



Department of Commerce

Innovation is in our nature.

ARRA SEP Energy Efficiency & Renewable Energy Loan & Grant Awards

Last Revised: February 2012

Contact: Cory Plantenberg

(360) 725-3111, cory.plantenberg@commerce.wa.gov

Energy Efficiency & Renewable Energy Loan & Grant Program – \$38.5M

In October 2009 Commerce reviewed over 100 applications for the first round of the State Energy Program (SEP) Energy Efficiency & Renewable Energy Loan & Grant Program. Requests totaled approximately \$200 million, 10 times the amount of available funding. We selected 19 high quality projects. In February 2010 Commerce received 48 applications for the second and final round of competitive funding. A variety of public and private entities from across the state requested nearly \$60 million, about three times the amount of available funding. The funding awarded to grantees that opted out in rounds one and two was reallocated to qualified projects in a non-competitive third round.

Successfully negotiated Round One Loan & Grant Program agreements:

- **Barr-Tech**
Project: Anaerobic digester
Award: \$799,734 (\$527,824 loan / \$271,909 grant)
(Lincoln County) Project involves an anaerobic digester for processing local food waste. Estimating 117 permanent, 41 temporary jobs, and leveraging \$9.7 million in additional funding.
- **Cedar Grove Composting**
Project: Food and yard waste anaerobic digester
Award: \$1,000,000 grant
(Snohomish County) Project involves planning for a food and yard waste anaerobic digester. Estimating four permanent jobs and 24 temporary jobs, and leveraging \$8 million in additional funding. Largest single dedicated yard waste composting facility in the U.S.
- **Farm Power Lynden – *Contract Closed***
Project: Manure digester to produce electricity
Award: \$1,063,000 grant
(Whatcom County) Farm Power Lynden produces energy from what many would consider an unlikely source – cow manure. In a process known as anaerobic digestion, microbes produce biogas as they break down manure piped in from a nearby dairy. The biogas is burned in a generator to produce electricity that is sold under a 10-year contract to Puget Sound Energy. Anaerobic digestion of agricultural waste is a proven and rapidly growing source of renewable energy generated at more than 150 other facilities around the country.



Department of Commerce

Innovation is in our nature.

- **General Biodiesel**
Project: Biodiesel plant expansion
Award: \$1,000,000 loan
(King County) Project involves general plant expansion. Estimating 60 permanent and nine temporary jobs, and leveraging \$10 million in additional funding.
- **GR Silicate Nanofibers and Carbonates**
Project: Nanomaterials to reduce greenhouse gas emissions
Award: \$1,400,000 million loan
(Pierce County) Project involves use of nanomaterials to reduce greenhouse gas emissions by capturing CO₂ gas from flue gas and converting to calcium carbonate for use in paper. Estimating 15 permanent and 280 temporary jobs, and leveraging \$5 million in additional funding.
- **Green Energy Today – *Commerce Project Complete***
Project: Columbia Basin Renewable Energy Project
Award: \$898,175 grant
(Franklin County) Green Energy Today's Esquatzel Project generates energy from a source most people would never notice – the excess water from an agricultural canal that drains into the Columbia River. By diverting the water into a conduit that leads to a cross-flow turbine, hydroelectric energy is produced, after which the water is discharged to the river. Beginning in November, 2011, the Esquatzel Project will begin generating enough power for approximately 225 homes in the area.
- **MacDonald-Miller Facility Solutions**
Project: Utility-based energy efficiency project development and finance program
Award: \$1,500,000 loan
(King County) Project involves the Seattle Steam Company's utility-based energy efficiency project development and finance program. Estimating six permanent and 22 temporary jobs, and leveraging \$12 million in additional funding.
- **NCS Power – *Contract Closed***
Project: LED manufacturing
Award: \$2,000,000 loan
(Clark County) Project involves relocating LED manufacturing. Estimating 290 permanent and 90 temporary jobs, and leveraging \$6.9 million in additional funding.
- **Port Townsend Paper Corporation**
Project: Biomass cogeneration plant
Award: \$2,000,000 grant
(Jefferson County) Project involves a biomass cogeneration plant that will generate energy from solid organic fuels such as wood waste and logging debris. Estimating 290 permanent and 108 temporary jobs, and leveraging \$53 million in additional funding.



Department of Commerce

Innovation is in our nature.

