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Russian Interference in America's Energy Sector

"America's oil and gas production is booming of late, with the U.S. poised to become the world's largest exporter of crude oil. Domestic natural gas also is ramping up, enabling the U.S. to become a net exporter for the first time in almost 60 years. All of this is good news, since the U.S. is setting new records for gas exports. But America's shale gas revolution may have another benefit: It could supplant much of Russia's natural gas production."

Why this is important: Russian dominance of gas supplies, which are mainly delivered through the majority government-owned company Gazprom, to Central and Eastern Europe is one of the significant ways Russia can still wield so much power and influence in former Eastern Bloc nations. As is evident from its attempts to interfere into the 2016 election, Russia is quick to use asymmetrical subterfuge to influence and thwart any policies it may view as a threat to its global aims. Stunting the growth of the U.S. natural gas industry before it could possibly unseat its own energy dominance in a number of European nations is no doubt a key policy of the Russian government. --- Ryan W. Weld

The U.S. Spends Billions Annually on Russian Oil

"U.S. reliance of oil imports has fallen as shale oil production has ramped up. Russian oil imports peaked at 624,000 barrels per day in 2011. However, in 2017 the U.S. still imported 384,000 barrels per day of crude oil and products from Russia."

Why this is important: With President Trump's Helsinki Summit and Russia's relationship with the U.S. at the forefront of news coverage, it is surprising that in 2017 the U.S. purchased approximately \$7 billion of Russian oil. Although this is considerably less than the high point in 2011 (thanks in part to increased U.S. shale production), last year Russia was the 6th biggest exporter to the U.S. market. Considering the economic sanctions previously leveled against Russia and President Trump's recent criticism of Germany's reliance on Russian natural gas, it would seem that a decrease in the amount of imports from Russia should be forthcoming. --- Gerald E. (Gee) Lofstead III

Appalachian Region Looks to Asia to Revive Economic Hopes

"A Thai chemical company and, more recently, its new South Korean partner, are taking halting steps toward building a multibillion-dollar petrochemical plant in eastern Ohio that would "crack" molecules of ethane, a byproduct of natural gas drilling, into the raw material used to produce plastic products."

Why this is important: In an area where coal, the once-dominant natural resource, couldn't produce "downstream" economic benefits to the areas it was produced, the same may not be true for the burgeoning natural gas industry of eastern Ohio and the northern panhandle of West Virginia. Plans to build an ethane cracker plant in Belmont County, Ohio would present significant new opportunities for the production of plastic manufacturing, as well as for the expansion of current manufacturers. Currently, the natural gas byproducts required for plastic manufacturing must be shipped in from a significant distance to this region. But if a cracker plant were to be built in this eastern Ohio county, it would be within 500 miles of 60% of the country's plastics producers, which could lower the costs of manufacturing these products significantly. --- Ryan W. Weld

JSW Steel Restarts Coking Coal Mining in U.S.

"The recent rise in coking coal prices has made it viable for the company to restart production. Though JSW Steel will not import the coking coal produced in the US to India, it will provide a financial hedge as it will be sold in the open market."

Why this is important: Strong metallurgical coal pricing continues to bring producers back into the market. After a three-year gap, India steel maker JSW Steel is resuming metallurgical coal mining in West Virginia. The company has nine potential mines to restart mining from and also plans to buy coal in southern West Virginia from other small mines to sell up to one million tons per year in the U.S. market, citing met prices as high as \$200 per ton. --- Mark E. Heath

Acid Mine Drainage Yields Valuable Rare Earth Elements

"A joint research project between West Virginia University and the National Energy Technology Laboratory aims to extract rare earth elements from the acid mine drainage found at various coal mine sites throughout the country. These are rare-earth elements of which 17 exist: Candium, yttrium, lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium and lutetium. They are used to power modern civilization from defense technology to green energy infrastructure, such as the massive windmills."

