Analysis : Falling US gas futures prices, weaker IRRs add to headwinds on 2023 output

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- **Henry Hub** futures trades below $4/MMBtu
- Half-cycle IRRs fall 10-20 percentage points

As **US** natural **gas** producers begin firming up drilling and production plans for 2023, the recent selloff in benchmark **Henry Hub** futures prices could dampen already modest ambitions for growth this year.

Since mid-December, the prompt-month contract has shed nearly half of its value, settling at just $3.99/MMBtu Jan. 3 from nearly $7/MMBtu Dec. 15, S&P Global Commodity Insights data showed.

Benchmark **WTI crude** prices have also weakened over the past eight weeks—after trading above $90/b in early November, the front-month contract has dipped into the mid-$70s this month. **NYMEX** February **crude** was trading around $73.50/b Jan. 4, according to **CME Group** data.

Based on a recent S&P Global forward curve analysis, producer internal rates of return fell sharply in December on weaker prices, affecting the bottom line for operators in major **shale** basins.

After hitting multiyear highs in late 2022, producer IRRs pulled back in December, dipping closer to, or even below, 50% in most basins. S&P Global estimates IRRs based on a half-cycle analysis, which excludes sunk capital costs like acreage acquisition, as well as seismic and appraisal drilling. The analysis also excludes federal corporate taxes.

NYMEX Henry Hub prompt month futures

Source: S&P Global Commodity Insights

IRR

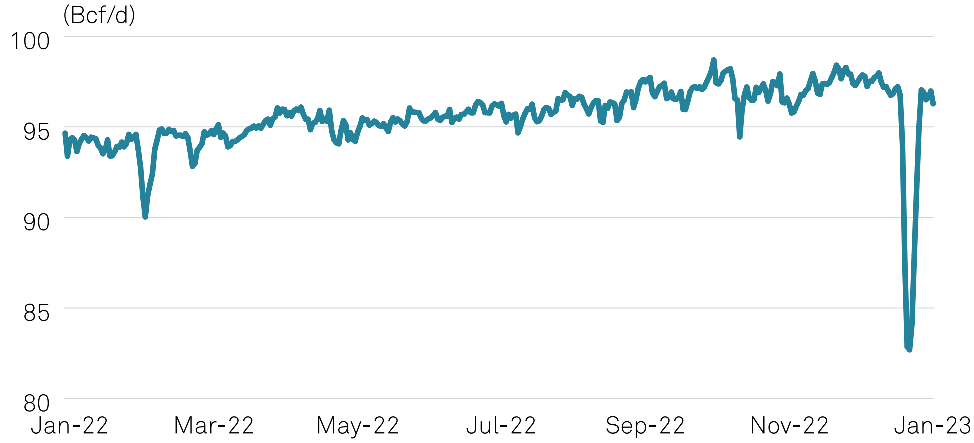
In December, the Marcellus Wet remained the premier drilling sub-basin, standing head and shoulders above other liquids- and **crude** -heavy plays with an estimated 76% rate of return – down from nearly 90% in November.

Permian **Delaware** ranked a distant second, according to the analysis, with an average return rate of 59%, followed by the oil-focused Bakken and **Eagle Ford shales** , with return rates ranking third and fourth at about 57%.

At roughly 55%, the Utica Dry window ranked fifth, followed closely by the Marcellus Dry in sixth place and the Haynesville in seventh place, both with estimated returns of around 52%. **Appalachia** 's Utica Wet window, among the weakest of the **gas** -focused plays, ranked 10th at 48%.

From November to December, estimated returns in the **shale gas** plays pulled back anywhere from 10 to 20 percentage points. Following the continued selloff in **gas** prices since late December, returns have likely weakened further into 2023, potentially resetting the outlook for upstream budgeting.

US natural gas production



Source: S&P Global Commodity Insights

Outlook

On third-quarter earnings conference calls, many producers had yet to determine exactly how much capital would be allocated to exploration, production, drilling, and completions in 2023. Many continued to emphasize free cash flow and the need to return capital to investors, underscoring the additional uncertainty introduced by recent cost inflation and supply-chain constraints.

Despite that, many analysts are still anticipating modest production growth in 2023. According to S&P Global projections, the **Permian Basin** and the Haynesville would lead **US gas** production growth in 2023, with output rising about 500 MMcf/d and about 400 MMcf/d, respectively.

In the **Permian Basin** , where shortages in drilling equipment, rigs, and completion crews are perhaps most acute, weaker IRRs could be another significant drag on production this year. With price blowouts caused by midstream constraints also becoming increasingly common, steep basis discounts or even negative pricing at **Waha** this year could be another constraint on Permian **gas** production in 2023.

According to S&P Global research, a large and still growing backlog of drilled-but-uncompleted wells in Haynesville could make production growth there more impervious to the growing headwinds caused by supply chain constraints, service cost inflation, lower prices, and IRR.