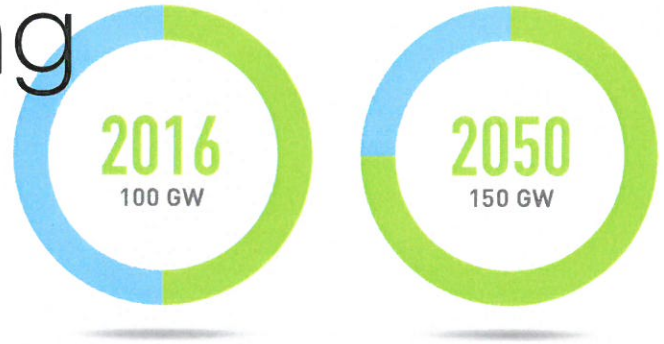


Hydro's Powerful Past, Promising Future



It is simple in essence: just three atoms bonded together by nature to form the lifeblood of our world, water molecules pulled by the basic law of gravity to gather into the rivers that could form a map, a timeline of the development and economic prosperity of the West.

Since first arriving in the West in the late 1800s, hydroelectric dams have provided irrigation, navigation, power, and flood control. These projects, and the influx of millions of people to the region, also had an impact on the land, resources, and tribal communities. More recently, hydropower has taken large strides in mitigating impacts to fish and wildlife. Entire river systems, once focused primarily on flood control and power production, are now operated largely for passage of anadromous fish.

All sources of power have costs and benefits; hydropower has some notable environmental benefits as well. It is the largest source of renewable energy in the country. The Department of Energy notes that hydropower generation displaces about 200 million metric tons of carbon dioxide emissions that would otherwise come from thermal generation. In addition to deriving its source of energy from continuously renewable water, hydropower: 1) is efficient in its conversion of energy; 2) is clean in that it does not have waste heat or external emissions; 3) is reliable since it makes use of basic and time-tested technology; 4) is largely domestic to the United States; 5) is generally low-cost; and 6) is flexible in that it can adjust quickly to changes in demand.

This flexibility of hydropower is uniquely suited to balance the ups and downs of much more variable generation such as wind and solar. While the potential for extensive use of energy storage in batteries may be in our future, the ability to store the energy of falling water behind a dam is serving us today. Moreover, there is significant pursuit of development of pumped storage hydropower projects to create even more capacity for meeting peak demand and balancing other resources.

Of course, the hydropower systems in the West provide enormous other benefits. Flood control is one of the most critical purposes served by the dams. This saves lives and avoids billions in damage to homes and businesses. Transportation is another critical purpose; barging on the Columbia River, for example, moves over 40 million tons of goods each year and keeps hundreds of thousands of trucks and their associated emissions off of the road.

When dedicating Bonneville Dam in 1937, President Roosevelt noted the many benefits an expanded hydroelectric system could bring to local communities. This past summer, the U.S. Department of Energy issued a report titled *Hydropower Vision: A New Chapter for America's 1st Renewable Electricity Source*. This report found that hydropower, already the largest source of renewable energy with over 100 gigawatts, can sustainably grow by 50 gigawatts by 2050 with much of the growth coming by 2030. This growth would include upgrading some existing plants, adding power to the existing dams and canals (only 3 percent of our 80,000 dams have generation), building new smaller plants with new technologies, and significant new pumped storage capacity. According to the report, this could produce hundreds of thousands of jobs, save hundreds of billions of dollars, and save 30 trillion gallons of water.

For hydropower to fulfill its great promise of helping to balance the competing interests of concern over emissions and desire for energy to fuel our tech-savvy homes and industries, it will need some help from our policymakers. A good start would be for Congress to pass the bipartisan proposals it worked on last year to make reasonable changes to the permitting process for hydropower projects. In addition, hydropower should be given the same tax advantages as other renewable resources in tax policy, renewable portfolio standards, or other state and federal policies.

At a critical time in our nation's history with respect to energy, hydropower is positioned to take a lead role in state and federal energy policy. As a safe, reliable, and low-cost resource that has the means to enable other renewable generation, this proven technology is too valuable to ignore in light of the challenges facing us in the days and years to come. NWPPA

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