

GREEN HOUSE GAS EMISSIONS AND ALL-ELECTRIC BUILDINGS

AT A GLANCE

WHAT: This fact sheet describes the electricity generation sources from Monterey Bay Community Power's (MBCP) supply and how that relates to the climate pollution reduction benefits of all-electric buildings built using the 2019 California Energy Code. MBCP's current power portfolio includes carbon free hydroelectric sources from the Pacific Northwest, which are delivered to California via multiple transmission lines. MBCP is rapidly increasing the amount of solar, wind, and battery storage sources of energy in its portfolio concurrent with California requirements for carbon neutral statewide electricity supply by 2045. Even with the current mix of electricity in California, multiple studies confirm that all-electric buildings built using the 2019 California Energy Code produce less greenhouse gas emissions than the same buildings with natural gas.

WHY: Monterey Bay Community Power is launching in 2020 and the topic of "all-electric buildings" is appearing regularly in local conversations. The topics are interrelated and highly technical; this background information provides the relevant facts and sources as a basis for discussion and dialogue in the community.

CONTACT: Chris Read, Sustainability Manager, cread@slocity.org

Greenhouse Gas Emissions and Monterey Bay Community Power

In 2018, [66% of MBCP's energy sources came from large hydroelectric generation sources](#), much of which were from the Pacific Northwest. These generation sources have available capacity and are carbon free. Purchasing the available generation from these resources allows for MBCP's electricity portfolio to have a substantially lower carbon content now without the need to construct new generation facilities. California has a long history of directly importing electricity from hydroelectric resources in the Pacific Northwest and does so through multiple transmission lines that cross California's northern border and a large transmission line that travels through Nevada to southern California.

The amount of hydropower in MBCP's portfolio is not static. MBCP will continue to purchase an ever-increasing percentage of the region's energy needs from renewable energy resources such as solar, battery storage, wind, geothermal and bio-mass. It has already done so by contracting for a large [solar and storage facility in California](#), [large wind farms in New Mexico \(with transmission lines to the California grid\)](#), and [ongoing support](#) for eventual development of offshore wind along the Central Coast.



MBCP continues to solicit proposals to build new renewable energy resources and is currently exploring several projects, including a potential project in MBCP’s service area. MBCP forecasts meeting 40 percent of its annual electric load from new renewable resources via long term contract over the next few years.

Greenhouse Gas Emissions and All-Electric Buildings

In 2018, about [38 percent](#) of the energy consumed on the California grid came from fossil fueled generation sources which is a decrease from almost [50 percent](#) in 2010. This decrease will continue to occur over the next 25 years. By 2045 the entire California grid is required to have 100 percent carbon free resources on it, per recent state law ([SB100](#)) and starting in 2020, all new residential buildings will be required to have onsite solar generation systems.

The 2019 California Energy Code is one of the most stringent and effective energy codes in the nation. Although there is always room to improve, and alternative building methods can lead to further efficiencies, an all-electric home built to the minimum standards of the 2019 code is one of the most efficient new buildings in the world.

Even with the electrical grid of today, [statewide studies](#) developed by the State’s Investor Owned Utilities through a public process with support from the California Energy Commission and Public Utilities Commission found that all-electric buildings built to the 2019 California Building Code have a lower greenhouse gas emissions impact than a similar building that includes natural gas. These findings have been confirmed through independent, peer reviewed academic research. An article titled, [“Quantifying Greenhouse Gas Emissions and the Marginal Cost of Carbon Abatement for Residential Buildings under California’s 2019 Title 24 Energy Code”](#) published in the September 2019 volume of the *Journal of Environmental Science and Technology* notes that, “all-electric homes represent the first-best policy option for residential sector GHG abatement in California.”

