Encyclopedia of Politics of the American West

Hydroelectric Power

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The western United States has significant water resources due to the presence of numerous rivers, including the Colorado, Columbia, Missouri, Snake, and many supporting tributaries. Natural and manmade lakes and oceanic supplies further enhance national water resources. As the U.S. population began migrating to and settling in the West starting in the late nineteenth century, the demand for electricity and its delivery increased. These demographic trends have continued through the first decade of the twenty-first century, as 2010 decennial population census statistics demonstrate. Arizona, Nevada, Utah, Texas, and Washington State saw their populations grow enough to increase their congressional representation, with Texas gaining four new representatives for the 113th Congress (2013–14).

Legislation

The economic and political imperative of providing businesses and individuals with increased, affordable, and dependable access to electricity has also increased exponentially over the last century. Governmental and congressional policymakers, along with business-interest lobbyists, recognized the increasing ability of hydropower to meet this growing demand for electricity and the availability of U.S. technological infrastructure and expertise to deliver this energy in a timely and cost-effective manner. Consequently, policymakers and lobbyists worked to enact legislation that sought to deliver electricity by hydropower at affordable prices to a continually increasing customer base in the West, which often suffers from aridity and has significant water-use requirements.

Several laws were enacted in the cause of making this objective a reality. These include the 1920 Federal Power Act (Pub. L. 66–280), which created the Federal Power Commission (FPC), an agency that sought to coordinate development of hydroelectric projects in the United States. This statute gave preferential treatment to states and municipalities in granting licenses to produce hydroelectric power from dams on navigable streams.

The 1935 Public Utility Holding Company Act (Pub. L. 74–333) ordered investor-owned utilities to divest their holdings and prevented investment in nonutility businesses. It also established FPC regulation of wholesale electricity sales and transmission by investor-owned utilities when these activities constituted interstate commerce.

The 1936 Rural Electrification Act (Pub. L. 74–605) created the Rural Electrification Administration and provided loans to rural cooperatives, enabling farmers and other rural residents to acquire power at low rates. The 1939 Reclamation **[p. 392 ↓]** Project Act (Pub. L. 76–260) established a maximum forty-year term for western power sales contracts and outlined costs recoverable from power rates, including construction, maintenance, and operational costs.

The 1944 Flood Control Act (Pub. L. 78–534) created the Pick-Sloan Missouri Basin Program, which was an ambitious dam-building program in Montana and North Dakota. The program brought together the Reclamation Bureau and Army Corps of Engineers to control the Missouri River and sell power produced from these efforts to consumers at the lowest possible rates consistent with sound business practices.

These and other statutes, involving multiple agencies and the appropriation of billions of dollars, brought together an extensive network of federally supported hydropower projects that changed the West's economic, environmental, and physical landscape. These include the Columbia River's Bonneville Dam on the Oregon-Washington border and the Grand Coulee Dam in Washington State; the Colorado River's Hoover Dam near Las Vegas, Nevada, and the Glen Canyon Dam in northern Arizona; the Shasta–Trinity River Division Project of California's Central Valley Project; the Snake River's Hell's Canyon Dam on the Idaho-Oregon border; the Hetch Hetchy Dam on California's Tuolumne River; and the Missouri River's Garrison Dam in North Dakota.

Benefits and Detriments

These dams produce electricity for residential and commercial usage, providing power to tens of millions of customers in the continually growing West at competitive rates. Hydroelectric power benefits include not using limited, nonrenewable resources to make electricity; not causing air, land, or water pollution; having low failure rates, low

operational costs, and high reliability; producing revenue contributing to repayment of irrigation facilities; making land irrigation at higher elevations possible through the use of pumping facilities; providing startup power if system-wide power failure occurs; and making power available for farm usage.

Detrimental hydropower impacts include the obstruction of fish migration, as has occurred with salmon; changes in water temperature and river flow; the inundation of homes, important natural areas, agricultural land, and archeological sites; population relocation; tree clearing, which can produce soil erosion and landslides; and dam construction, which can increase emissions of methane into the atmosphere. Concern over some of these impacts has produced a slowing in the construction of hydroelectric power projects since 1980.

Providers

Western hydroelectric power is generated by a mixture of governmental and private-sector service providers. Nonfederal hydropower projects receive fifty-year licenses from the Federal Energy Regulatory Commission (FERC) and must be periodically relicensed. These hydropower projects must also meet continually increasing environmental standards before they are relicensed, and, in some cases, FERC has decided to remove dams and not issue new licenses, thus reducing electricity availability and increasing electricity fees for affected customers.

Three major federal power administrations within the Department of Energy (DOE) are hydroelectric energy providers. These agencies are self-funded and cover their costs by selling products and services. They include the Portland, Oregon–based Bonneville Power Administration (BPA), which was established in 1937 (Pub. L. 75–329). The BPA markets power produced by the Federal Columbia River Power system at the lowest rates and gives preferential treatment to public entities. Its fiscal year (FY) 2010 generation capacity was 7,994,000 annual megawatts, with 6,882,000 megawatts of this devoted to hydro generation. Additional BPA responsibilities include energy conservation, renewable resource development, and fish and wildlife enhancement.

