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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.

Albert Einstein once said "Learn from yesterday, live for today, hope for tomorrow. The most important thing is not to stop questioning."

After a week in which the S&P 500 Energy Sector Index declined by almost 9% and the Alerian Midstream Energy Index fell by almost 6%, we received several questions from some of you related to performance last week. Let me address a few of the potential drivers.

First, California Governor Gavin Newsom issued an executive order banning the sale of new gasoline-powered cars and pickup trucks by 2035. The natural question – what impact will this have on the energy the sector? For perspective, California consumed about 14 billion gallons of gasoline in 2019 according to the EIA. Sounds like a lot. However, this equates to slightly less than 1 million barrels per day or 1% of global oil demand. As 2035 approaches, gallons of gasoline will be replaced by kilowatt hours of electricity as the energy source for the transportation sector in California. The California Solar & Storage Associations estimates that electricity demand could grow by 25% by 2035. Currently, the State of California lacks sufficient electricity to maintain reliability. California suffered from rolling blackouts this summer due to high levels of demand during heat waves. To fix this situation and prepare for future demand, a significant amount of renewable and power infrastructure will be needed providing several opportunities for many of the companies invested in across the TortoiseEcofin investment platform.

A second potential driver of energy market weakness last week could have been a Wall Street Journal story regarding excess pipeline capacity in the Permian Basin. The story highlighted pipeline capacity transporting oil from the Permian could reach 8.3 million barrels per day while Permian oil production is around 4 million barrels per day. This would point to excess pipeline capacity that could pressure transportation rates and cash flows of several large energy infrastructure operators like Plains, Magellan, and Enterprise Products. We don't think this issue will have a material impact on the cash flows of the energy infrastructure companies that we invest. Why? A majority of the excess capacity was built after 2018 and is supported by contractual volume commitments for several years. Our focus is on transportation rates on the pipelines when original contracts expire. From our perspective, the Permian Basin remains the most prolific short cycle basin in the world. What does that mean? Short cycle refers to the length of time it takes to produce the commodity and generate cash. We expect short cycle, shale oil basins like the Permian to offsetting declines in long cycle projects like offshore oil. For example, research performed by Rysted Energy suggests that 2020 will be peak production for offshore oil. By 2025, offshore oil production is expected to fall by 3 million barrels per day from 28 million to 25 million barrels per day. By 2030, offshore oil production is forecasted to decline by 10 million barrels per day. Recent pivots by BP and Royal Dutch Shell away from oil and gas could accelerate offshore volume declines even further. As global oil demand returns, OPEC spare capacity will be reduced allowing the Permian to fill the gap provided by declining offshore oil

production. To capture this opportunity, adequate infrastructure operated by the energy infrastructure companies that we invest in is critical. Alternatively, if oil demand growth and/or Permian production growth do not materialize as expected then these existing pipelines could be repurposed to transport other in demand commodities such as natural gas liquids or natural gas.

A final possible explanation for performance last week relates to the dividend yield of energy bellwether Exxon Mobil rising above 10% alarming certain investors. You might be thinking a 10% dividend yield sounds compelling. We agree if it is sustainable. Exxon does not generate sufficient free cash flow to pay its dividend based on analyst forecasts. To sustain its dividend, Exxon will need to sell assets or increase debt. In short, Exxon's dividend is not sustainable. In contrast, several large, energy infrastructure companies have 10% plus dividend yields that are sustainable. The largest is Enterprise Products Partners with an 11.5% dividend yield. Enterprise is forecasted to generate enough free cash flow to not only pay its dividend but also buyback stock or pay down debt. If you are searching equity securities with high dividend yields, look at energy infrastructure and not at Exxon.

In other news, GE said last week that it will exit the coal power market. This is welcomed news for lower future carbon emissions. Even more meaningful steps toward reducing emissions occurred last week when China's President Xi's pledged to become carbon neutral by 2060. China is by far the world's largest carbon dioxide emitter generating more carbon dioxide than the U.S. and Europe combined. After peaking in 2007, the U.S. and Europe have reduced carbon dioxide emissions by 16% and 18%, respectively according to the BP Statistical Review. China's path toward to lower emissions will likely follow the U.S. and Europe which means replacing coal that generates 58% of China's current energy supply with natural gas and renewables.

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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Alerian MLP Index is the leading gauge of energy infrastructure Master Limited Partnerships (MLPs). 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 (AMZ) and on a total-return basis (AMZX).

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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