

## **Hydropower and the Climate Change Debate**

Climate change and the desire to reduce our national “carbon footprint” has the potential to impact consumer pocketbooks more than most people know. How does our clean Northwest hydropower system figure in this debate? For starters, it is important to recognize the extent to which the region’s hydro system helps meet electricity customers’ needs without producing greenhouse gas emissions.

Electricity generation from fossil fuel sources (such as coal, natural gas and petroleum) account for 40 percent of all greenhouse gas emissions in the country. Transportation accounts for approximately 30 percent, while farming and certain manufacturing sectors make up the remainder.

The Northwest is unique in that it has only half the emissions compared to other regions of the country. This is due largely to the hydroelectric projects used to generate power on Northwest rivers. Sixty-one percent of all power generated in the Northwest comes from clean, renewable water. The outlook is even brighter for non-profit consumer owned utilities that purchase electricity from the Bonneville Power Administration (BPA). About 80 percent of the power generated by BPA comes from clean, renewable hydro.

Another factor that has reduced emission in the Northwest relative to other parts of the country is the commitment that the region has made to energy efficiency. Investments in this area have saved over 3100 average megawatts in the last three decades, or about as much electricity that two large Northwest cities might use. This is power that might otherwise have been needed and obtained from fossil fuel sources in order to meet growing demand.

Congress and some states and regions are considering proposals to cap emissions of carbon from sources such as electricity generating plants, manufacturing plants, and modes of transportation. Policymakers in several western states and Canada have formed the Western Climate Initiative (WCI) to develop a comprehensive approach to reducing emissions. The objective is to cut emissions by 15 percent below 2005 levels by 2020. If this is to be accomplished – and that has yet to be determined – it is important to recognize how certain policies promoted by different levels of government are in conflict.

For example, three Northwest states require utilities to purchase a certain amount of renewable energy for their power portfolios. However, federal and state governments don’t classify hydro as a renewable resource. As a result, utilities will have to purchase additional renewable resources at a higher cost to consumers.

Electric utilities and their consumers in the Northwest have invested enormous amounts to ensure continued operation of this clean hydropower system. For example, since 1980, costs to run the fish and wildlife mitigation effort have reached over \$9 billion. This investment is helping fish in the form of improvements to the federal dams to aid fish passage, habitat improvements, predation controls and other measures.

Yet, certain policy proposals regarding salmon runs threaten the ability to reduce our carbon footprint in the region. Some environmental groups advocate removal of hydroelectric dams along the Lower Snake River. But, this approach is of questionable benefit biologically and focuses on only a narrow portion of the fish throughout the Columbia Basin that are listed as threatened or endangered.

More to the point, breaching the four dams on the Lower Snake River would mean losing 1,200 average megawatts of clean hydropower – enough electricity to power a city the size of Seattle. It would take three nuclear, six coal-fired or 14 natural gas-fired plants to provide the same amount of electricity as the Snake River dams. The net result would be an additional 5.4 million tons of CO<sub>2</sub> to the atmosphere every year according to an independent analysis by the Northwest Power and Conservation Council (Council). Still more pollutants would come from trucks replacing the barges currently used to move goods along the river. All of this for an idea, breaching, that is not supported by the best available science.

Replacing energy lost due to “spill” over the dams is another issue impacting our ability to maximize hydro production. Water is poured through the dams in an attempt to aid in juvenile fish migration downstream. This practice reduces hydropower production and forces the region to rely on dirtier sources of power to meet its energy needs. The Council further estimates that court-ordered spill results in an additional 5.2 million tons of CO<sub>2</sub> emissions each year because of the need for power to replace this lost hydropower capability.

It will be difficult enough to reach the target levels contained in current climate change policy proposals. Conflicting demands on the hydropower system should be evaluated as to whether the appropriate balance is being struck as the region takes on new challenges. As we are seeing already, one certainty is that consumers will face higher energy and fuel costs as government mandates attempt to address the problem. Allowing the region to maximize its hydroelectric potential could save consumers money and help the environment at the same time.

Article is Courtesy of People Power