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EIA Says Long-Term Gas Supply Picture Not So Rosy

Total natural gas supply is projected to grow at a slower rate over the next two decades than had been previously anticipated, the Energy Information Administration (EIA) said Thursday in its Annual Energy Outlook for 2004 (AEO2004). And that's after liquefied natural gas (LNG), unconventional gas and Alaska gas have been factored in.

"The most significant change made in the AEO2004 energy supply projections is in the outlook for natural gas," the Department of Energy (DOE) agency said. Total gas supply is now expected to increase at an average annual rate of 1.4%, from 22.6 Tcf in 2002 to 31.1 Tcf in 2025, which the EIA said was 3.3 Tcf less than it estimated in last year's AEO.

This is due largely to its less-than-optimistic forecast for domestic production, which the EIA now foresees as rising from 19.1 Tcf in 2002 to 24.1 Tcf by 2025, or approximately 2.7 Tcf less than it predicted last year.

"The projection for conventional onshore production of natural gas is lower in AEO2004 than it was in AEO2003 because slower reserve growth, fewer new discoveries and higher exploration and development costs are expected. In particular, reserves added per well drilled in the Midcontinent and Southwest regions are projected to be about 30% lower than projected in AEO2003. Offshore natural gas production is also lower in AEO2004 than in AEO2003 because of the tendency to find more oil than natural gas in the offshore and at higher costs than previously anticipated," the EIA said in its latest annual outlook, which examines energy trends through 2025.

The agency also revised its forecast for Canadian imports, noting that they are expected to fall more sharply than had been anticipated last year. Net imports are expected to remain at about 3.7 Tcf through 2010 and then plunge gradually to 2.6 Tcf in 2025, it said. AEO2003 had projected that Canadian gas imports would be at 4.8 Tcf in 2025.

The EIA last year said Canada would likely remain the primary source of U.S. gas imports through 2025. But it now believes that net imports of LNG will exceed net gas imports from Canada by 2015. The "primary reason" for this change was the "significant downward reassessment by the Canadian

National Energy Board of expected natural gas production in Canada," it said.

Growth in U.S. gas supplies will hinge primarily on unconventional domestic production, gas from Alaska and imports of LNG, according to the EIA. But it noted that these alone "are not expected to increase sufficiently to offset the impacts of resource depletion and increased demand." In the outer years of the forecast period, the agency sees resource depletion reducing reserve additions per well, causing a decline in total reserves.

With the exception of the Rocky Mountain region, the Lower 48 production areas are projected to either show moderate increases in production, followed by declines after 2020, or to remain "relatively constant" through 2020 and decline afterwards, the agency said. U.S. offshore production is expected to fluctuate around 3.7 Tcf annually during the forecast period, it noted.

The EIA sees unconventional domestic production growing from 5.9 Tcf in 2002 to 9.2 Tcf in 2025, accounting for as much as 43% of Lower 48 production in the later years. Assuming the completion of a long-line Alaska gas pipeline by 2018, the agency said Alaskan gas production could reach 2.7 Tcf in 2025. It anticipates that LNG imports will double from 0.2 Tcf to 4.8 Tcf in 2025, which the EIA said was more than double what it predicted last year. "LNG imports are expected to constitute an increasing proportion of U.S. natural gas supply" over the next two decades.

On the demand front, the EIA projects that gas consumption will increase at an average rate of 1.4%, from 22.8 Tcf in 2002 to 31.4 Tcf in 2025, "primarily as a result of increasing use for electricity generation and industrial applications, which together account for almost 70% of the total projected growth in natural gas demand from 2002 to 2025."

However, "the annual rate of increase in natural gas demand varies over the projection period. In particular, the growth in demand for natural gas slows in the later years of the forecast (growing by 1.6% per year from 2002 to 2020, as compared with 0.6% per year from 2020 to 2025), as rising prices for natural gas make it less competitive for electricity generation," the EIA said.

As a result of the anticipated slowdown in generation demand, the agency noted that it revised its projection for total gas consumption in 2025 downward by 3.5 Tcf from a year ago.

In AEO2004, the EIA expects the average price for gas delivered to power generators to be 25 cents/MMBtu higher in 2025 than it projected a year ago in its AEO2003 forecast. "As a result, cumulative additions of natural gas-fired capacity between 2003 and 2025 are lower than projected in AEO2003; generation from gas-fired plants in 2025 is lower; and generation from coal, petroleum, nuclear and renewable fuels is higher." The agency predicts 219 gigawatts of gas-fueled generation capacity will be added

through 2025, down from its projection of 292 gigawatts last year.

Overall, the EIA sees gas holding a 22% share of the generation market in 2025, but coal will still be king with a 52% share due to rising gas prices.

As for prices, the DOE agency sees average wellhead prices for natural gas (both spot purchases and term contracts), which hovered at \$4.90/Mcf in 2003, falling to \$3.40/Mcf in 2010, "as the initial availability of new import sources (such as LNG) and increased drilling in response to the higher prices increase supplies."

It then sees wellhead prices for the most part gradually rising after 2010, reaching \$4.40/Mcf in 2025 (equivalent to about \$8.50/Mcf in nominal dollars). "The higher price projection results from reduced expectations for onshore and offshore production of non-associated gas, based on recent data indicating lower discoveries per well and higher costs for drilling in the Lower 48 states."

Consumers will be partially cushioned from these higher prices, as delivered prices are expected to grow at a slower pace, according to the EIA. "The slower increase in delivered prices [compared to wellhead prices] reflects continued depreciation of existing infrastructure, increased pipeline utilization, and more imports of LNG directly into end-use markets," the EIA said.