United States Pumped Storage Hydropower: National Hydropower Association Releases 2021 Report

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The Natural Hydropower Association ("NHA") released a 2021 United States Pumped Storage Report ("Report").

The Report is described as a comprehensive review of the United States pumped storage hydropower industry.

Pumped storage hydropower is a type of hydroelectric energy storage. Such facilities store and generate energy by moving water between two reservoirs at different elevations. A configuration of two water reservoirs at two different elevations generates power as water moves down from one to the other (i.e., a discharge) and passes through a turbine. The facility also requires power to pump water back into the upper reservoir (i.e., a recharge).

The United States Energy Information Administration ("EIA") states that pumped storage plants for hydroelectric power in the United States were built primarily between 1960 and 1990. They were described in 2019 by EIA as the largest source of electricity storage tank technology used in the United States.

These facilities are typically characterized as open-loop or closed-loop.

The open-loop facilities have an ongoing hydrologic connection to a natural body of water. In the case of closed-loop facilities, reservoirs are not connected to an outside body of water.

The NHA Report provides:

- Comprehensive review of the U.S. pumped storage hydropower industry
- History of pumped storage hydropower
- Challenges to pumped storage hydropower development
- Tax policies
- State procurement policies
- Market policies
- Utility procurement policies
- Federal permitting policies
- Role of wind and solar deployments in increasing need to integrate large amounts of variable sources
- Suggestions for solving the market, policy and regulatory hurdles hindering pumped storage hydropower growth
- Energy storage technology cost comparison
- Opportunities for collaboration with variable energy resources such as wind and solar

A copy of the Report can be downloaded here.