- **Renewal Energy Composite Solutions – *Commerce Project Complete***
Project: Repurpose boat manufacturing plant for small wind turbine production
Award: \$137,000 grant
(Clark County) Project involves repurposing a portion of a boat manufacturing plant for small wind turbine production. Estimating 101 permanent and 99 temporary jobs, and leveraging \$5 million in additional funding.
- **SeaFreeze – *Commerce Project Complete***
Project: Energy efficiency upgrades
Award: \$561,862 loan
(King County) SeaFreeze, a venerable cold storage warehouse with local and international customers, took advantage of a low-interest loan from the State Energy Program to invest in energy efficiency. With daunting utility bills due to its refrigeration facilities, the company was looking for creative ways to cut costs. Today the company's energy bills are nearly one-quarter lower, thanks to an array of improvements made to its warehouse and processing stockrooms.
- **SGL Automotive Carbon Fibers – *Commerce Project Complete***
Project: Energy efficiency project
Award: \$2,000,000 grant
(Grant County) SGL Automotive Carbon Fibers LLC is a joint venture of the SGL Group and BMW, both based in Germany. The company's new Moses Lake facility employs 80 workers manufacturing carbon fiber, a cutting-edge material strong enough to replace steel in some of BMW's automotive frames. SGL and BMW were drawn to eastern Washington because of the abundance of clean and renewable hydropower. The State Energy Program provided a grant to encourage the company to invest in energy-efficient equipment.
- **Innovate Washington**
Project: Clean technology growth funding
Award: \$250,000 loan
(Spokane, Pierce, and King Counties) Project involves clean technology growth funding. Estimating 186 permanent and 106 temporary jobs, and leveraging \$2 million in additional funding.
- **Whole Energy Fuels #2**
Project: Biorefinery in Anacortes
Award: \$350,000 loan
(Skagit County) Project involves creating a biorefinery in Anacortes. Estimating 18 permanent and 19 temporary jobs, and leveraging \$350,000 in additional funding.



Department of Commerce

Innovation is in our nature.

Successfully negotiated Round Two Loan & Grant Program agreements:

- **AltAir Fuels – Commerce Project Complete**
Project: Advanced biofuels refinery
Award: \$2,000,000 grant
(King County) AltAir Fuels LLC plans to produce biofuels for airplanes from Camelina oil. The production will be at an in state refinery and connect into the fuel pipeline. This project will create 350 engineering and construction jobs, 20 permanent jobs in operations and maintenance, and 107 permanent and seasonal agricultural jobs.

- **Borgford BioEnergy**
Project: Springdale BioEnergy
Award: \$771,4SP05 (\$539,984 loan / \$231,421 grant)
(Stevens County) A grant and loan from the State Energy Program enabled a small company in eastern Washington to purchase a mill and put 27 people back to work. Borgford BioEnergy has developed a novel way to burn mill waste in its patented gasifier system. The resultant heat dries lumber for the mill, which produces high-end lumber beams and other architectural products. The energy generated powers the mill, produces biochar for agricultural applications, and supplies surplus electricity to the grid in Stevens County.

- **Center for Advanced Manufacturing Puget Sound (CAMPS) – Commerce Project Complete**
Project: Supply and manufacturing retool
Award: \$1,000,000 grant
(King County) CAMPS is an organization of traditional suppliers to the aerospace, marine, and transportation industries. This project will provide support to enable members to collaboratively retool and diversify to advance innovation in the wind and solar markets. This will increase the local production of parts. This project will provide an estimated 212 jobs during the three-year life of the contract.

- **Clark Public Utilities – Commerce Project Complete**
Project: WaferTech free cooling for process cooling water
Award: \$402,000 (\$282,000 loan / \$120,000 grant)
(Clark County) Saving enough energy to power 350 homes every year, WaferTech, a TSMC Company, has installed a \$1.6 million energy efficient Process Cooling Water (PCW) Free Cooling system at its Camas, Washington manufacturing facility. Expected to reduce energy use by up to four million kilowatt-hours annually, the new system uses cool Pacific NW weather to bring down the temperature of warm, post-manufacturing water down instead of relying on traditional chillers year-round. The project required 2,000 construction man-hours and annual cost savings going forward are equal to six WaferTech production specialists.



Department of Commerce

Innovation is in our nature.

- **Demand Energy Networks**

Project: Distributed electricity storage devices and network management software

Award: \$1,500,000 grant

(Spokane County) Demand Energy Networks, Inc., develops distributed energy storage technology products, which it markets internationally. Located just outside of Spokane, Demand Energy Networks employs roughly 20 people. The firm was founded in 2008 and is now beginning to sell its Demand Shifter product for residential and business use. In March 2010, Demand Energy was awarded a \$1.5 million grant in Recovery Act funding under the State Energy Program (SEP) to commercialize the Demand Shifter.

