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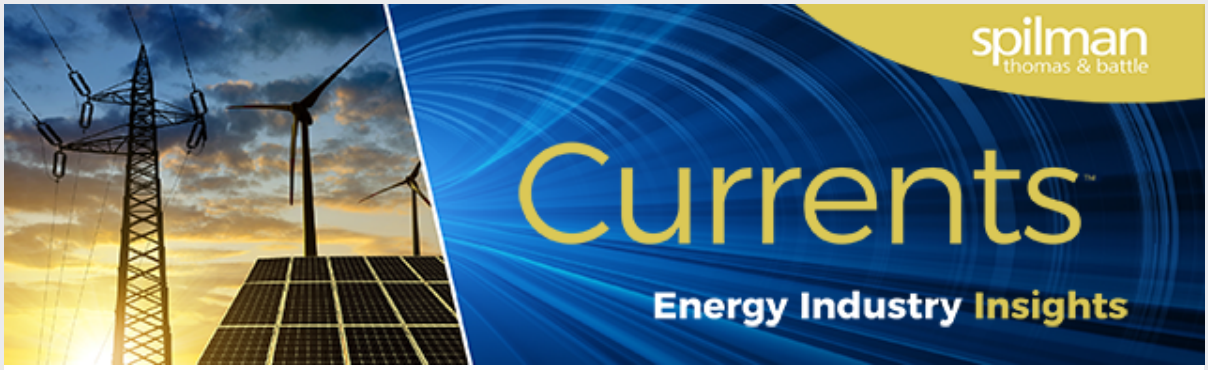

Volume 5, Issue 20

Welcome

Welcome to Volume 5, Issue 20 of *Currents*. In this issue, we discuss major and interesting topics such as IGCC coal power, BP and solar projects, using coal substitutes, Republican investments in EVs, cofiring, secure mineral supply chains, and coal-fired output decline.

We hope you enjoy reading.

Nicholas S. Preservati
Co-Chair, Energy Practice Group

Japan Ushers in New Era for IGCC Coal Power

"The Nakoso integrated coal gasification combined cycle plant, a much-watched power project in Japan's Fukushima prefecture because it incorporates a pioneering advanced coal gasification technology, began commercial operations on April 16."

Why this is important: On April 16, 2021, Japan began commercial operation of a new integrated coal gasification combined cycle ("IGCC") plant, a significant power project in Japan's Fukushima prefecture. The plant replaces a nuclear plant damaged in the tsunami and incorporates a pioneering advanced coal gasification technology. The 543 MW plant uses coal and air to create syngas made primarily of hydrogen and carbon monoxide, which is burnt to create electricity. The use of IGCC plants around the world has not been consistent over the years, and some of the plants already have closed. The new plant in Japan has shown the ability to reduce CO2 emissions by about one-third (emitting 650 g CO2/kWh vs 950 g CO2/kWh for a traditional coal-fired plant). However, coal-fired electrical generation plants continue to be targeted for closure around the world. --- Mark E. Heath

BP Invests $220 Million in U.S. Solar Projects

"The deal, for assets with production capacity of 9 gigawatts, marks BP's first independent investment in solar since buying a stake in Europe's largest solar developer, Lightsource, in 2017."

Why this is important: BP announced a $220 million purchase of solar projects from developer 7X Energy, all located in the U.S. and spread across 12 states. The investment supports BP's strategy to sharply reduce carbon emissions by 2050. BP is committed to significantly grow its renewables business, and this purchase of solar projects will increase its renewables pipeline from 14 GW to 23 GW. BP sees the U.S. as an important market and expects to begin development of the new assets by 2025. In light of BP's strong desire to reduce carbon emissions, it will not be surprising if BP makes additional renewables investments in the U.S. in the future. --- Susan J. Riggs

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Coal Substitutes Touted as Way to Keep Coal-Fired Power Plants Open

"The use of coal substitutes, fuels specifically designed to mimic coal but with lesser environmental impact, is being studied as a way to keep coal-fired power plants operating even as the use of coal is phased out."

Why this is important: Research continues on ways to burn coal substitutes with coal to produce electricity while reducing CO2 discharges. A United Kingdom company, Active Energy Group, will test burning 900 tons of a pellet called CoalSwitch this month at PacifiCorp's Hunter Power Plant in Castle Dale, Utah. Approximately 10 to 15 percent of the pellets are burned with 85 to 90 percent coal to reduce emissions. The pellets are made from all parts of trees and are different than traditional bio-mass generation. --- Mark E. Heath

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Republicans Include $4B for EVs in 2nd Counteroffer to Biden Infrastructure Plan

"In all, the Republicans proposal would spend $928 billion on infrastructure over the next eight years, a $360 billion increase over their previous proposal."

