Energy Credits and Washington Department of Natural Resources Projects

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In 2019, Governor Jay Inslee signed into law the Clean Energy Transformation Act (CETA), committing Washington State to an electricity supply free of greenhouse gas emissions by 2045 (Commerce, 2019). The bill supports implementation of renewable energy modifications and new construction of residential and commercial buildings. CETA also encourages increased Energy Efficiency (EE) efforts to reduce greenhouse gas emissions via building envelopes and heating/ cooling appliances. A result of the bill has been increased availability of energy credits to end-users, which the Washington State Department of Natural Resources should capitalize on to reduce the Agency's carbon footprint and stretching the dollar from legislative appropriations.

Energy credits assume a variety of forms ranging from federal tax renewable energy credits, grants at the state or federal level, and rebates offered from power distribution agencies that support specific communities or assets. According to the Database of State Incentives for Renewables and Efficiency, Washington state has 161 available incentives, 10 of which apply to state government despite being mostly restricted to specific Public Utilities Distribution (PUD) regions (DSIRE, 2019). <u>Table one</u> in the attached appendix outlines categories of the 10 applicable incentives.

Many of the available incentives simply do not apply to the Department of Natural Resources (DNR) for the following reasons: their aim is at residential customers, federal tax credits do not apply to the DNR, and the loan forgiveness program to purchase renewable energy materials expired in 2018. Furthermore, Net Metering for photovoltaic (solar) or wind produced energy is difficult to achieve at DNR sites. In many cases, one meter supports several buildings because of past construction practices in the rural locations of the work centers. Although the opportunities appear slim for the DNR to receive energy credits in relation to the sheer number available, it is not impossible.

Energy Service Companies (or Energy Savings Company) known as ESCOs purchase electricity on the open market and sell it to utility companies. One particular cost savings example called an Energy Savings Performance Contract (ESPC) is popular across the construction industry (Rockwell, 2019). In this model, the ESCO achieves energy savings at a property as a service. Therefore, savings are guaranteed over a set period of time in return for payment from the energy cost savings.

For example, Ameresco is a company partnered with the Washington Department of Enterprise Services (DES) and frequently does business with the Department of Natural Resources Facilities and General Engineering Division to manage energy services. Ameresco's staff researches available energy credits and applies for them as they relate to a specific approved public works contract (Ameresco, 2019). Since 2018, the Facilities and General Engineering Division of the DNR has contracted 17 projects with Ameresco, eight of which have been completed. The total cost of completed projects in 2018 was over two million dollars and the projected costs of the current contracts are over one million dollars (in 2021). <u>Table two</u> in the appendix depicts ESCO project descriptions from the 2017 – 2019 biennium and the 2020 – 2021 biennium.

The Department of Enterprise Services also advertises ESPC contracting on their Master Contracting website. Since 1985, they have completed over one and half billion dollars in performance contracts for over four hundred state public facility customers. Typical projects include energy efficiency lighting retrofits, high efficiency HVAC systems, boiler and chiller system retrofits, and solar, wind or co-generation construction (Washington State Department of Enterprise Services, 2019).

In January of 2018, Governor Jay Inslee signed Executive Order 18-01, the State Efficiency and Environmental Performance (SEEP) bill, which aims to align the state's day to day operations with goals to reduce greenhouse gas emission and other pollution. Executive Order 20-01 maintains the goals of the previous bill and established the SEEP office. The SEEP office allows state agencies to identify and adopt cost effective measures to reduce emissions (Commerce, 2021). Both Executive Orders and the State's Department of Enterprise Services success implementing energy efficient projects affirm Washington's goal to reduce carbon emissions and offer economical means to meet that goal when viewed over the lifetime of a facility and its assets.

Each biennium, the Department of Commerce advertises grants and loans that may subsidize capital funds to accomplish public works construction projects. The Department of Commerce State Project Improvements website has options for grants, formerly known as Minor Works Grant or Energy Enhancement Grant. Within each grant or loan process, there are generally one to three phases to the application, which can be lengthy, but in 2021, Commerce awarded over four million dollars to increase energy efficiency and solar use in public buildings (Commerce, 2021).

