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Welcome to the Tortoise podcast. Thank you for joining us. Today, Tortoise provides a timely update on trending topics in the market.

Hello. I am Tortoise Managing Director and Portfolio Manager Rob Thummel with this week's Tortoise QuickTake podcast.

How about those Chiefs? And how about those MLPs? MLPs as represented by the Tortoise MLP Index® are up 3.25% to start 2020. Global utilities as measured by the MSCI Global Utilities Index are also off to a hot start in 2019 up 3.1%. Conversely, natural gas prices are not off to a hot start with the current spot price below \$2 per mcf.

The biggest news item from last week was the signing of the Phase One trade deal between the United States and China. As part of the deal, China agreed to purchase an additional \$200 billion in U.S. goods over the next two years. As part of the trade deal China pledges to buy \$50 billion U.S. energy products over the next two years – unexpected but not a complete surprise. For perspective, if China fulfills its commitments then the amount of energy purchased from the U.S. would be 4-5x higher than historical levels. We would expect U.S. energy exports to rise substantially as a result of the trade deal. We believe that U.S. energy infrastructure will likely be a winner as infrastructure is essential in facilitating higher U.S. exports.

A second piece of notable news came out of the U.S. Energy Information Administration's short-term energy outlook released last week. Now usually this is a boring read that only energy dorks like myself find interesting. However, this report revealed a first look into how the EIA sees 2021 playing out. There were a couple of interesting data points. First, the EIA forecasts U.S. oil production growth of 400,000 barrels per day in 2021. This level of growth is lower than over 1 million barrels per day of annual oil production growth that U.S. has delivered over the last several years. In addition, due to persistent low natural gas prices, the EIA forecasts a slight decline in U.S. natural gas production in 2021. However, U.S. LNG exports are forecast to rise by 1.2 bcf/d to 7.7 bcf per day. You might be asking yourself if lower U.S. oil and gas production is good or bad for the energy sector. At Tortoise, we believe lower growth or no growth is important in attracting investors to the energy sector. Less capital spending on growth means more excess cash flow available for shareholders. An increase in cash allocated to shareholders via higher dividends or stock buybacks will bring investors back to the energy sector. Lastly, there is one last piece of data from the EIA report that is probably the one thing you want to remember from this podcast. I like to talk a lot about milestones and records. 2021 will be a milestone year for the U.S. energy sector if EIA projections materialize. Here is why. Today, the fuel mix to generate electricity in the U.S. is comprised of 37% natural gas, 24% coal, 20% nuclear, and 17% renewables that includes 7% hydropower and 10% wind and solar. Fast forward to 2021, the EIA predicts the mix to change with 37% natural gas 22% renewables, 21% coal and 20% nuclear. For the first time ever, renewables will overtake coal as part of the U.S. electricity generation fuel mix. This is important as the EIA forecasts energy-related carbon dioxide emissions will decline by 2% in 2020 and 1.5% in 2021, tied to changing lower carbon fuel mix.

Speaking of reducing emissions, Germany took a big step saying auf wiedersehen or goodbye to coal. Last week, German chancellor Angela Merkel announced a plan to shut down all German coal-fired power plants by 2038. Germany is already off to a fast start as it relates to energy transition. RWE, Germany's second largest electricity provider has a goal of achieving 65% renewables by 2030. The plan announced last week by Germany includes a governmental review in 2026 and 2029 as to whether Germany is producing enough power from alternative sources to complete the coal exit even earlier - by 2035. Alternative sources will include renewables as well as two additional natural gas-fired powered plants at existing plants. The elimination of coal does come with a price. The plan includes 40 billion in euros in compensation for regions in Germany impacted by the coal shutdowns. Clearly this a positive step towards reducing emissions. Of the top 10 carbon dioxide emitters in the world, only Germany, Japan, and the U.S. have been able to reduce carbon dioxide emissions over the last ten years with the U.S. reducing emissions the most.

Switching to company specific news, Schlumberger, the largest publicly traded oil field services company in the world, kicked off the 4Q earnings season for the energy sector. Foreshadowing what we could hear from oil and gas producers in the next few weeks, Schlumberger expects high single-digit to double-digit declines in North American oil and gas spending in 2020 while international spending could rise by mid-single digits. You might be thinking this is the opposite of

what you have been hearing over the last several years and you are right. In North America, investors are forcing oil and gas producers to cut spending in order to generate free cash flow. Alternatively, international service costs have declined so international drilling has become more competitive.

Those are the highlights from last week. Thanks for listening. We will talk to you next week.

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

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The **PCE inflation rate** is the Personal Consumption Expenditures Price Index. It measures price changes for household goods and services. Increases in the PCEPI warn of inflation while decreases indicate deflation.

The **MSCI World Utilities Index** is designed to capture the large and mid cap segments across 23 Developed Markets (DM) countries*. All securities in the index are classified in the Utilities sector as per the Global Industry Classification Standard (GICS®).

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.

MLPs = The Tortoise MLP Index® is a float-adjusted, capitalization weighted index of energy master limited partnerships (MLPs). The index is comprised of publicly traded companies organized in the form of limited partnerships or limited liability companies engaged in transportation, production, processing and/or storage of energy commodities.

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