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Exxon Mobil: Doubling Down While Facing Peak Oil Demand

"With most competitors pivoting away from upstream growth, Exxon continues to press ahead with investments despite very challenging current price environment for crude and natural gas."

Why this is important: Major oil companies are at a crossroads, electing between diversifying into alternative energy production or betting on continuing demand for oil. The Europeans are looking toward renewables. American firms are staying in oil development. Exxon in particular is doubling down on oil production, believing the demand for oil, for transportation and plastics manufacturing, will be strong for years to come. This article is a great analysis of the future of oil and gas production, and why Exxon, for better or worse, will be investing capital in petroleum production. --- <u>David L. Yaussy</u>

Landowner Group Files Appeal Over State's Decision on New Coal Mine

"An organization representing landowners filed an appeal challenging the decision by Wyoming environmental regulators to grant a mining permit to a coal technology firm."

Why this is important: The permit for a new Wyoming coal mine that was studied for eight years has been appealed by an environmental group. Ramaco Carbon plans to mine coal from the Brook Mine, north of Sheridan, Wyoming, for a research facility working on developing carbon fiber and graphene products for the future. The Powder River Basin Resources Council has appealed the newly issued permit to the state Environmental Quality Council. This new mine is a rarity in the Powder River Basin where coal mining has dramatically declined in recent years and developing new uses for coal is critical to coal's future. --- Mark E. Heath

Why Curbing Carbon Dioxide Emissions Poses Such a Challenge

"If there's a silver lining in the data, it's that the 0.5% global emissions growth rate last year was less than half the decade-long annual average of 1.1%."

Why this is important: This article highlights the differences in CO2 emissions between developed countries, which have emissions that have been declining for a decade, and non-developing countries

that have seen their emissions double over the past 20 years. Despite having some of the highest per capita levels of emissions in the world, developed countries, such as the U.S., are hesitant to commit to further reductions when countries like China and India are seeing significant increases in their emissions. Conversely, non-developed countries with tremendous populations are reluctant to commit to emission reductions when they can point to "per capita" emissions that are just a fraction of those of developed countries. --- Nicholas S. Preservati

Designer Molecules Enable 'Two for One' Efficiency Boost

"Scientists in the U.S. have come a step closer to taking advantage of singlet fission – a phenomenon seen in certain solar cell materials that promises to greatly increase energy yield."

Why this is important: Solar cells have been pushing up against their theoretical efficiency limit of about 44 percent. Scientists are trying to custom-design molecules that can get more power from the photons hitting them, perhaps moving beyond those efficiency limits. Getting these designer molecules to work reliably is going to take much more work, but these sorts of changes in efficiency are what is needed to take solar power to the next level of utilization. --- <u>David L. Yaussy</u>

Consol CEO: 'Unprecedented Demand Destruction' in Energy Hits U.S. Coal Hard

"From a demand perspective, Consol Energy Inc. CEO and President Jimmy Brock said the second quarter was the worst he has seen in a coal career that spans over four decades."

Why this is important: On the company's August 10 earnings call, Consol CEO and President Jimmy Brock discussed the crushing impact of the COVID-19 pandemic leading to unprecedented destruction in energy demand. The pandemic hit just as the coal industry was grappling with weaker demand in early 2020 due to a warmer-than-usual winter. Compared with 2019 coal sales of 7.4 million tons, the company's second-quarter coal sales totaled 2.3 million tons. It recorded a net loss of \$21.1 million for the second quarter compared to a net profit of \$48.8 million in the same quarter a year ago. While Consol continues to be concerned about power plant retirements, CEO Brock remains confident in its strategy of focusing on supplying coal to plants likely to continue operating and keeping its mines well-capitalized to give the company an edge if demand rebounds. "We believe the lack of investment across the coal space will limit the coal industry's ability to quickly ramp back up to meet this demand," Brock said. "This could be a very advantageous situation for us." --- Dennise R. Smith

U.S. Coal Industry Needs to Consolidate – Moody's Analyst

"Characterised by ongoing decline in demand, combined with near-term erosion of financial strength driven by the adverse economic impact of coronavirus, the US coal industry is in need of consolidation."

Why this is important: Moody's lead coal analyst believes the U.S. coal industry needs further consolidation. In the past few years, the coal industry has gone through several rounds of bankruptcies and consolidations. Moody's sees the ongoing decline in demand and the erosion of financial strength from the economic impact of the COVID-19 downturn negatively impacting coal. Further, natural gas prices are forecast to remain low, and Moody's sees 2021 thermal coal at prices below 2019 prices. Additionally, coal-fired electrical generation in the eastern half of the U.S. for the first six months of 2020 was an incredible 33 percent below 2019 levels. All these developments likely will lead to the consolidations forecast by Moody's. --- Mark E. Heath

FERC Staff to Congress: HV Transmission Essential to Reducing Carbon, Deploying Renewables

"Federal regulators sent a report to Congress outlining opportunities and barriers around transmission development, in a move clean energy advocates see as a 'strong endorsement' of the need for large scale transmission."

