

## **Republican Perspective**

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**by Ed Manning**

### **SUN, WIND AND POWER**

*“Californians devised a system of electricity sales that ignored every dimension of the free market.” P. J. O’Rourke*

If you have been enjoying your retirement with the plethora of choices in Rossmore, you might not have heard about the “Keep it in the Ground” movement. This is the latest effort by hard-core environmentalists to thwart the production of fossil fuels. Their website boasts that over 400 organizations from more than 60 countries “call on world leaders to put an immediate halt to new fossil fuel development and pursue a just transition to renewable energy with a managed decline of the fossil fuel industry.”

California’s Democrat Senate leader, Kevin De Leon, is all-in. He has submitted a bill that would require California to hit 50 percent renewable energy by 2025, five years sooner than under current law, and phase out fossil fuels entirely by 2045. Republicans are not opposed to harnessing the power of the sun, wind and geothermal pools. We are opposed to arbitrary government mandates and its choosing of what companies/industries are winners.

Instead of incentivizing industry on how best to decarbonize the energy grid, the Progressive tact defaults to mandates and penalties. Here's how Jesse Jenkins, an energy systems researcher at MIT, framed this problem: “Why would we want to constrain ourselves to a narrow set of options to confront climate change and air pollution and other energy sector challenges when those challenges are already quite difficult?”

We don’t know that a 100 percent renewable approach is the fastest, cheapest or easiest way to decarbonize the grid. We do know that it will be expensive and very difficult. The 100 percent renewable mandate would have you believe that it will beat every option currently available. It refutes any future fossil fuel possibilities based on technological progress in the next several decades. It leads you to believe that technological progress in renewables is the only option and mandates will solve its practical problems.

Just what are the practical problems? First, solar and wind cannot yet be relied upon to deliver constant electricity. Californians will need to be prepared for

when the sun doesn't shine and the wind doesn't blow. This can be addressed by building enough extra solar and wind farms so there is enough production to power the grid. But building extra capacity costs money and reduces the return of additional renewables.

With so much extra solar on the grid, utility operators may have to curtail output when the weather conditions are optimal. The more solar that goes onto the grid without a productive use, curtailment becomes more of a reality.

“Value declines due to curtailment because each unit of potential PV (photovoltaic) production no longer displaces one unit of fossil generation,” states a study from the National Renewable Energy Laboratory (NREL) on how to reach 50 percent PV penetration in California. “As curtailment increases, the benefits of additional PV may drop to the point where additional installations are not worth the cost, creating an economic limit to deployment.”

That leads to a second practical problem - storage. California set a statewide mandate on renewable storage for its three largest investor owned utilities; PG&E, Southern California Edison and San Diego Gas & Electric. According to an NREL study, California would still need an estimated 15 gigawatts of additional storage just to reach 50 percent solar by 2030. That's more than 11 times the amount of storage mandated currently in California, and 66 times the total megawatts deployed in the U.S. last year.

Researchers at Argonne National Lab demonstrate how the need for storage goes down if the grid includes some sort of flexible baseload power in addition to intermittent renewables. Natural gas could fill this role.

California prides itself for technological innovation. Progressives should not arbitrarily rule out fossil fuel technological improvements. Incentivize the private sector to solve the practical problems of renewables at affordable costs. Let's not make our electricity bills more unaffordable just to satisfy environmental elites.

Per the U.S. Bureau of Labor Statistics (BLS), the rates “San Francisco households paid for electricity in February 2017 was 40.0 percent more than the nationwide average...Last February, electricity costs were 39.6 percent higher in San Francisco compared to the nation. In each of the past five years, prices paid by San Francisco area consumers for electricity exceeded the U.S. average by at least 39.6 percent in the month of February.” Note the BLS San Francisco-Oakland-San Jose metropolitan area consists of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma counties.

Is it any wonder that 46% of millenials recently surveyed want to leave San Francisco?