



# UPDATE: Clean Energy Fund 1 (2013-2015)



## Clean Energy Fund 1: 2013-15 Appropriation

The 2013 Legislature **appropriated \$36 million** to establish the Washington State Clean Energy Fund to expand clean energy projects and technologies statewide. The fund provides “a benefit to the public through development, demonstration and deployment of clean energy technologies that save energy and reduce energy costs, reduce harmful air emissions, or otherwise increase energy independence for the state.”

- **Energy Revolving Loan Fund Grants:** Over \$54 million loaned to nearly 1,700 residential and commercial properties for energy efficiency improvements. These loans have reduced energy consumption by over 83,000 MMBtus (enough to power 2,250 homes for a year), and have reduced greenhouse gas emissions by 13,000 tons. Additionally, the work done to homes and businesses has created or retained 324 jobs (via commercial lending) and resulted in more than 68,600 job hours (via residential lending). Funds are leveraged up to 7:1 with private fund sources.
- **Smart Grid Grants to Utilities:** Nearly \$14.5 million awarded to three utilities for four different battery storage systems. These configurations will undergo use case analyses for performance and economic benefits to inform utilities on further deployment. It is estimated that 158 direct and indirect jobs have been created as a result of these projects.
- **Federal Matching Fund Grants:** Nearly \$6 million awarded to Washington research institutions for testing of demand response initiatives between transmission and distribution grid operations, transactive campus energy systems and distribution grid operations, battery optimizer software, and use case analysis for battery systems that build on the smart grid to utilities and energy revolving loan grants for smart appliances and batteries. Additionally, investments were made in marine kinetics laboratory and composite recycling technology center equipment. It is estimated that 63 direct and indirect jobs have been created as a result of these projects.

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### Our Mission

Grow and improve jobs in Washington State by championing thriving communities, a prosperous economy, and sustainable infrastructure.



## Highlights from 2013-2015 Clean Energy Fund 1

**Energy Revolving Loan Fund** (\$15 million) – Finances use of proven building energy efficiency and renewable energy technologies, generating opportunities within the residential and commercial sectors.

- Craft3 (\$8.7M for commercial sector; \$2.9M for residential)
- Puget Sound Cooperative Credit Union (PSCCU) (\$2.9M for residential)

**Smart Grid Grants to Utilities** (\$15 million) – Demonstrates improved integration of renewables through energy storage and information technology, improved reliability, and reduced costs of intermittent renewable or distributed energy.

- **Avista** awarded a **\$3.2 million** grant to field test a 1-MW, 3.2-MWh UniEnergy vanadium flow battery assembly in a three-year demonstration project at a substation in Pullman.
- **Puget Sound Energy** awarded **\$3.8 million** to help deploy a 2-MW, 4.4-MWh lithium-ion/phosphate battery assembly in Glacier.
- **Snohomish County PUD** awarded **\$7.3 million** for two demonstration projects. The PUD is working with Seattle-based 1Energy Systems to implement Modular Energy Storage Architecture, a set of nonproprietary design and connectivity standards that provide a scalable approach for energy storage control system integration and optimization.

**Federal Grant Matching Funds** (\$6 million) – Open to Washington research institutions, eligible projects develop or demonstrate clean energy technologies that have been demonstrated as viable in prior published work, yet are not commercially available.

- **Pacific Northwest National Lab** (PNNL)'s Clean Energy & Transactive Campus project with the University of Washington (UW) and Washington State University (WSU) awarded a total of **\$2,250,000** (\$1.1M to WSU, \$783K to UW, and \$367K to PNNL).
- **Pacific Northwest National Lab** (PNNL) awarded **\$695,000** for the Use Case Analysis Project.
- **Pacific Northwest National Lab** (PNNL) awarded **\$145,000** for a joint project with Avista for development of energy storage control strategies.
- **Composite Research Technical Center** (CRTC) awarded **\$1,000,000** to renovate their industrial and workforce training facility used to recycle composite materials.
- **Snohomish County PUD** awarded **\$1,000,000** for a joint project with Bonneville Power Administration (BPA) entitled, "Support Using Distribution-Level Energy Assets to Help Optimize Regional Transmission Systems".
- **University of Washington** awarded **\$518,000** for the National Marine Renewable Energy Center to support next-generation array development and demonstration through the Advance Laboratory and Field Arrays (ALFA) project.



## Benefits from the Clean Energy Fund:

- The state's initial \$36 million investment in the Clean Energy Fund leveraged more than \$80 million in matching funds from industry partners.
- Those investments are making buildings more energy efficient, manufacturing smart grid equipment, and adding capacity to the state's electrical grid.
- New grid technologies, developed and deployed in Washington, are now positioned to sell into rapidly growing global markets.