Our Ocean Backyard

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Good News for Renewable Energy

There seems to be a shortage of good news these day, but no lack of bad news. So I am going to focus for a while on good stuff that hopefully raises your spirits and gives you a sense that we are making progress on a myriad of issues and problems that challenge us. Climate change with its diverse impacts on our lives is one of those seemingly huge, intractable and inconvenient truths that the semi-annual meetings of all of those world leaders never seems to make much progress on. So, some positive news.

Investment in wind and solar is now set to outpace oil and gas drilling for the first time – an important milestone in the global transition to clean and renewable energy, in spite of a rising energy crisis and a push by the fossil fuel industry to increase production. The U.S. Energy Information Administration (https://www.eia.gov/) is projecting that renewables will generate more power in the United States this year than coal, which also happened in 2020. The projection for this year is that renewable energy will generate 22% of the country’s power, compared to 38% for natural gas, and 20% for coal. Wind and solar power output are up 18 percent through November 29 compared to the same time last year and have grown 58% compared to 2019. This is important progress.

As more offshore wind turbines have gone up, costs have plunged. In just the past ten years, the price of offshore wind energy has declined by half. Onshore wind has grown even faster, and its cost has also gone down rapidly. In many areas around the world, it’s now cheaper to put up wind turbines that it is to continuing to operate existing gas-powered electrical generating plant. In regions with a lot of wind, such as Denmark, Ireland, and western Oklahoma, there is sometimes so much power pouring into the grid that producers have to pay to get rid of the power. This doesn’t make any sense to me, but it sounds like a good problem to have and argues for the need to develop more energy storage facilities.

Several weeks ago one of the world’s largest wind turbines offshore of Denmark set a record of producing a remarkable 359 megawatt-hours of power in a 24-hour period. That amount of energy was enough to drive a mid-sized electric car 1.12 million miles, which is equivalent to making two round trips to the moon – and this is just one day of one large turbine. The energy generated by that single offshore wind turbine could power about 12,000 average American homes yearly. The wind industry is making important progress.

On December 6, two days after this article will be printed, the Department of Interior through the Bureau of Ocean Energy Management (BOEM) will hold the first West Coast offshore wind lease sale, thanks to this administration’s efforts to increase our renewable energy production and eliminate our dependence on fossil fuels. This will also be the first commercial-scale floating offshore wind energy development. In contrast to the broader and more gently sloping continental shelf off the east coast, offshore waters along our coast get deeper faster so floating wind turbines are needed. This is a relatively new approach and has the advantages of there being more wind energy available farther offshore and there is less visual impact. There are five offshore areas that will be offered for lease that have the potential to produce over 4.5 Gigawatts of offshore wind energy and power more than 1.5 million California homes.

The Bureau of Ocean Energy Management also announced that it has completed an environmental impact assessment and determined that there would be no significant impact from offshore wind energy leasing activities in the two California areas selected, the Morro Bay Wind Energy Area and the Humboldt Wind Energy Area, both twenty miles offshore.

A Princeton University-based team recently issued a report detailing how the U.S. could reduce its net carbon dioxide emissions to zero by 2050, just 28 years away. Their high electrification pathway would, they project, eliminate 62,000 coal industry jobs and 400,000 jobs in the natural gas industry, but was expected to generate nearly 800,000 jobs in construction, over 700,000 in the solar industry, and more than a million in upgrading the electrical grid. We are making very significant progress in the transition we need to make to clean and renewable energy sources.