

Public Comment for the Diablo Canyon Decommissioning Engagement Panel August 2022

My name is Jennifer Klay. I am a professor of physics at Cal Poly and a resident of San Luis Obispo. I am a nuclear physicist by training and I study nuclear collisions at both high and low energy so that we can better understand how the universe works and make nuclear reactor fuel more efficient.

California should prioritize an electric grid that achieves three fundamental goals: 1) reliability 2) affordability 3) low CO2 emissions. Diablo Canyon delivers on all three of these goals and more.

All [rigorous studies](#) that take into account lifetime costs, CO2 emissions, environmental footprint, reliability, and **SAFETY** of energy generation recognize the crucial role that nuclear power must play in helping us reach our climate goals while keeping costs low for consumers and preventing life-threatening blackouts. Diablo Canyon produces 15% of California's in-state clean energy and nearly 10% of its electricity, powering nearly 3 million homes with an up-time of over 92% of the year. We simply can't afford to let that reliable baseload power go offline, especially when we are facing shortfalls and extreme weather induced by climate change.

Figure 1 of this comment shows the supply and demand (upper panels), and CO2 emissions (lower panels) from the California electricity grid for two days in 2022, using publicly available data on the [CAISO Today's Outlook webpage](#). While we produce a significant portion of our mid-day needs from **low-carbon sources, including nuclear power from Diablo Canyon**, throughout the year, high-carbon sources such as imports from other states and natural gas currently make up the bulk of our year-round night-time supply and must fill the gap during the crucial 4pm-9pm window during our hot summer months. Imports and natural gas are also the largest sources of CO2 emissions on our grid. We say we want low carbon electricity but what we actually have is very far from it.

If we are to meet our climate goals AND electrify the transportation sector, ***we need substantially more reliable baseload low-carbon sources***. We certainly can't afford to go backward by losing the 2200 MW of power provided by Diablo Canyon.

I urge the legislature to follow the governor's lead and pass the draft legislation that will allow Diablo Canyon to keep operating. We got ourselves into this mess by ignoring the value of Diablo Canyon to our state and by letting the endless fear-mongering by well-intentioned but woefully misinformed and misguided anti-nuclear advocates frame the narrative. They are wrong on so many of the facts that it is challenging to patiently refute each and every one with credible scientific sources, but as a scientist, I am compelled to try. I hope that our leaders and policymakers will seek out reliable data and [listen to the scientists](#) when we cite that evidence in [making our case for keeping Diablo Canyon open](#).

Author and energy analyst Meredith Angwin's book [Shorting the Grid](#) should be required reading (or listening) for all who write or vote on California energy policy. It clearly lays out the challenges of managing the complex system of electricity generation, transmission, and distribution, and provides guidance for policymakers in creating **the grid that we want: reliable, affordable, and low-carbon**.

