



Better Energy Storage Technology Act

<< Found throughout the United States, **White-breasted Nuthatches** stand to lose 78% of their current summer range by 2080.

Better Energy Storage Technology Act of 2019

The Better Energy Storage Technology (BEST) Act of 2019 (S.1602/H.R. 2986) **supports the research, development, and deployment (RD&D) of grid-scale energy storage systems.**

Energy storage is a key technology needed to building an efficient, resilient, and reliable grid that can support a greater share of renewable energy, like wind and solar.

If passed, the BEST Act would:

- Authorize an RD&D program within the Department of Energy's (DOE) Office of Electricity. Funded at \$60 million per year from FY20 through FY24.
- Direct DOE to produce a 10-year strategic plan that includes timelines for the commencement and completion of important milestones for grid-scale energy storage research.
- Direct DOE to focus research around and set cost targets for energy storage systems that meet demands across different time scales: daily, weekly, and seasonally.
- Require DOE to enter into agreements to carry out up to 5 grid-scale energy storage demonstration projects in collaboration with the National Laboratories.

Audubon's Birds and Climate Change Report: 314 Species on the Brink

The changing climate poses a tremendous threat to the birds we love and the places they need. In 2014, Audubon published its Birds and Climate Change Report, which found that **314 species of North American birds** will lose more than **50 percent** of their current range by 2080. These species include the Barn Owl, the Common Loon, and the American Kestrel.

To address our changing climate at the speed and scale birds and people need, we must advance meaningful policies that significantly reduce carbon emissions. This solution set includes supporting innovation of new technology needed to decarbonize our economy.



<< Currently found throughout western pine forests in the summer, the **Western Tanager** could lose 70% of its summer range by 2080. These colorful birds may be harder to spot in Washington.

SunShot: Reducing Technology Costs through Federal Investment

In 2011, the Department of Energy launched the “SunShot” Initiative, which aimed to reduce the cost of photovoltaic solar energy systems by about 75% by 2020. At the goal cost of \$0.06 per kilowatt-hour, solar energy systems are cost competitive with other forms of energy. In fall 2017, DOE announced that the initiative had met its goal three years early. This case shows the power of investment from the federal government to make dramatic technological progress over a short period of time.

Through the SunShot Initiative, federal investment in research and development helped reduce the cost of solar energy by 75% — three years ahead of schedule.

Energy Storage Time Scales

The BEST Act invests in storage systems at three different time scales, which meet different needs for balancing the grid.

Day-scale: to balance demand throughout the day, for instance in the evenings when people come home and turn on lights.

- 6 hours of storage, over a lifetime of 8,000 cycles/20 years of operation

Week-scale: to balance demand through the week, for instance as demand drops on weekends when most industry closes.

- 10-100 hours of storage, over a lifetime of 1,500 cycles/20 years of operation

Seasonal-scale: to balance demand throughout the year, for instance as energy demand spikes with air conditioner use in the summer or lighting and heating needs in the winter.

Sources: 1. “U.S. renewable electricity generation has doubled since 2008.” U.S. Energy Information Administration (EIA). 2. “Washington: Energy and Employment—2019.” The 2019 U.S. Energy & Employment Report, a Joint Project of NASEO & EFI. 3. “Washington.” US EIA.

>> Found mostly in the northern part of the US, **Bohemian Waxwings** are predicted to have just 1% of their summer range remain stable. Audubon models predict that their suitable winter range will shift north into Canada, making their visits to Washington backyards more seldom.



Photo: Bohemian Waxwing. Jaime Lyons/
Audubon Photography Awards.

Energy Storage is Good for Washington

The renewable energy landscape in the United States is shifting dramatically. In fact, U.S. renewable electricity generation has doubled since 2008, with nearly 90% of the increase coming from wind and solar. At the end of 2018, there was 94 GW and 51 GW of wind and solar generating capacity operating on the grid, respectively.¹

While these massive changes present challenges for the grid—especially around the question of adequate storage—they also provide ample opportunity in form of jobs, innovation, and domestically-produced clean energy.

- Washington’s clean energy industry boasts over 5,100 jobs in solar and 3,200 jobs in wind. Solar remains the largest segment of employment in the electric power generation sector in the state.²
- In 2018, the Washington legislature voted to establish a 100% clean electricity standard in the state. Adoption of energy storage will help Washington’s grid remain resilient and keep electricity prices among the lowest in the country.
- Washington is leading the way in renewable energy generation, currently ranking second in the country.³

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