Climate Change & the Northwest's Path to Renewable, Carbon-Free Electricity Generation

CARBON -FREE ELECTRICITY GENERATION

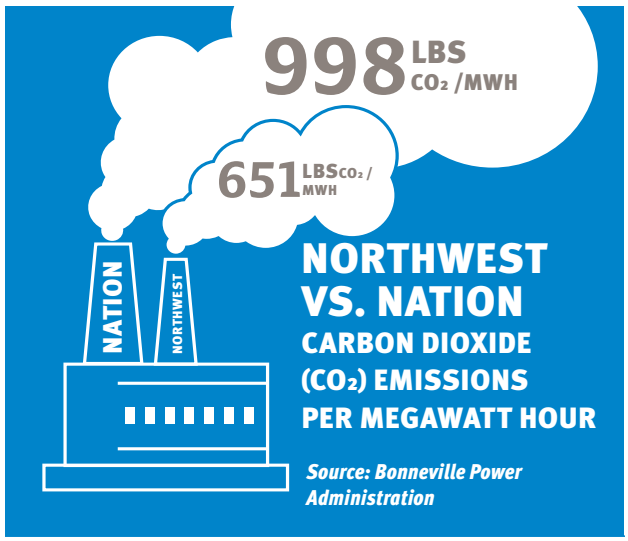
CLIMATE CHANGE

GREENHOUSE GAS EMISSIONS

EXTREME WEATHER

Nationally and regionally people are witnessing increases in the intensity and frequency of weather events like wildfires and droughts; changing weather patterns like the amount and seasonal timing of snowfall and rain; and changing landscapes such as stream flows and receding glaciers.

What we are seeing and experiencing stems from climate change trends. For instance, the average annual temperature in the Northwest rose by about 1.3°F over the last century; and temperatures are projected to increase by 3°F to 10°F by the year 2100. In 2019, the world's oceans were warmer than any other time in recorded human history.



Thanks to the carbon-free nature of hydropower, Northwest carbon dioxide emissions (which account for 81% of greenhouse gases) are dramatically lower than national averages.

According to the University of Washington's Climate Impacts Group, "The combined effects of climate change and climate variability in the Pacific Northwest are expected to result in a wide range of impacts for the region's communities, economy, and natural systems. These include projected changes in water resources, forests, species and ecosystems, oceans and coasts, infrastructure, agriculture, and human health."

THE NORTHWEST'S ELECTRICITY GENERATION CARBON FOOTPRINT IS

45% LESS THAN THE NATIONAL AVERAGE

Elected officials and policy makers are now taking action to reduce human created carbon emissions that contribute to climate change. Electricity generation is key to this effort. In 2018, the Environmental Protection Agency (EPA) found that 27 percent of greenhouse gas emissions result from the generation of electricity.

The Northwest, however, is lucky. Thanks to hydropower and other carbon-free resources, our carbon footprint from electricity generation is about 45 percent less than the national average.

Hydropower is the backbone to our clean energy system by providing 55 percent of the Northwest's capacity to generate electricity. That's a stark contrast to hydropower providing only 7 percent of the nation's capacity to generate electricity.

Doing better than the nation is not good enough for us. States and utilities across the Northwest are committing to carbon-free electricity generation. In 2019, Washington State passed legislation to phase out power generation from coal and natural gas power plants in order to generate 100 percent carbon-free electricity by 2045. In Oregon, by 2040 half of the electricity consumed by their citizens must come from renewable resources. And private utilities serving Washington and Idaho have announced plans to provide their customers 100 percent carbon-free electricity by 2045.

NORTHWEST VS. NATIONAL ELECTRIC GENERATION CAPACITY SOURCES

Sources: Northwest Power and Conservation Council, U.S. Energy Information Administration