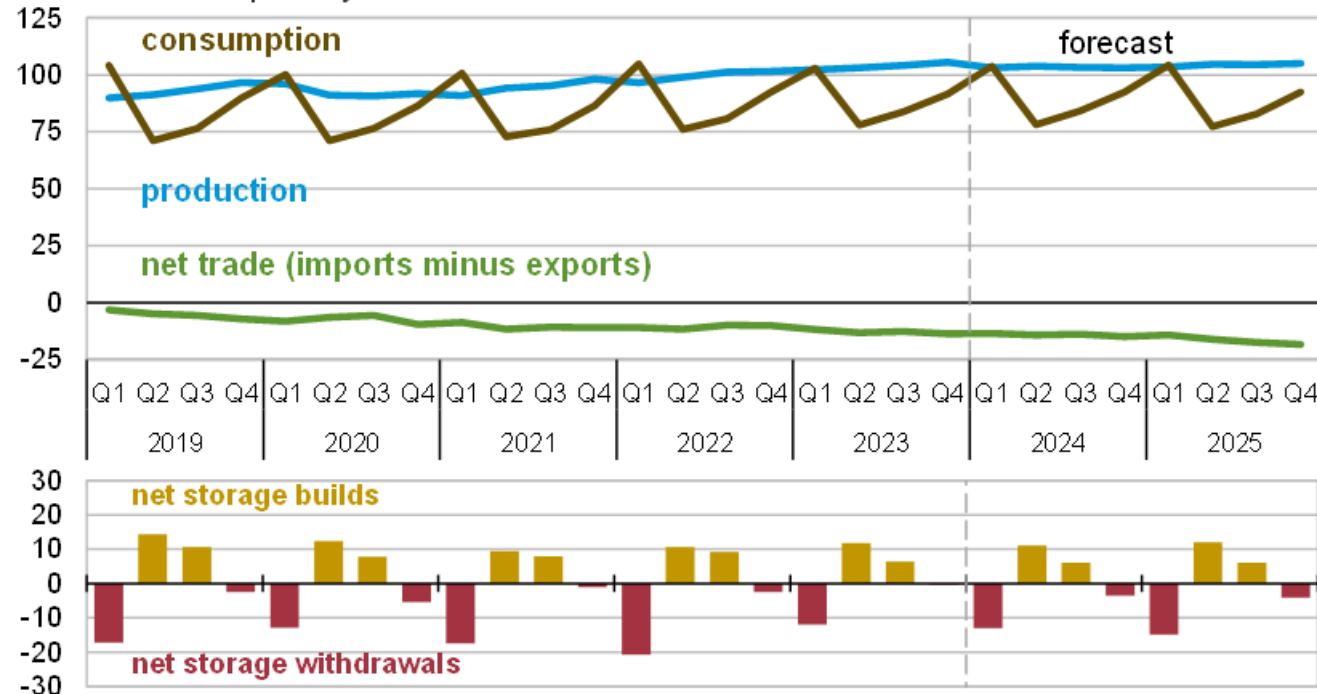




US Gas balances: EIA forecasting continued production growth and elevated storage inventories

