

Diablo Canyon Nuclear Power Plant Closure

- CNBC December 21, 2021 article covering a study done by MIT and Stanford “Assessment of the Diablo Canyon Nuclear Plant for Zero-Carbon Electricity, Desalination, and Hydrogen Production”
- 2240 MW of power from each of 2 nuclear plants. Delaying its closure could:
 - Reduce California carbon emissions by 10% by 2035
 - Reduce cost of power systems by \$21B by 2045
 - Spare 90,000 acres from conversion to solar and energy production while meeting coastal protection requirements
- Produce desalinated water at a significantly lower investment cost for the Central Valley verses the Delta Conveyance Project
- Produce clean hydrogen to meet growing demand for zero-carbon fuels, at a cost up to 50% less and with a much smaller land footprint.”
- 90,000 acres equals 140 square miles (640 acres per square mile)
- 70 miles to Columbia
- Impact to vegetation, trees, animals, birds, homes, developments – where is all this land
- Sunny days, rain, time of day, efficiency of units, age of units, topography, season of the year, etc.

Nuclear Plant Closures in the Northeast

Article in February 2022 issue of Politico

- Closures of plants in Massachusetts, New York and Pennsylvania underscore their effects on emissions.
 - In New York, power-sector emissions reached 28.5 million tons in 2021, up from 24 million tons in 2019, according to EPA figures. The increase coincided with the shutdown of Indian Point's two nuclear units in 2019 and 2021.
 - In New England, emissions from power plants have risen from around 22 million tons in 2019, the year Pilgrim closed, to 25 million tons in 2021.
 - And Pennsylvania's electricity emissions, which were less than 83 million tons in 2019, stood at 85 million tons last year.
- The increases are especially notable because they stand in contrast to the national trend. Nationwide, power plant emissions were down 4 percent between 2019 and 2021.
- It also highlights the struggles of Northeastern states to build utility-scale renewable projects. That has led to increased natural gas use.
- New York experienced an 11 percent increase in natural gas generation between 2019 and 2020, according to the U.S. Energy Information Administration. Utility-scale solar systems more than doubled between 2019 and 2021, but remains less than 1 percent of the state's total power generation.

Land Use Numbers

- Take a lower number than 90,000 acres which noted by the experts to replace Diablo Canyon power with green energy generation
- Let's work with 50,000 acres per 2,240 MW of nuclear energy going solar
- A system with 9348 MW of nuclear energy is 4.17 times larger than Diablo Canyon
- $4.17 \times 50,000 = 208,660$ acres of solar panels
- 326 square miles