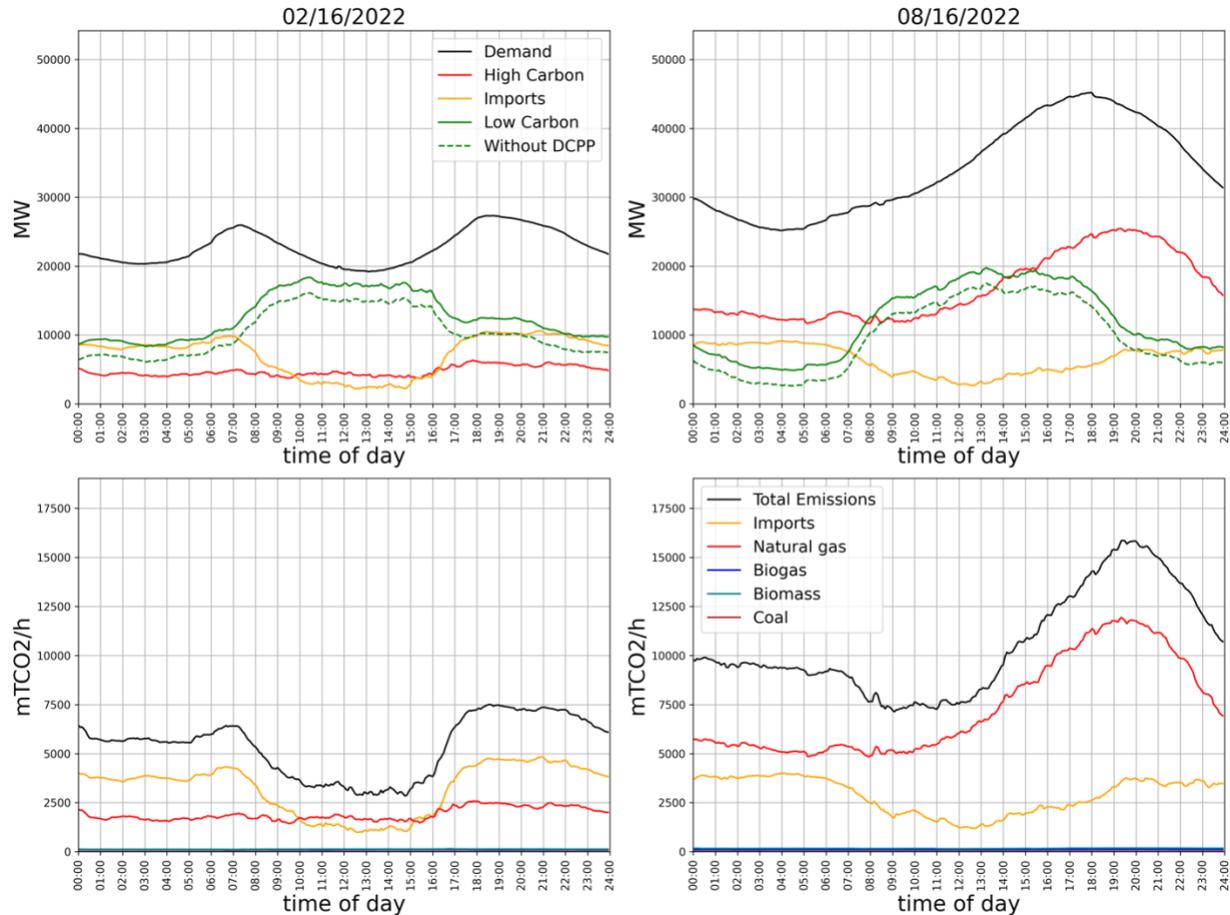


Figure 1: California electric grid supply and demand (top panels) and emissions by source (lower panels) for Feb 16, 2022 and Aug 16, 2022. Data from [CAISO Today's Outlook](#). We need more low-carbon baseload like nuclear power to reduce our emissions and meet our electricity needs at night in the winter all day long, but especially 4pm-9pm, in the summer.

We must do everything we can to keep Diablo Canyon operating well into the future and invest in **all** clean-energy generation, including **new** nuclear power plants. We must show our leadership by embracing examples of [demonstrated decarbonization](#), not the empty promises of 100% “renewables” advocates who ignore the emissions and costs of the backup sources (whether natural gas and imports or storage) that are necessary to prop up the intermittency of wind and solar. The low-carbon electricity systems implemented in Sweden, Ontario, and France in the 1970s and 1980s should light the way forward, not the [failed Energiewende of Germany](#), whose consequences are even clearer since the devastating Russian invasion of Ukraine and the astronomical rise in costs of electricity heading into the colder part of the year.

In summary, the legislature must clear all bureaucratic barriers to keeping Diablo Canyon open. California’s leaders must take action to ensure that our electric system is 1) reliable and robust against the impacts from climate change, 2) helps us arrest runaway CO2 emissions, and 3) can grow to meet future demand from electrification of our industrial and transportation sectors while being equitable and affordable for all Californians.