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Office of Economic Development and Competitiveness *January 2015 (revised)*

Clean Energy Fund Update

The 2013 Legislature appropriated funding for creation of a new Clean Energy Fund, as a part of the Energy Freedom Fund, to expand clean energy projects and technologies statewide. The fund is designed to "provide a benefit to the public through development, demonstration, and deployment of clean energy technologies that save energy and reduce energy costs, reduce harmful air emission or otherwise increase energy independence for the state."

Section 1074 of the 2013-15 capital budget (ESSB 5035) appropriated $36 million of the state taxable building construction account for three programs. An additional $4 million of federal Energy Recovery Act funds was also appropriated. The three state programs are:

$15 million to provide competitive grants to create a Revolving Loan Fund to support the widespread use of proven building energy efficiency and renewable energy technologies now inhibited by lack of access to capital.

$15 million provided solely for grants to advance renewable energy technologies by public and private electrical utilities (Smart Grid grants) that serve retail customers in the state.

$6 million provided solely for grants to make Washington more competitive in attracting federal clean energy grants through state matching funds (federal Clean Energy Matching Funds).

This report provides updates on the relevant performance metrics identified through October 2014.

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Our Mission

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

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Energy Revolving Loan Fund Grants ($15 million)

Total State Capital Allocation	$15 million
Award Funds Available (less 3 percent)	$14.55 million
Awards (Funds Obligated)	$14.55 million ($11.62 million to Craft3; $2.93 million to PSCCU)
Program Implementation (3 percent)	$450,000
Expenditures (through September 2014)	$2.6 million

Funding Purpose
These grants finance the use of proven building energy efficiency and renewable energy technologies that currently lack access to capital; includes residential and commercial sectors.

Program Status
Commerce conducted a competitive solicitation for nonprofit lenders to create and operate the loan funds. Three applications were received and reviewed by a team of Commerce and non-state representatives. Two financial institutions were awarded funds. Contracts were negotiated and signed in April 2014: Craft3 ($8.7 million for commercial sector; $2.9 million for residential) and Puget Sound Cooperative Credit Union ($2.9 million for residential).

Craft3 and Puget Sound Cooperative Credit Union anticipate they will leverage more than $100 million for residential loans, and Craft3 estimates $60 million on the commercial side. To date, more than $6.7 million in residential loans have been made and 10,000 job hours have been created. The projects completed with the loans include residential and commercial energy retrofits, residential- and commercial-scale solar installations, anaerobic digesters to treat dairy and organic waste, and combined heat and power projects using woody biomass as a fuel source.

Smart Grid Grants to Utilities ($15 million)

Total State Capital Allocation	$15 million
Award Funds Available (less 3 percent)	$14.55 million
Awards (Funds Obligated)	$14.55 million
Program Budget (3 percent)	$450,000
Expenditures (through June 2014)	$277,686
Utility Match	$15 million

Funding Purpose
Grants are to competitively selected consortium of utilities, utility vendors, and researchers. Projects will use funds to demonstrate how to improve reliability/reduce costs of intermittent renewable and distributed energy through energy storage and information technology; dispatch energy storage resources from utility control rooms; use the thermal properties and electric load of commercial buildings and district energy

> *Thanks to the Energy Smart Loan from the Washington State Department of Commerce and Puget Sound Cooperative Credit Union, our family was able to upgrade our oil- fired boiler and resistive electric heating systems to a high efficiency ductless heat pump. The low interest rate and favorable terms of the Energy Smart Loan made an eco-friendly decision a financially friendly decision and ultimately enabled these upgrades to happen.*
>
> Andrew and Ashley McComas
> Bainbridge Island

systems to store energy; or otherwise improve the reliability and reduce the costs of intermittent or distributed renewable energy.

Program Status
Four applications were received and reviewed by a panel of utility and private-sector experts in Smart Grid and clean technology projects. Contracts with three contractors were signed June 30, 2014:

Avista will use a $3.2 million grant to field test a 1-MW, 3.2-MWhr UniEnergy vanadium-flow battery assembly in a three-year demonstration project at a substation in Pullman, Wash. Avista began installation of the flow battery in December 2014.

Puget Sound Energy was awarded $3.8 million to help deploy a 2-MW, 4.4-MWhr lithium-ion/phosphate battery assembly at a yet-to-be announced location.

Snohomish PUD was awarded $7.3 million for two demonstration projects. The PUD has been working with Seattle-based 1Energy Systems for the past two years 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. The PUD completed installation of the first lithium-ion battery in Janaury 2015.

Smart Grid Use Case Analysis Project
Commerce also established a memorandum of understanding with the U.S. Department of Energy (DOE) to have the Pacific Northwest National Laboratory (PNNL) characterize and analyze the technical and economic attributes of the above Smart Grid utility projects.

The DOE Office of Electricity Delivery and Energy Reliability/ Energy Storage Program is focused on accelerating the development, demonstration, and deployment of new and advanced energy storage technologies that will enhance the stability, reliability, resilience, and economics of the future electric grid. This includes substantial contribution of intermittent renewable energy resources, such as wind and solar power generation.

The DOE Energy Storage Program is addressing three key challenges to widespread adoption of energy-storage technologies, including improved economics through advancements in materials engineering and device architecture; field validation of first-of-a-kind systems in operational environments; and modeling and analysis of storage systems to assess costs and benefits, and develop tools for grid operators and users.

Federal grant matching funds (below) along with DOE funding will be used for this value-added element of that overall program.

Federal Clean Energy Matching Funds ($6 million)

Total State Capital Allocation	$6 million
Award Funds Available (less 3 percent)	$5.82 million
Awards (Funds Obligated)	$0
Funds Committed	$5.82 million
Program Budget (3 percent)	$180,000
Expenditures (through June 2014)	$80,244

Funding Purpose
The matching funds are open to Washington research institutions. The details of the program design and selection criteria for the grants were developed in close consultation with PNNL, the University of Washington, and Washington State University. Eligible projects must develop or demonstrate clean energy technologies that have been demonstrated as viable in prior published work, yet are not commercially available. Eligible projects must depend on approval of funding from a federal source or sources.

Program Status
Applications are received on a rolling basis until funds are obligated. Commerce has committed $840,000 to PNNL for the Smart Grid Use Case Analysis project and $4.980 million to the Advanced Composites Center for a proposal that will create a Clean Energy Manufacturing Institute for Composites. U.S. DOE informed Commerce in January that our proposal was not successful. During the first quarter of 2015, we anticipate recommitting those funds to projects proposed by PNNL/ Washington State University / University of Washington, Innovatek, Washington State University, University of Washington and Snohomish Public Utility District.

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Returning Recovery Act Funds

Total State Capital Authorization	up to $4 million
Award Funds Available (less 3 percent)	$3.88 million
Repayments (through June 2014)	$1.14 million (includes principle and interest)
Awards (Funds Obligated)	$0
Program Budget (3 percent)	$120,000

Funding Purpose
Authorization to expend up to $4 million in new loans from returning federal recovery act energy funds.

Program Status
No funding available as of July 2014. Funding levels and availability are dependent upon the flow of returning funds.

Program Implementation Budget

The $1.2 million represents 3 percent of the $40 million Clean Energy Fund, and includes administration for all four programs.

- Total Cumulative Budget through June 2015: $1.2 million
- Cumulative Budget through June 2014: $600,000
- Cumulative Actual through June 2014: $585,117