Why this is important: This article highlights the need for increased transmission infrastructure, but fails to draw an important distinction between alternating current and direct current lines. The vast majority of transmission lines in the U.S. are alternating current, which cannot carry electricity nearly as far as direct current lines. While high voltage alternating current transmission lines can span several hundred miles, such direct current lines can span several thousand miles, which means they can transport renewable electricity from the coast inland to states that have limited renewable resources. --- Nicholas S. Preservati

Senate Grills FERC, DOE on Power Sector Cybersecurity

"'This is a challenge for the country,' Gates acknowledged, 'we're going to be short not only of IT cybersecurity professionals, but the shortages are even starker when we talk about industrial controls systems.""

Why this is important: This article is important because it discusses several recent steps the country has taken in its efforts to address cybersecurity in the energy sector. On May 1, 2020, President Trump issued an Executive Order on physical and cybersecurity of the country's power grid. More recently, the Department of Energy published a request for information, "specifying six countries -- China, Cuba, Iran, North Korea, Russia, and Venezuela -- as 'foreign adversaries' from which the power sector cannot purchase equipment." This article dives into the first hearing the Senate Committee on Energy and Natural Resources has held in over a year to address cybersecurity in the energy sector. At least one concerning fact arose. During the hearing, upon questioning by Senators about efforts to train and develop cybersecurity professionals, Alexander Gates, senior advisor in the Department of Energy's Office of Cybersecurity, Energy Security, and Emergency Response, advised that the country faces a problem due to the lack of information technology cybersecurity professionals. --- Nicholas P. Mooney II

<u>Lucid's Electric Air Sedan Projected to Have Whopping</u> <u>517-Mile Range</u>

"While EPA has not yet certified the Air, Lucid has contracted engineering firm FEV to run the car through the full EPA test cycle and is now estimating the range at 517 miles."

Why this is important: Lucid Air plans on bringing an electric vehicle to the market in 2021 that it claims will get more than 500 miles per charge. The car is beautiful and the battery technology has benefited from lessons learned from being used in Formula E racing. Dethroning, or even challenging, Tesla has proved to be difficult for a host of electric car manufacturers, but regardless of how any individual car does, the competition among EV manufacturers will benefit consumers. --- David L. Yaussy

Despite His Promises, Trump has No Plan to Rebuild Coal Economy

"There are things that government can do hasten that transition — such as the clean energy laws that Virginia adopted this year — but nothing that it can do to halt the conversion."

Why this is important: This opinion piece highlights the coal industry's continued struggle for survival despite having a President solidly in its corner. As a candidate, Donald Trump frequently campaigned on his promise to "bring back King Coal" and revive the Appalachian coalfields if elected President. However, coal production since his election in 2016 has not returned, but has continued to plummet — along with coal-mining jobs. The author points to higher coal mining jobs under President Obama, but states that administration's increased regulation of the industry "hastened the demise" of coal. He notes the Trump administration's role back of environmental regulations has had no meaningful impact, because coal's more insurmountable adversary is cheap and plentiful natural gas. The author points out that, in 2019,

"natural gas accounted for 38.4% of U.S. electricity, while coal was down to just 23.4% with nuclear at 19.7% and renewables up to 17.5%." However, he states, "in the first quarter of 2020, coal fell behind them all, and now is in fourth place, at just 19%." Regardless of Trump's promise to bring back coal, the author states there is "nothing that [the government] can do to halt the conversion" to natural gas and other cleaner energies, and both political parties must work together to create an alternative plan to revive coal-based communities. --- Dennise R. Smith

Energy Question of the Week

Last Week's Question and Results

The U.S. should focus on building high voltage direct current electric transmission lines.

Strongly Agree - 33.3% Moderately Agree - 16.7% Neutral - 16.7% Moderately Disagree - 13.3% Strongly Disagree - 10% Do Not Know - 10% What do you consider to be the most important component of electric generation?

Dispatchability

Reliability

Select

Cost

Select

Renewable/Environmental

Select

Other

Select

Do Not Know

EIA Energy Statistics

Here is a round-up of the latest statistics concerning the energy industry.

PETROLEUM

This Week in Petroleum

Weekly Petroleum Status Report

NATURAL GAS

Short-Term Energy Outlook - Natural Gas

Natural Gas Weekly Update

Natural Gas Futures Prices

COAL

Short-Term Energy Outlook - Coal

Coal Markets

Weekly Coal Production

RENEWABLES

Short-Term Energy Outlook

Monthly Biodiesel Production Report

Monthly Densified Biomass Fuel Report

What are your areas of interest? If there are particular industries or issues that you would like to hear about, <a href="mailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:emailto:email

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