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Welcome to the Tortoise QuickTake podcast. I'm Brian Kessens, senior portfolio manager and managing director. Thank you for joining us as we provide timely updates on the market.

Happy New Year everyone! 2024 promises to be an eventful year with multiple democratic elections globally, continued Middle East unrest and military conflict in Ukraine, along with central banks looking to reverse course on interest rates. But before we discuss 2024 in another podcast, let's review 2023.

Artificial Intelligence dominated a lot of thinking in 2023, with the S&P 500 posting a great year, up 26%, led mostly by tech stocks set to benefit from AI. In energy, it really depended on where you were positioned in the value chain. Broader energy, weighted heavily to the oil and natural gas producers, finished the year down slightly at -1.4%. Weighing partly on these stocks were lower crude oil prices as WTI finished the year lower by 11% as more supply in the U.S., Guyana and Brazil offset OPEC+'s efforts to curb production. Utilities also finished lower due to higher interest rates and capital expenditure inflation. Midstream proved to be the leader in the energy value chain, up 14% as measured by the Alerian Midstream Energy Index. We expected midstream total returns of low double-digits to mid-teens and that's exactly what we got! I'd like to say it was a straight line getting there, but there was a lot driving returns during the year.

First, U.S. energy production exceeded expectations across the board, setting new highs at every turn. Crude oil production growth amounted to nearly 1 million bpd in 2023, increasing to 13.2 million bpd, and eclipsing the previous record high of 13.0 million bpd achieved in November of 2019. The growth resulted despite rig counts and well completions falling as the year progressed. Simply, producers did more with less. Drilling laterals lengthened, completion times shortened and even the application of Artificial Intelligence positively impacted efficiencies. The Permian basin, the largest US oilfield, remained the primary driver of growth reaching six million bpd. Aiding producer returns, oilfield service and material costs declined, resulting in lower break-even costs.

US natural gas production grew as well in 2023 as the U.S. exported more liquefied natural gas (LNG) than any other country in the first half. Production reached nearly 12 billion cubic feet per day (Bcf/d). The war in Ukraine continued to present a long-term opportunity for US liquefied natural gas. LNG exports to Europe accelerated in 2022 and remained elevated in 2023. These exports, lower industrial demand, and a relatively warm winter in 2022/23 kept European natural gas storage inventories full throughout 2023 and well positioned to keep Europe adequately supplied for the 2024 winter. US natural gas storage inventories also entered year-end 2023 well supplied at just above the five-year average partly due to a warm winter a year ago. Also helping inventories is growing US production, that improved from 102 Bcf/d to 105 Bcf/d over the year, a record high.

Natural gas liquids (or NGLs) do not receive as much attention as crude oil or natural gas because they are less visible to consumers. Nonetheless, that does not diminish their importance as NGLs are the key components in making plastics along with being a source of heat. And, at 6.8 million bpd, the US is the world's largest producer of NGLs. Growth in 2023 surpassed 600 thousand bpd with most marginal production exported to meet growing Asian petrochemical demand.

All that production growth benefitted midstream as more product was transported through pipelines. Inflation passed through via higher tariff rates also benefitted revenues, as the Producer Price Index escalator that went into effect on July 1

topped 13%. Cash flow then improved for midstream companies in 2023 following volumes and tariff increases and cost and capital expenditure discipline. Management teams targeted cash flow increasingly toward shareholders in the form of debt paydown, dividend and distribution growth, and share repurchases. Leverage targets are now generally between 3.0x – 4.0x EBITDA with leverage now a full “turn” lower versus levels prior to 2020. And in addition to dividend and distribution growth, companies opportunistically repurchased shares, with buybacks topping \$4 billion from the fourth quarter of 2022 through the third quarter of 2023. With leverage targets now largely achieved, 2024 sets up for incrementally more cash flow earmarked for dividends and buybacks.

Midstream companies remained active in M&A with many discrete assets changing hands along with a handful of corporate transactions. The commonality among all the transactions was buyer discipline. The buyers only purchased complementary assets to existing footprints where synergies were obvious and paid a price that made the transaction immediately accretive. Even in the corporate transactions, premiums paid were constructive. In the largest corporate transaction, ONEOK acquired Magellan Midstream Partners at a 22% premium. Synergies and diversification drove the rationale as both Tulsa companies transport petroleum products, with ONEOK mostly natural gas liquids and Magellan refined products and crude oil. ONEOK also estimated a tax benefit of \$1.5 billion.

The utility sector returned -7% for the year (as measured by the S&P 500 Utilities Index). The Inflation Reduction Act (IRA) passed in 2022 extended and upgraded various tax credits for technologies such as wind and solar, while introducing new tax credits and incentives for emergent technologies like green hydrogen and standalone battery storage. The IRA seemingly led to an acceleration of renewable energy growth. Yet in 2023 the cost for renewables increased due to supply chain issues, geopolitical sourcing uncertainty, and general inflation. Further higher interest rates led to a higher cost for both debt and equity capital, both needed to fund increased capital expenditures.

Despite the hurdles, demand for electricity is growing. Further penetration of electric vehicles and ever-growing appetite for more data centers is increasing demand. Management teams are shifting accordingly, planning for electricity demand growth, emphasizing regulated returns and looking to finance capital expenditures through asset sales and equity issuance.

What was clear in 2023 was energy infrastructure remains essential for the US to continue as the leading global energy producer and to meet the energy demands of consumers, both domestically and abroad. Geopolitical events further highlighted this reality. We believe that indispensable nature offers compelling opportunities for 2024 and beyond.

We’ll be back next time with more specific thoughts on what is in store for 2024. Thanks for listening.

Thank you for joining us. And stay tuned for our next episode. Have topics you want covered or other feedback to share? Write us at info@tortoisecofin.com.

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The **S&P Utilities Select Sector Index** is a modified capitalization-weighted index. The Index is intended to track the movements of companies that are constituents of the S&P 500 in the utility sector (as defined by the Global Industry Classification Standard).

Midstream = The Alerian Midstream Energy Index[®] is a broad-based composite of North American energy infrastructure. The capped, float-adjusted, capitalization-weighted index, whose constituents earn the majority of their cash flow from midstream activities involving energy commodities, is disseminated real-time on a price-return basis (AMNA) and on a total-return basis (AMNAX).

Broad Energy = The S&P Energy Select Sector[®] Index is a capitalization-weighted index of S&P 500[®] Index companies in the energy sector involved in the development or production of energy products.

Producers = Tortoise North American Oil & Gas Producers IndexSM

The Tortoise North American Oil & Gas Producers IndexSM is a float-adjusted, capitalization weighted index of North American energy companies primarily engaged in the production of crude oil, condensate, natural gas or natural gas liquids (NGLs). The index includes exploration and production companies structured as corporations, limited liability companies and master limited partnerships but excludes United States royalty trusts.

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