



FAQs for California Assembly Constitutional Amendment (ACA) to Recognize Nuclear Energy As Renewable

Why do you advocate this?

We advocate this Assembly Constitutional Amendment (ACA) introduced by Assemblyman Jordan Cunningham to recognize nuclear as renewable starting in 2020 because it is in the best interests of California ratepayers and the natural environment, including the climate, to keep Diablo Canyon Nuclear Power Plant operating.

What would be the impact on ratepayers and PG&E investors?

If California recognized the electricity from nuclear as renewable, DCPD could continue to be operated by Pacific Gas & Electric (PG&E) until 2045 or sold to private investors for up to \$3.6 billion, which would be a win for ratepayers, investors, and the environment.

How does this affect the PG&E bankruptcy proceeding?

We believe that the judge overseeing the bankruptcy proceeding should consider the fact that the legislature and voters may count nuclear as renewable, which would instantly make Diablo Canyon an asset worth up to \$3.6 billion, either to PG&E or to an outside investor.

Is it realistic to imagine that someone would buy Diablo Canyon?

Yes. If the ACA passes then it would provide the certainty that an investor would need to purchase and operate the nuclear plant for decades to come. It is likely that such an investor would retain all existing managers and employees, who have made Diablo Canyon one of the best-performing nuclear plants in the world.

But if the ACA passes the legislature, won't voters still have to vote for it?

Yes. After two-thirds of the legislature votes for the ACA, it will be put on the ballot.

Does the ACA also count large hydroelectric dams as renewable?

The ACA mandates that future legislation pertaining to renewable energy goals be technology-neutral and not discriminate against any type of emission-free technology.

Doesn't PG&E say Diablo Canyon is not needed?

In the past PG&E has claimed that Diablo Canyon's power is not needed because it expects to lose most of its "bundled" electricity customers. This means that although PG&E will continue supplying just as many people with just as much power as before, other groups such as CCAs ("Community Choice Aggregators") will be responsible for buying enough power contracts to supply all power needs. In reality, Diablo Canyon will remain as important to California's energy supply in the future whether or not it is owned by PG&E.

Who is Environmental Progress and Californians for Green Nuclear Power and who funds you?

Environmental Progress (EP) and Californians for Green Nuclear Power (CGNP) are two independent nonprofit environmental groups that are funded strictly by those without any financial interest in our work. We do not and never have accepted funding from the nuclear industry. EP was founded by Michael Shellenberger, a *Time Magazine* "Hero of the Environment" in 2016, and has worked with climate scientists including James Hansen to save nuclear plants from premature closure in Illinois, New York, Connecticut, New Jersey and South Korea. CGNP was founded by scientists and engineers in 2015 and has fought the closure of both Diablo Canyon and San Onofre nuclear plants.

Do you really think this ACA can pass?

Yes, the legislation can pass, and we are hopeful Gov. Newsom will support it. Times have changed. The fears of nuclear energy turned out to be unfounded. The Nuclear Regulatory Commission consistently ranks Diablo Canyon as the top 25% best performing and safest nuclear plants in the US. The Intergovernmental Panel on Climate Change and climate scientists including James Hansen say we need nuclear energy if we are to address climate change.

Where is the public at?

According to the most recent [PPIC survey](#), only one-third of Californians approve of how Governor Newsom has handled the PG&E bankruptcy. Eight in ten are concerned about higher electricity bills.

Didn't Governor Gavin Newsom advocate the closure of Diablo Canyon?

Yes, but that was before the bankruptcy of PG&E and before it was clear that California needed nuclear energy to meet its climate change commitments. Governor Newsom has shown courage in the past in order to do what is right by the people of California and we are hopeful he will do so here.

Can't we just use renewables?

Renewables can play a role but they are not enough and they are not a substitute for nuclear. Every time a nuclear plant is closed it is heavily replaced with fossil fuels and emissions go up. After San Onofre nuclear plant in southern California closed in 2013, electricity prices and air pollution including carbon emissions both increased.

But can't we just build more solar farms and solar roofs?

California is reaching its limits in solar. During sunny Spring days with relatively low demand, California's electric grid operators have to cut-off electricity coming from solar farms, and/or pay neighboring states including Arizona to take excess California's electricity.

Isn't nuclear energy dangerous?

No. According to every major study, including the most recent one in Lancet, the British medical journal, nuclear energy is the safest way to make reliable electricity. According to peer-reviewed scientific study by climate scientist James Hansen, nuclear energy has saved 1.8 million lives that would have been lost to air pollution.

Is nuclear energy really carbon-free?

Yes. The Intergovernmental Panel on Climate Change finds that nuclear power produces just one-quarter of the carbon emissions per unit of electricity as solar farms.

But what about nuclear waste?

What is called "nuclear waste" are the used fuel rods which are safely stored on-site at nuclear plants. The rods at Diablo Canyon and other plants are in steel and cement canisters designed and built to withstand the most extreme conditions including as earthquakes, tornadoes, and floods. This method of safe storage has never harmed any civilians ever anywhere in the world.

But isn't Diablo Canyon old?

No. Nuclear plants can operate safely for 60 to 100 years with proper maintenance, and Diablo Canyon has only been operating for 35 years, since

1984. Diablo Canyon has been an industry leader in upgrading their systems and equipment.

Isn't Diablo Canyon at risk of earthquakes or tsunamis?

No. Diablo Canyon sits 85 feet above the ocean, which is far higher than any tsunami could reach. Fukushima nuclear plant was affected because it was just 20 feet above sea level. Diablo Canyon has been repeatedly retrofitted to protect against earthquake. When earthquakes occur, the plant shuts down. Just to be even more safe, the plant has stored large quantities of water above the plant to use in an emergency. In the worst case scenario Diablo Canyon can pump water from the ocean to keep reactors cool.

How much would ratepayers save by classifying nuclear as renewable?

Environmental Progress (EP) and Californians for Green Nuclear Power (CGNP), two independent nonprofit organizations, calculate that classifying nuclear as renewable could save ratepayers up to \$3.6 billion.

How is that figure calculated?

EP and CGNP estimate that the cost to PG&E to operate DCP is \$40/MWh, but that the costs will likely decline. Costs at nuclear plants around the country have been dropping, and with best industry practices plants similar to Diablo have achieved costs of \$25/MWh and below, with reactors of the same type achieving under \$20/MWh recently. With Diablo's saltwater location and unique seismic protection system, we estimate costs could fall as low as \$30/MWh within ten years.

The California Energy Commission finds that Investor-Owned Utilities like PG&E are paying \$100/MWh to obtain renewable electricity to comply with the state's Renewable Portfolio Standard. Although these present costs may be higher than going-forward costs, even the very newest and largest solar projects are expected to cost around \$50/MWh to develop, without providing electricity at night or consistently around the year, aspects which will become increasingly valuable as the required percentage of clean energy grows by law. Diablo Canyon would not require new long-distance transmission lines, which can cost hundreds of millions of dollars each.

If DCP electricity were qualified as renewable and sold to CCAs, businesses, and utilities for \$80 /MWh against today's estimated production costs of \$40/MWh, the plant would generate net revenue of \$720 million per year. If likely feasible cost reductions to \$30/MWh are achieved, while selling to CCAs, businesses, and utilities at \$60/MWh, net revenues would be \$540 million per year. If Diablo is allowed to sell its electricity as clean, an equity value to earnings ratio of 5 gives an estimated plant value of \$3.6 billion to \$2.7 billion under the scenarios described.