U.S. natural gas production, consumption, and net imports

billion cubic feet per day



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, March 2024

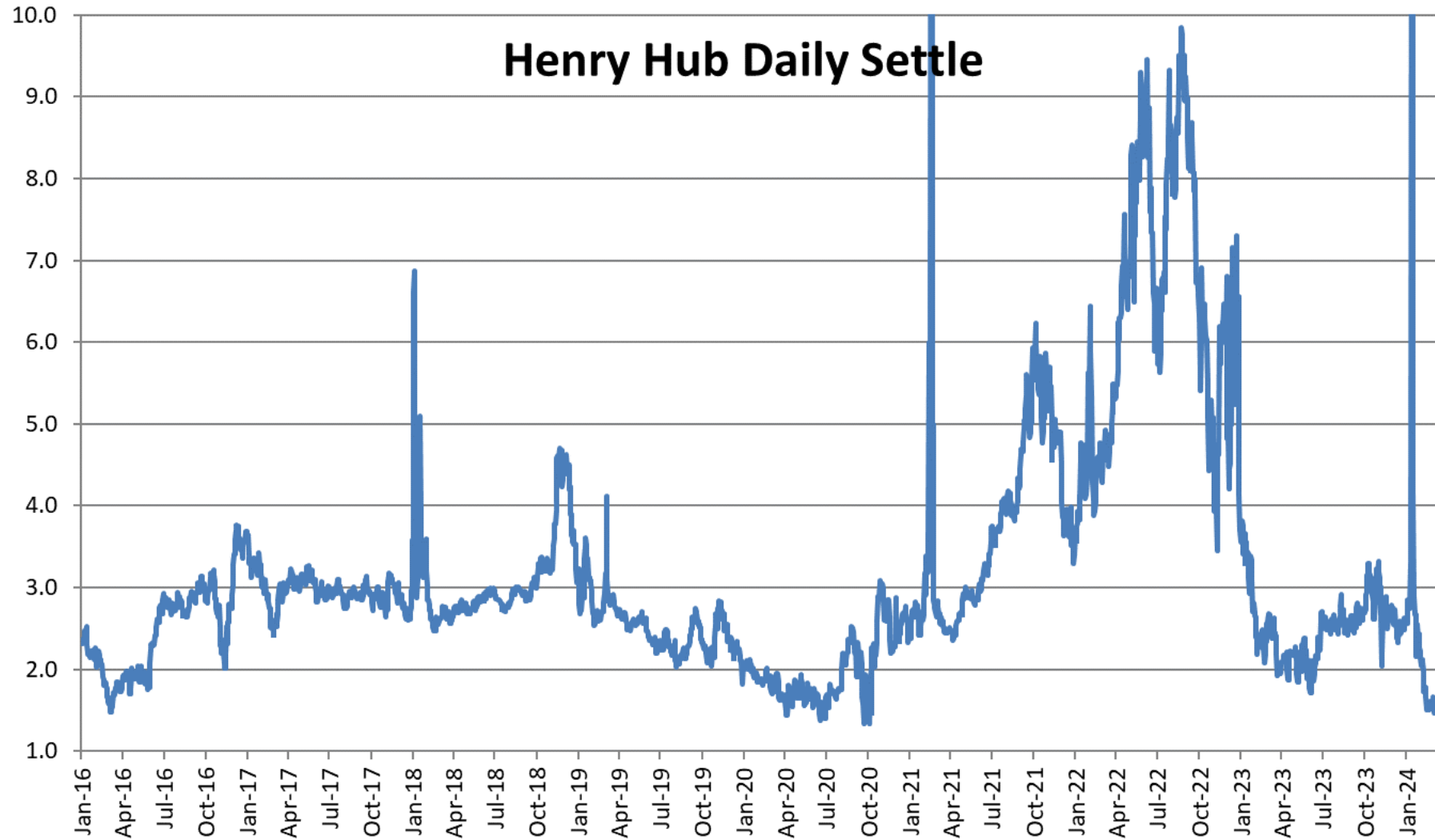


- Production is expected to be 104.4 bcf/d in 2024 and 106.5 bcf/d in 2025.
- For 2024, US natural gas consumption is estimated to average 89.7 bcf/d, up 0.6 bcf/d from estimated 2023 levels due to all sectors other than industrial increasing.
- **EIA end of season inventory projections:**
 - 2.2 Tcf Mar 2024
 - 4.1 Tcf Oct 2024
- LNG exports are expected to average 12.1 bcf/d in 2024 (4% increase YoY from 2022) and 14.4 bcf/d in 2025
- 2024 HH prices are expected to average \$2.30/mmbtu.
 - Summer 2024 HH prices are expected to average \$2.11/mmbtu.
 - Winter 2024 HH prices are expected to average \$2.92/mmbtu
- 2025 HH prices forecasted to average \$2.90/mmbtu.
- Key risks/trends:
 - Drilling plans in a lower gas price environment
 - Timing of LNG
 - Weather



