

Renewable Energy



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Over the centuries, we've used the natural resources that surround us in countless ways – soaking in a hot spring, filling our sails with the wind, drying our clothes in a warm breeze. We also rely on these same resources to power our homes, businesses and cities. Our future depends on harnessing the power all around us – clean, renewable energy.



*RENEWABLE
ENERGY
PROGRAM*

CALIFORNIA ENERGY COMMISSION

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Harness the Power All Around Us

What is renewable energy?

Energy drawn from a source that is infinite or is replenished through natural processes is considered renewable. Such sources include the sun, wind, heat from the earth's core, biomass, and moving water. Renewable energy sources offer a variety of uses:



The power of solar, radiant heat and light from the sun, is used to heat water or a building, and to produce electricity. About 1 percent of California's electricity is powered by solar energy.



The power of wind provides electricity using small wind turbines installed at ranches and homes. California's utility-scale 'wind farms' use groups of large turbines to harvest optimal winds, producing 1 percent of the state's electricity.



The power of fuel cells, when powered by clean, renewable fuels such as methane and ethanol, could bring reliable electricity to millions of homes and businesses. Fuel cells may offer the benefit of storing electricity produced from intermittent renewable energy sources like the sun and wind. Transportation may soon be revolutionized by the advent of fuel cells as an alternative option to gasoline.



The power of geothermal, heat from the earth's core, is used to heat and cool homes using ground-source heat pumps. Geothermal energy also provides hot water and steam to fuel large generators that provide 5 percent of California's electricity.



The power of biomass can be found by combusting agricultural and forest residues and by collecting landfill and digester gases. Generating electricity using biomass protects against forest fires, reduces harmful landfill emissions, and provides 3 percent of California's electricity.



The power of water, harnessed by environmentally-sensitive, small hydroelectric plants, can offset the energy costs of a single home and provide electricity to millions of Californians. The power of water from these plants provides almost 3 percent of California's electricity.

Why is renewable energy important?

Renewable energy is a clean, reliable and sustainable alternative to conventional electricity generation, offering economic and environmental benefits to California and the world. Taking advantage of California's abundant renewable energy sources allows us to diversify our energy options for electricity generation, and reduce our dependence on fossil fuels such as coal, oil, and natural gas.

Clean Harnessing renewable energy for electricity generation benefits our health and that of generations to come. Electricity production is the largest source of industrial air pollution in the nation, releasing thousands of tons of pollutants and greenhouse gases in California alone, affecting public health, sensitive ecosystems, visibility, and global climate. Producing electricity from clean, renewable energy sources comes with few of these costs.

Reliable As our domestic supplies of fossil fuels are depleted, California and the nation are becoming more dependent on imports from other countries. Unlike fossil fuels, renewable energy is all around us. It need not be imported, so its reliability is not subject to unpredictable circumstances such as world events or natural disasters. Depending on a mix of renewable energy sources adds diversity to our options for producing electricity, lowering our vulnerability to fuel supply shortages and energy price shocks. And generating electricity locally helps our economy by creating jobs in manufacturing, installing, and maintaining renewable energy systems.

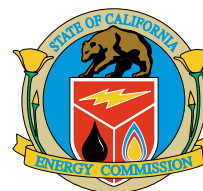
Sustainable The planet's fossil fuels were formed over millions of years and cannot be replenished in thousands of our lifetimes. Because renewable energy is infinite or naturally replenished, we can depend on it being there tomorrow. Life on earth will depend largely on our ability to use renewable energy.

The future of renewable energy

As we continue to deplete the planet's fossil fuel supply, we are finding more efficient ways to harness our natural energy sources. California leads the nation, producing about 12 percent of its electrical power from renewable sources. We must continue to support renewable energy to ensure that California's future is powered by clean, reliable and sustainable electricity.

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For more information on renewable energy sources
www.consumerenergycenter.org



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