- **FPE Renewables – *Contract Closed***

Project: Vander Haak anaerobic digester

Award: \$320,000 (\$224,000 loan / \$96,000 grant)

(Whatcom County) Enhances the capacity and performance of an existing digester, doubling power output to provide clean energy to an additional 200 homes. Other partners include Northwest Farm Credit Services, USDA Rural Development and WSU. Estimating that three new jobs will be created.

- **Gen-X Energy Group**

Project: Phoenix advanced biofuels refinery project

Award: \$720,000 grant

(Grant County) Supports construction of the first unit of a biodiesel refinery in Moses Lake. The grant will fund the manufacture and installation of a new technology biodiesel module. The new technology significantly reduces costs through process simplification and heat integration; simplifies permitting and reduces emissions. Also allows access to the technical-grade glycerol market for the refinery byproduct (glycerol). Estimating that ten permanent jobs will be created.

- **Nippon Paper Industries**

Project: Port Angeles co-generation biomass boiler

Award: \$2,000,000 (\$1,400,000 loan / \$600,000 grant)

(Clallam County) This project replaces an existing process steam boiler with a new biomass boiler and adds a 20 MW condensing turbine-generator. The new generator is expected to operate at 90% of capacity 355 days a year. It allows increased use of forest byproducts as fuel qualifying the project as a biomass combined heat and power generator under most western renewable portfolio standards. The Washington State Department of Natural Resources is expected to be a major supplier of forest waste products for the new plant. The addition of generation capacity in this part of the state will provide an additional resource in a capacity-constrained portion of the grid. Estimating that 234 jobs will be retained at the mill and ten jobs will be added during the conversion phase.



Department of Commerce

Innovation is in our nature.

- **Rainier Biogas**

Project: Anaerobic digester

Award: \$1,392,500 (\$974,750 loan / \$417,750 grant)

(King County) This project will install an anaerobic digester that will process dairy manure from over 1,000 cows at three dairy farms on Enumclaw Plateau. The digester will produce 3,582 MWh biopower, enough to serve over 300 area homes. Four jobs created during implementation phase, and four permanent jobs. This project will provide a model for addressing long-standing King County concerns about water quality in east county watersheds.

Round Three Loan & Grant Program reallocation:

- **Cascade Community Wind**

Project: Community Wind Turbines

Award: \$1,000,000 (\$700,000 loan / \$300,000 grant)

(King and Kittitas Counties) CCWC plans to install eight mid-scale wind turbines funded by, and financially supporting, communities in Kittitas and Whatcom counties. They are working with utilities, agencies, lenders, vendors, service providers and the public to remove barriers to development of community-supported wind, a replicable model found throughout Europe and several Midwestern states. CCWC has nine wind leases on land capable of supporting more than 16 turbines. All eight turbines included in this project already have power purchase agreements with Puget Sound Energy.

- **EnerG2**

Project: Ultracapacitors for Electric Vehicles

Award: \$1,800,000 (\$1,260,000 loan / \$540,000 grant)

(King County) Grant will support Phase 3 of EnerG2's aggressive growth plan. The company's technical foundation rests on proprietary synthesis of carbon-based nanomaterials that radically improve the performance of energy storage devices, specifically, vehicular ultracapacitors. Phase I was fueled by investment of venture capital, DOD SBIR funds, and WA Technology Center sponsorship. The results convinced DOE in 2009 to fund 2/3 of a new nano-carbon manufacturing plant to be built by September 2011. The project plan will (1) develop an ultracapacitor electrode optimized for EnerG2's unique nanostructured carbon and large format storage devices, and (2) design and specify the product to be mass manufactured in a new plant. This product will be a large format can-shaped high-performance ultracapacitor that will fit into future electric drive vehicle power modules. Its development will require build-out of a \$1.17M pilot-scale ultracapacitor assembly line in Seattle.

- **Kadlec Regional Medical Center – *Commerce Project Complete***

Project: Medical Center Efficiency Retrofit

Award: \$2,000,000 (\$1,400,000 loan / \$600,000 grant)

(Franklin County) Activities include implementing a number of energy efficiency and renewable energy production components, including solar thermal hot water, a 20 kW solar PV array, a 5



Department of Commerce

Innovation is in our nature.