Henry Hub Daily Settle: Daily prices can be very volatile

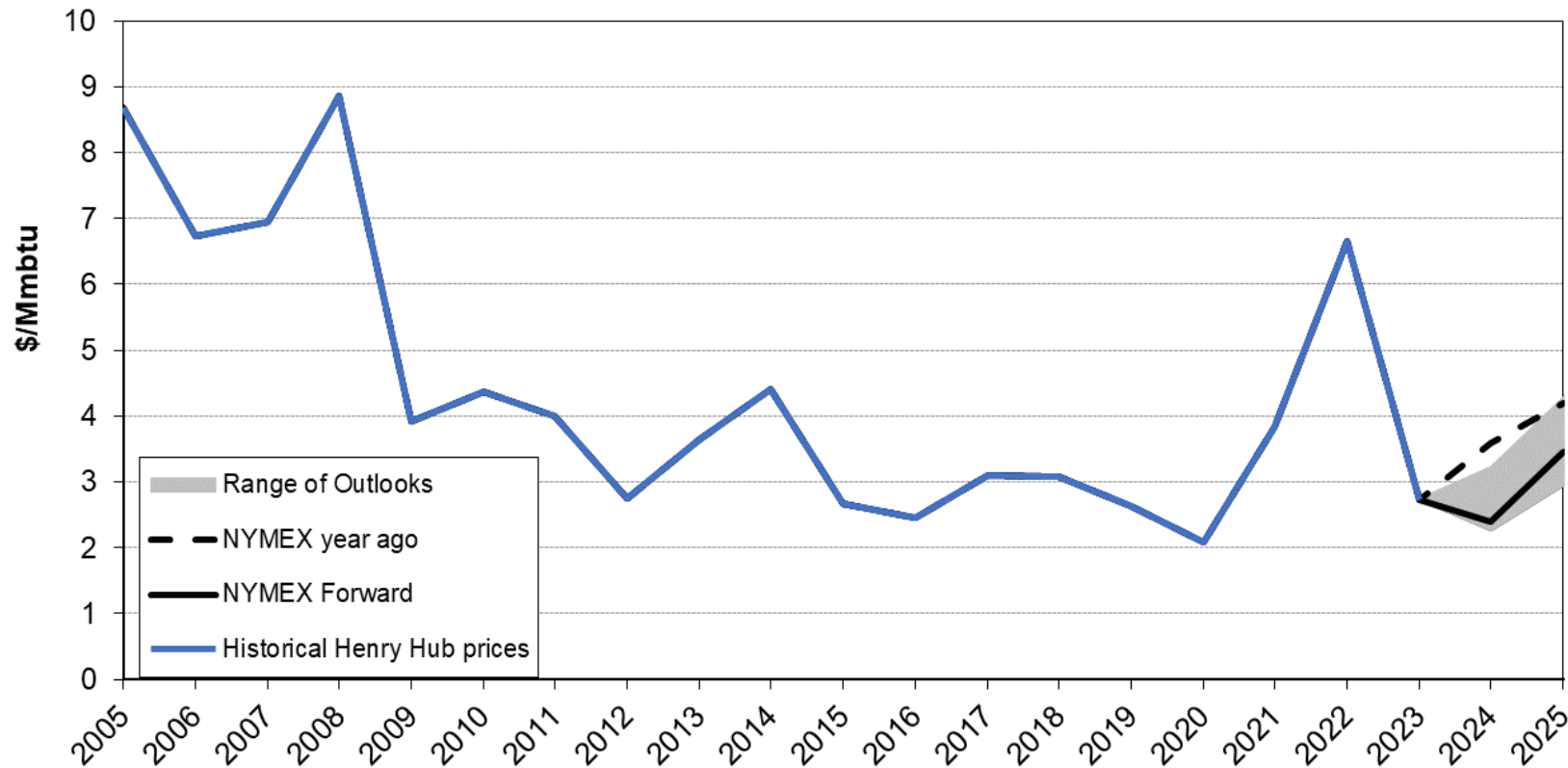
Source: NYMEX, 3/21/2024





Long-Term Henry Hub spot price outlooks

Source: NYMEX, Various External Consultants, 3/21/2024



View of crude oil prices, competing fuels, supply costs, production growth, structural demand trends and global trade flows will influence gas price outlook

Questions?

