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WHAT IS HYDROPOWER?

Hydropower, or hydroelectric power, is one of the oldest and largest sources of renewable energy, which uses the natural flow of moving water to generate electricity. Hydropower currently accounts for 31.5% of total U.S. renewable electricity generation and about 6.3% of total U.S. electricity generation.

While most people might associate the energy source with the Hoover Dam—a huge facility harnessing the power of an entire river behind its wall—hydropower facilities come in all sizes. Some may be very large, but they can be tiny, too taking advantage of water flows in municipal water facilities or irrigation ditches. They can even be "damless," with diversions or run-of-river facilities that channel part of a stream through a powerhouse before the water rejoins the main river. Whatever the method, hydropower is much easier to obtain and more widely used than most people realize. In fact, all but two states (Delaware and Mississippi) use hydropower for electricity, some more than others. For example, in 2020 about 66% of the state of Washington's electricity came from hydropower.

The benefits of hydropower have been recognized and harnessed for thousands of years. In addition to being a clean and cost-effective form of energy, hydropower plants can provide power to the grid immediately, serving as a flexible and reliable form of backup power during major electricity outages or disruptions. Hydropower also produces a number of benefits outside of electricity generation, such as flood control, irrigation support, and water supply.

The history of hydropower dates back thousands of years. For example, the Greeks used water wheels to grind wheat into flour more than 2,000 years ago. The evolution of the modern hydropower turbine began in the mid-1700s when a French hydraulic and military engineer, Bernard Forest de Belidor, wrote *Architecture Hydraulique*. Many key developments in hydropower technology occurred during the first half of the 19th century, and more recently, the past century has seen a number of hydroelectric advancements that have helped hydropower become an integral part of the renewable energy mix in the United States.

Source: Internet

This institution is an equal opportunity provider and employer.



Basic Principles of a Cooperative

The basic principles of a cooperative, to which we subscribe, are:

- 1. **Voluntary Membership**—Cooperatives are voluntary organizations open to persons willing to accept the responsibilities of membership. The relationship can be voluntarily ended at any time.
- 2. **Democratic Member Control**—Cooperatives are democratic organizations controlled by their members, who actively participate in setting policies and making decisions. Members have equal voting rights (one member, one vote).
- 3. **Member Economic Participation**—Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative.
- 4. **Autonomy and Independence**—Cooperatives are autonomous, self-help organizations controlled by their members.
- 5. **Education, Training, and Information**—Cooperatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their cooperative.
- 6. **Cooperation among Cooperatives**—Cooperatives often work together through local, national, regional, and international entities.
- 7. **Concern for Community**—While focusing on member needs, cooperatives work for the sustainable development of their communities through policies accepted by their memberships.

COOPERATIVE FACTS

832 Distribution and 63 Generation & Transmission Cooperatives....

- power 56% of the nation's landmass.
- own and maintain 42% (2.7 million miles) of U.S. electric distribution lines that serve our communities.
- serve 42 million people across 2,500+ counties, including 92% of persistent poverty counties.
- power over 20 million businesses, homes, schools and farms in 48 states.

Source: NRECA, April 2021

ID-YELLOWSTONE ELECTRIC COOPERATIVE, INC

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