

Hydropower is often dubbed America's original source of renewable electricity. The first hydroelectric plant was established as long ago as 1882 in Appleton, Wisconsin. Electricity is generated when water flows downstream, turning turbines. There are [three kinds](#) of hydroelectric dams: impoundment, diversion, and pumped storage. In order for any of these types of dams to work, kinetic water flow must occur.

While hydropower is still our largest source of renewable energy, the growth of hydroelectricity is hindered by extensive government regulations. By streamlining burdensome regulations and permitting processes, we can continue to grow hydropower in the United States.

Facts vs. Myths

- **MYTH:** Hydropower is a mostly publicly owned utility.
 - While hydropower must adhere to strict federal regulations, [63%](#) of hydro plants are privately owned.
- **FACT:** Hydropower is the largest source of renewable energy in the United States.
 - Hydro [provides](#) electricity to roughly 30 million homes and accounts for 40% of renewable energy generation in the United States.
- **MYTH:** Hydropower is always damaging to the environment.
 - New construction of large dams may be harmful to migratory patterns of fish and birds. However, retrofitting and modernizing dams has very few negative impacts on the environment.

The Benefits of Hydropower:

- ***Hydroelectric energy is clean.***
 - Hydropower, because it generates no CO₂, is a clean and [renewable energy source](#).
 - By being a replacement for carbon-intensive energy sources, [hydropower can prevent up to 3 gigatons](#) of CO₂ from being emitted globally each year.
- ***Hydropower can benefit ecosystems.***
 - While new construction of hydroelectric dams can have [negative environmental impacts](#), retrofitting current dams can have [negligible impacts on the environment](#).
 - Hydro powered dams also [provide](#) irrigation, water supply, and flood control.
- ***Hydroelectric power is affordable.***
 - Electricity rates from hydro are [lower](#) than those from nuclear, wind, or solar.
 - [States](#) that generate a large percentage of their electricity from hydropower have lower electricity rates than the national average.

Markets vs Mandates

- The current regulatory process is hampering hydropower growth in the United States.

- A micro hydropower project in Utah cost over [\\$3 million](#) to complete due to regulations. A similar project in Canada would have cost less than [\\$375,000](#).
- In order to build a hydroelectric dam, prospective developers must first receive a permit from up to a [dozen different federal agencies](#).
 - A relicensing project in [California](#) required 38 different studies to be conducted, some of which ended up costing more than \$1 million.
- In order to retrofit or update existing dams, actions that have negligible environmental impact, a costly and time-consuming Environmental Impact Study (EIS) through the [National Environmental Policy Act \(NEPA\)](#) must be [completed](#).
 - In addition to EIS through NEPA, developers must obtain a FERC license, which often takes [more than five years](#) to process.
 - Additionally, hydropower developers must comply with a slew of different environmental standards under the Clean Water Act, the Federal Water Power Act, the National Historic Preservation Act, and [others](#).

How to grow hydropower in the United States

- Streamline the current regulatory process to cut excessive red tape.
 - While environmental regulations are important, the current system is burdensome and fails to adequately protect the environment.
 - Streamline permitting under [NEPA](#) and [improve the efficiency](#) of environmental reviews, as proposed by the [Hydropower Clean Energy Future Act](#).
- Have the Council on Environmental Quality (CEQ) coordinate the federal permitting process of hydroelectric dams.
 - Currently the Federal Energy Regulatory Council manages permitting approval, yet has no mechanism to ensure that other agencies comply. Allowing CEQ to be in charge could lead to [a faster and more efficient permitting process](#).
- Invest in, and update, existing dams.
 - The American Society of Engineers has [given](#) current American dams and levees a “D” grade.
- Where possible, retrofit current dams to generate electricity.
 - Of the 80,000 dams the United States has, [only 3% produce electricity](#).
 - Retrofitting these dams could generate “up to 12 GW of energy capacity without the environmental consequences of building new dams.”

Summary:

- Hydropower is a clean and renewable energy source that is important in an “all of the above” energy strategy.
- The current regulatory process is cumbersome and slows down the development of hydroelectricity in the United States.
- By reducing regulations and streamlining the permitting process, we can grow hydropower in the United States and meet our climate goals.

Contact us for more information:

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