The Lakewood, Colorado–based Western Area Power Administration (WAPA) was established in 1977 (Pub. L. 95–91), as part of the law creating the DOE. WAPA responsibilities include federal electric power marketing and transmission functions in fifteen states covering 1.3 million square miles, including Arizona, California, New Mexico, and Nebraska. WAPA also sells power to cooperatives, municipalities, public and private utilities, and irrigation districts. WAPA marketed and sold more than 37,350 gigawatt-hours of energy, including 24,159 gigawatt-hours of hydropower generation during FY 2010 to more than 11.4 million homes in its coverage area.

The Tulsa, Oklahoma–based Southwestern Power Administration (SWPA) was established in 1943. SWPA responsibilities include selling and distributing electric power and energy generated from federal reservoir projects to Texas, Oklahoma, Kansas, and adjoining eastern states. **[p. 393 ↓]** Its 2010 net energy generation was 7.6 billion kilowatts per hour, and its mission is to encourage widespread and economical use of these resources at the lowest possible rates for consumers.

Policymaking

Western hydroelectric power generation involves the policymaking intersection of numerous governmental agencies, including the Army Corps of Engineers, the Bureau of Reclamation, DOE, FERC, the State Department's International Boundary and Water Commission, the U.S. Department of Agriculture's Natural Resources Conservation Service, the U.S. Geological Survey, and numerous congressional oversight committees, including those dealing with energy and natural resources and appropriations-committee subcommittees dealing with energy and water development. The Congressional Hydropower Caucus is a bipartisan group of members of Congress formed in 2008 to promote hydropower and related technologies. Its membership consists of western representatives, including Cathy McMorris Rodgers, R-Wash., and Jim Costa, D-Calif.

Environmental, water, and utility rate–regulating agencies at the state government level are also significant players in this policymaking arena. Commercial and noncommercial interest groups, such as the National Association of Regulatory Utility Commissioners, the National Association of State Utility Consumer Advocates, the

Northwest Hydroelectric Association, and related environmental and energy advocacy organizations, also seek to influence governmental hydropower policy.

Impacts and Controversies

The significant economic and environmental impact of hydropower often produces litigation in federal and state courts, affecting a wide variety of interested constituents. An example of a significant hydropower court case is *California v. FERC*, 490 U.S. 490 (1990), in which the U.S. Supreme Court ruled that FERC has exclusive jurisdiction to set a hydropower project's water-flow schedule as long as this schedule provides for nonproprietary uses of water. In the same case, the Court ruled against the attempt of California's water agency to assert its jurisdiction for setting minimum water flow. Another example of a significant hydropower court case was *S.D. Warren Co. v. Maine Board of Environmental Protection*, 547 U.S. 370 (2006), in which the Supreme Court ruled unanimously that states, using water quality certification under Section 401 of the Clean Water Act (Pub. L. 92–500), can impose conditions on FERC's ability to license or relicense hydropower facilities.

Hydropower will remain a significant and contentious economic, environmental, and political issue in the western United States, and some of this contentiousness may also reach other geographic regions of the country, depending on climactic and economic conditions prevalent in those areas. Future issues facing hydropower policy makers in the government and private sector include whether environmental regulations, water use restrictions, and government-mandated use of “alternative energy resources” are increasing individual and commercial electricity bills. Additional topics of concern include meeting the continually growing electricity and water demand caused by population growth and climactic changes, which may negatively affect water supply; promoting natural resources conservation and endangered species protection at the expense of delivering water to commercial and residential customers; balancing access to water recreation and ecosystem protection; determining the extent to which wind power may impact hydroelectricity production; concerns over competition between public and private ownership of hydroelectric resources; competition for water between rural and agricultural areas and continually growing urban areas such as Los Angeles, California, Phoenix, Arizona, and Salt Lake City, Utah; potential water use restrictions;

and the impact of acquiring water from Canada and Mexico and how that could affect bilateral U.S. relations with those countries and with populations of regions of those countries affected by U.S. water acquisition.

The proper adjudication of these hydropower controversies has been and will remain a top demographic, economic, environmental, and political priority for western states' residents and governmental policy makers. Economic, environmental, and policymaking actions related to hydropower that are implemented in the western United States are also likely to have critical impact on related national policies and on state and local economic and environmental policies in other U.S. geographic regions. Potentially significant reductions to U.S. government spending, given existing federal budget deficit problems, are also likely to affect consumer prices and hydropower development and maintenance in the United States. Federal spending reductions may also **[p. 394 ↓]** affect hydropower facilities in other areas of the country. Such developments may put the United States in an analogous position to other countries facing water shortages, including Australia, China, Egypt, India, Syria, and Turkey.

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See also

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