Why this is important: West Virginia University and the National Energy Technology Laboratory are partnering on the construction and operation of a small scale experimental rare-earth element extraction facility. The objective of this pilot facility is to determine the economic feasibility of distilling rare-earth elements contained in acid mine drainage from abandoned mines in the Appalachian Basin. These rare-earth elements are crucial components of many modern devices, such as cell phones, microchips and computers. The current economically feasible sources of such elements are in China and Russia, which potentially are interruptible to the detriment of our country and overall economy. If this technology is feasible, then it will be a win-win situation for cleaning up acid mine drainage from abandoned mines as well as in fortifying our national security. --- William M. Herlihy

Contura Energy and Alpha Natural Resources Submit Merger Statement

"Tennessee-based metallurgical coal suppliers, Contura Energy, Inc. (Contura), ANR, Inc. and Alpha Natural Resources Holdings, Inc. (together, Alpha), announced the confidential submission by Contura of a registration statement on Form S-4 with the US Securities and Exchange Commission (SEC) relating to the previously announced proposed merger between the companies."

Why this is important: The Contura and Alpha merger continues to move forward. The companies have filed confidential SEC statements with plans to complete the merger by the end of 2018. The companies were created out of the earlier Alpha Natural Resources bankruptcy. Both have closed and sold under performing assets in the past years and announced plans for an all stock merger in April 2018. The merger is possible with the strong metallurgical steel market and will result in a publicly traded company. --- <u>Mark E. Heath</u>

Harnessing Natural Gas to Harvest Water from the Air Might Solve Two Big Problems at Once

"Between 6 and 18 million gallons of freshwater hover above every square mile of land, not counting droplets trapped in clouds. Scientists realized this centuries ago but they have never quite figured out how to bring the water down to earth. The effort required to condense it would consume such vast quantities of energy that it has always appeared to make any effort to capture and use this water uneconomical."

Why this is important: Three University of Texas at Austin researchers have conceptualized a process for using the natural gas that otherwise would be flared from oilfields to harvest atmospheric moisture. While not yet tested, they believe it has the potential to be practical and economically viable, especially as water becomes scarcer and more expensive. The process essentially would work by harnessing excess flare gas, which is in most cases otherwise wasted, to power the engine of an immense scale refrigeration unit. This industrial-scale refrigerator would swallow vast quantities of humid air, condensing this moisture into water similar to how an air conditioning system operates. The researchers theorize that for every cubic meter of gas, this process would

capture up to 2.3 gallons of water, which they believe would be fit for human consumption, including food processing, mining and other industries. --- J.C. (Max) Wilkinson

Report: U.S. Had World's Largest Decline in CO2 Emissions in 2017

"The American Enterprise Institute, a conservative think tank, said the U.S. last year had a growth rate in carbon emissions of -0.5 percent and a decrease of 42 million tons, citing data from oil giant BP's Statistical Review of World Energy, published in June."

Why this is important: World leaders chastised the United States for withdrawing from the Paris Accord. They also questioned the United States' commitment to reducing carbon emissions while lauding China for taking a leadership role in the Accord. This report contains three important findings: 1) carbon emissions from energy increased worldwide last year; 2) China led the world in increased carbon emissions; and 3) the United States led the world in reduced carbon emissions. This is the ninth time this century the United States has had the largest worldwide decline in emissions. It is also the thirteenth time this century China has had the world's largest surge in carbon emissions. This report confirms the ineffectiveness of the Paris Accord. One hundred and seventy four countries and the European Union signed the Accord and committed to reducing carbon emissions, yet worldwide carbon emissions increased. Since Syria signed the Accord, the United States is the only country not part of the Accord, yet it leads the world in reduced carbon emissions. --- Nicholas S. Preservati

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

If you would like to subscribe to this weekly e-blast or know someone who would, please <u>email us</u> and we will add you or your acquaintance to the email list.

If you have any energy questions, please feel free to contact us.

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