- kW wind turbine, and various energy system upgrades. Given the facility's high community visibility, it provides an opportunity for outreach and education about clean energy solutions.
- **Innovate Washington**
Project: Clean Energy Innovation Fund
Award: \$500,000 loan / \$750,000 grant
(Spokane, King, & Snohomish counties) Projects involves clean technology growth funding.
 - **Snohomish County Public Utilities District – *Commerce Project Complete***
Project: Water System Microhydro
Award: \$94,882 grant
(Snohomish County) The PUD developed plans to modify a pressure-reducing valve in their water distribution system to produce hydroelectric power, and make the project design replicable for other water system managers. The project is projected to generate 220 kW, enough to power 170 average homes, and have an exceptionally long lifespan (50-100 years).
 - **Van Dyk Dairy – *Contract Closed***
Project: Anaerobic Digester
Award: \$731,000 loan / \$313,000 grant
(Whatcom County) DariTech, a major service provider for the dairy industry based in Lynden, has long sought to enter the digester business. This project would bring state-of-the-art technology to the region, and potentially offer a less expensive approach to manure management and biogas production. The gen set would produce 450 kW of power. Their proposal was the first below the cut-off line in the second round Waste-to-Energy category.
 - **Washington State Department of Enterprise Services**
Award: \$1,204,496 grant
(Thurston and additional counties) The Department of Enterprise Services will coordinate energy efficiency work in state buildings. The buildings updated will include the old capital building in Olympia, currently housing the Office of the Superintendent of Public Instruction, the Old Soldiers Home in Orting, and buildings housing the Department of Corrections.
 - **Washington State Department of Transportation**
Project: Interurban Electric Vehicle Infrastructure Project
Award: \$1,610,000 grant
(Thurston and additional counties) This project will deploy up to ten plug-in vehicle fast charging stations along I-5 and a West-East corridor. In the first stage, fast chargers will be installed between Seattle and the Oregon border; one between Seattle and the Canadian border, and two in a West-East corridor. Two medium-speed chargers will be installed at gateway rest areas on I-5. The fast charging stations will be installed in locations determined by a quantitative analysis led by Commerce and a university. WSDOT is expected to contribute an additional \$500,000 to \$650,000 in federal funding. This funding supports the vehicle electrification goals of HB 1481.



Department of Commerce

Innovation is in our nature.

- **Washington State University Bio Systems Engineering**
Project: Commercialization of Nutrient Recovery from Anaerobic Digestion
Award: \$500,000 grant
(Whatcom, Whitman and King Counties) WSU's Center for Bioprocessing and Bioproducts Engineering is commercializing nitrogen and phosphorus recovery technology for anaerobic digestion. They've been working with research and industrial collaborators for the last seven years, and have developed patents and licensing agreements of international significance. This grant would serve as match funding for a \$1.5 million Natural Resources Conservation Service Conservation Innovation Grant proposal to incorporate the technology into two digesters in the state: Vander Haak (Whatcom) and Ritter (King). The result will be Class A biosolids using only waste engine heat, removal of 80% of phosphorus in solid form, and removal of 60% of total nitrogen (primarily ammonia) as biofertilizer slurry. These coproducts displace mined or petroleum-based fertilizers that have significant imbedded energy costs. The process also scrubs H₂S, reducing corrosion on biogas turbines, all at a cost substantially less than competing Danish technology.

- **Washington State University Extension Energy Program**
Project: Blower Door Training and Equipment
Award: \$170,000 grant
(Thurston County) The newly adopted version of the Washington State Energy Code requires that all new homes be tested for air leakage control. To ensure successful code implementation, builders and subcontractors need access to blower door equipment and operational training. Through a competitive process, 40 geographically distributed candidates will be selected to participate. Candidates who pass a proficiency test will be granted blower door test equipment, which may be sourced from a Washington State manufacturer (RetroTech, Everson). This project will also help participants take an active role in the proposed federal HomeStar program. We expect most of the equipment and training to be directed to rural and smaller code jurisdictions. With the delay in implementation of the energy code adding the training and tools for local jurisdictions may be even more valuable as a way to ensure the code is rapidly and cost-effectively implemented when it comes into force.

- **Whole Energy Fuels #1**
Project: Biodiesel Refueling Infrastructure
Award: \$165,000 loan
(Skagit County) Bellingham's Whole Energy Corporation produces and distributes alternative fuels, primarily biodiesel. The company started business in 2004 with the goal of developing economically, environmentally, and socially sustainable alternatives to petroleum fuels. Whole Energy operates production facilities and distribution terminals in Washington, California, and Oregon. The company's distribution facility in Anacortes features more than 100,000 gallons of heated storage, in-line filtration, and injection dye systems. The Anacortes location is also a short distance from Interstate 5 and a number of major petroleum distribution centers.