



SUPPORT AN **ITC** FOR STORAGE **S. 627** AND **H.R. 1648** WILL LEVEL THE PLAYING FIELD FOR **PUMPED STORAGE**

To reliably decarbonize the electricity sector, the U.S. needs long duration storage. Pumped storage hydropower (PSH) already provides 93% of all energy storage technologies on the grid and can provide 12 hours or more of storage in a cycle. PSH provides flexibility through its storage and ancillary grid services which is essential in accommodating the intermittency of renewable power and securing stable power supplies. Currently, utilities investing in certain solar and battery configurations are able to take advantage of the current 30% investment tax credit (ITC).

However, stand-alone technologies like PSH are unable to qualify and thus are put at a competitive disadvantage. A technology neutral ITC will level the playing field for new advanced pumped storage to compete against other storage technologies. The Energy Storage Tax Incentive and Deployment Act (S. 627 / H.R. 1648) provides for a technology neutral ITC for various storage technologies including pumped storage.

Why do we need long duration storage?

To rapidly decarbonize the electricity sector, storage will play a key role in ensuring that wind and solar are integrated in a cost effective and reliable manner. This includes a substantial amount of long duration storage (8+hours) that can reduce renewable curtailments, provide reliable generation when wind and solar are unavailable and replace retiring fossil resources. In fact, a recent report found that California alone will need 45-55GWs of long duration storage by 2050. In addition to long duration storage, PSH provides vital flexibility through system inertia, frequency control, voltage regulation, storage and reserve power with rapid mode changes, and black-start capability. All of these are vital to support the ever-growing proportion of variable renewable energy in grid systems.

Is pumped storage cost competitive?

Yes. Numerous cost studies have found pumped storage to be the most cost-effective storage resource when accounting for the full life cycle investment. A 1GW pumped storage facility can be built at a rate of \$165/kWh compared to \$300+/kWh for 4-hour electrochemical batteries.

What about jobs?

Each PSH project would be unique in the number of employees needed but for planning purposes, the following job estimates have been used:

- Engineering/Design/Permitting – 100 jobs for approximately 7 years
- Manufacturing – 50 jobs for approximately 3 years
- Construction/Commissioning - 1000 jobs for approximately 4 years
- Project Operations – 25 permanent jobs

NHA is advocating that congress level the playing field for pumped storage to unlock the benefits of long duration storage.