

Hydropower Services a Modern Power Grid



Moving Electricity from Power Plants to Homes and Businesses

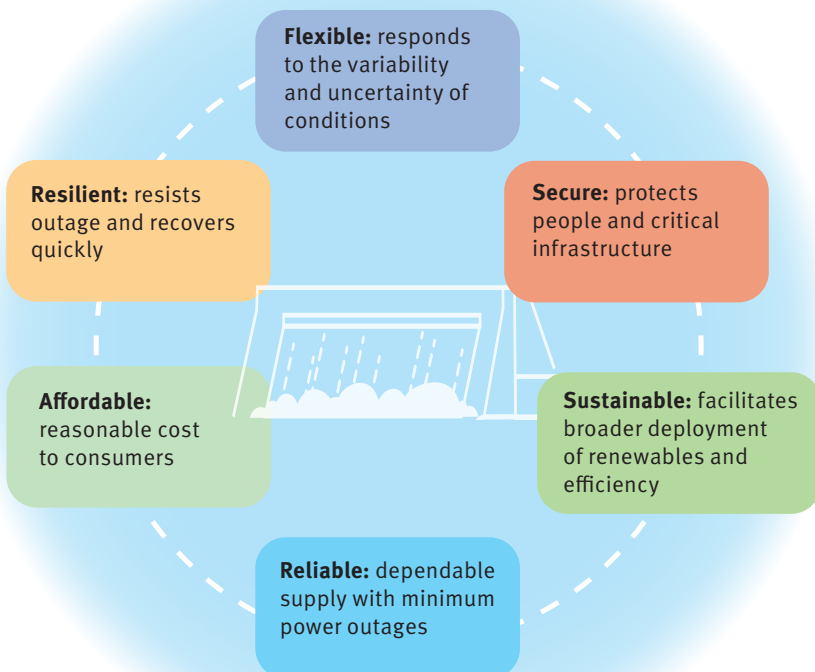
When we turn on a light switch or plug in a computer or other device demanding electricity, we're using the power grid.

Sometimes called the largest machine in the world, today's U.S. power grid comprises over 5,800 power plants, 3,200 utilities and 2.7 million miles of power transmission lines across the nation. The equivalent of 350 million homes can be powered by this awesome machine. Just as amazing, its reliability is over 99 percent.

Millions of dollars are being invested to modernize the power grid. The grid carries the flow of electricity from power plants, to transmission lines, to distribution in your neighborhood, and into your home or business.

Hydropower services a modern grid with power that is efficient, reliable, flexible and affordable. As important, hydropower is the foundation for securing a carbon-free, renewable power generation future.

HOW HYDROPOWER SUPPORTS A MODERN POWER GRID



Today's power grid features new technologies being combined with high-speed communications, computers, and software in novel ways. Smart meters, for instance, support two-way communication capability between electric utilities and customers. They are now installed in over half the businesses and homes in the country.

Here are examples of how renewable sources of electricity work in tandem with modern power grid technologies like smart meters and distribution management systems:

- **Software and high-speed communications** can take better account of weather patterns and power demands. This allows operators to optimize bringing power generation resources like hydro, wind and solar on and off-line in a way that keeps costs low and minimizes environmental impacts.
- **Scheduling power needs**, e.g. charging your car or cell phone at night when costs are lower. For utilities and businesses, flexibility is supported with hydropower's ability to store water to generate electricity when it's most needed and large-scale batteries that can be used to reduce costs when demand is highest.
- **Integrate solar powered homes** into the grid by adding what's not used in the home onto the grid.
- **Reduce the length of power outages** with real time communication of who has lost power and what caused the outage. 🌐