Why this is important: Electric vehicles are a key component of the Biden administration's attempts to cut greenhouse gases. Reaching its GHG reduction goals through EV adoption depends on a number of factors, including conversion of electric generation (i.e., car charging power) from fossil fuels to renewables and adoption of EVs by the car buying public. To encourage the latter, the President's infrastructure bill proposal has billions for EV subsidies and charging station build-outs. Republicans, who are trying to negotiate a scaled-down infrastructure wish list, have realized that their position won't be taken seriously without significant subsidies for the EV industry. Accordingly, their newest proposal includes more money for electrifying transportation. --- David L. Yaussy

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Cofiring at Coal Plants: A Cautious but Effective Regulatory Approach to Power Sector Emissions

"That's why a cofiring standard for coal plants, which follows an established legal strategy, is an appealing option for achieving emissions reductions."

Why this is important: A new study proposes using cofiring of natural gas at coal-fired electrical generation plants as a way to reduce CO2 emissions. The authors propose using Section 111(d) of the Clean Air Act to require cofiring. Many plants use natural gas on start up to warm up the plant and its generators. The proposal believes if the natural gas burners were left on full time, they could provide 20 percent of the fuel for a coal-fired plant. That reduces total CO2 emissions by 10 percent at each plant using 20 percent gas for fuel. Using this method full time for plants in operation could reduce total U.S. CO2 power sector emissions by 16 percent between 2022 and 2030 at a reduced cost of about $13 a CO2 ton, the study concludes. --- Mark E. Heath

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The Energy Transition Won't Happen Without Secure Mineral Supply Chains

"The very real issues related to the supply chains of an array of critical minerals needed to facilitate the 'energy transition' that has become such an en vogue subject in 2021 receive very little attention from the energy-related news media."

Why this is important: The variety and amount of rare earth minerals and other materials required to electrify the world's economy are significant, and those materials are disproportionately sourced from China. That gives China substantial geo-political leverage, and it raises the stakes of any future confrontation between the United States and China. The rest of the world is trying to catch up, but it is limited by its compliance with environmental safeguards and human rights obligations that do not always apply in China, which allows it to be the low-cost producer. --- David L. Yaussy

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US Coal-Fired Power Output Decline Continues with Last PSEG Coal Plant Retirement

"Originally designed to be fueled with oil or coal, Unit 3 was converted to a full-time coal unit in 2002 and provided 400 MW of peaking capacity to southern Connecticut, meaning the plant only operated during times of peak energy demand like extreme heat or extreme cold."

Why this is important: Public Service Enterprise Group on June 1 retired its last remaining coal-fired electrical power generation plant, the 400 MW Bridgeport Harbor Station Unit 3, in Bridgeport, Connecticut. The plant was built to burn coal or oil in 1968, but it was converted to all coal in 2002. The closure is part of a continuing trend of coal plant retirements nationwide. Coal-fired plants will produce 23 percent of U.S. electrical power in 2021, but that will drop to 15 to 16 percent by 2026. In 1997, coal produced 52.8 percent of U.S. electrical power. In the past four years, a number of coal-fired plants have closed or retired. In 2019, 14.2 GWs of coal-fired plants closed. That closure number dropped to 9.2 GW in 2020 with the COVID-19 slowdown and is forecasted to drop to 3.2 GW of coal-fired plants in 2021 and 4.9 GWs in 2022. However, many existing coal-fired plants are operating on reduced schedules due to cheap natural gas or low-cost renewables. The Bridgeport Harbor plant only ran two days in 2020 as the plant only used it for high electrical demands, but it ran for two months straight in January and February 2021 in record cold weather. Despite its recent heavy use, it still was closed. --- Mark E. Heath

Energy Question of the Week

Last Issue's Question and Results

What is the most effective way to lower CO2 emissions?

Increase renewable energy use - 23.1%

Which entity can most successfully increase the use of electric vehicles in the U.S.?

Federal government

Increase energy efficiency - 17.9%
Carbon capture and storage - 17.9%
Change consumer behavior - 12.8%
Other - 15.4%
Do not know - 12.8%

Select

State governments

Select

Private markets

Select

All of the above

Select

Other

Select

Do not know

Select

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, email us! We have a large number of attorneys willing to weigh in on the issues that impact you and your business.

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