A Renewable Energy Credit (REC), not to be confused with the federal tax incentive, is a certificate corresponding to the environmental attributes of energy produced from renewable sources such as wind and solar. RECs are a means to track progress towards compliance with the State's Renewable Portfolio Standards (RPS). Washington state's RPS policies required 15% of electricity in the grid to come from renewable sources by 2020 according to the U.S. Department of Energy (U.S. Department of Energy, 2019). The power generated is sold into the grid and each REC certificate is worth one MWh of renewable generated energy. For each REC purchased, the customer is able to claim the equivalent MWh of energy reduction as an offset to their conventional energy use. Because RECs provide an additional revenue stream to renewable energy

projects, they essentially act as a subsidy meant to allow a clean resource to compete economically with fossil fuel resources (Environmental Protection Agency, 2019).

REC arbitrage (also known as REC swap) is a procurement strategy used by electricity consumers to meet two objectives simultaneously: decrease the cost of renewable electricity use, and substantiate renewable electricity use and carbon footprint reduction claims. The DNR can capitalize on this strategy by installing self-financed renewable electricity projects or purchasing power directly from a renewable electricity project through a purchase agreement. Arbitrage is a near simultaneous buying and selling of commodities in different markets to take advantage of differing prices for the same or similar assets. Based on REC arbitrage information, the DNR could create a purchase agreement with renewable companies leasing DNR public land for power generated via REC without arbitrage.

The far easier option is to include renewable energy implements in new facility construction or existing facility renovation that meets the requirements of the Washington State Energy Standards for RPS and then sell project RECs to the grid to recoup some of the project cost. At the local PUD level, rebates may even be recouped for purchasing Energy Star rated hardware, generation of power that is sold back to the PUD via net metering or building above and beyond the scope of the building code.

In conclusion, Washington state and the Department of Natural Resources already commits to reducing greenhouse gas emissions. By rolling energy efficient opportunities into standard facility maintenance, the Agency decreases greenhouse gas emissions, meeting the goals established through multiple legislative processes. Simultaneously, the Department of Natural Resources and the taxpayers benefit from cost savings recognized by the creative use of incentives advertised by the Department of Commerce, local PUDs, and Renewable Energy Certificates.

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Appendix.

	Туре	Location	URL	Applications	Max Incentive	Stipulations
1	EE Rebate	Seattle City Lights	https://energysolutions.seattle.gov/your -business	Appliances, HVAC and Commercial Cooking	70% of Cost	Approved before installation/ finalized at time of contract
2	Commercial and Industrial Energy Rebates	Mason County PUD	https://www.pud3.org/service/conserv at ion-incentives	Lighting, heat pumps, motors, EE, LED lights	Lighting rebates: varies by project	Not always available
3	Natural Energy Power Producers	Chelan County PUD	http://www.chelanpud.org/docs/defaul <u>t- source/default-document-</u> library/snap- ar-2018-web.pdf	Renewable Energy	\$1.50/kWh	Max system size of 25 kW- AC
4	Grays Harbor EE Rebate	Grays Harbor PUD	https://www.ghpud.org/energy- efficiency	Appliances, Temperature controls, EE, Insulation	Light: 50% Custom: 50% VFD: 50%	Project pre- approval and completed w/l 90 days of pre- approval
5	Watts Smart Rebate	Pacific Power	https://www.pacificpower.net/saving <u>s- energy-</u> <u>choices/business/wattsmart-</u> efficiency-incentives-washington.html	Appliances, envelope, LED	Evaporative Pre-cooler: 70%	
6	Commercial New Construction Grant	Puget Sound Energy	https://www.pse.com/rebates/busines s- incentives/commercial-retrofit- grants	Lighting, Comprehensive measures, Whole Building	Up to 100% of lighting power density reduction	Based on incremental cost of eligible equipment upgrades
7	EE Retrofit Grant	Puget Sound Energy	https://www.pse.com/rebates/busines s- incentives/commercial	Heating and cooling, Manufacturing	70% except 50% for HVAC	Require pre- approval
8	Blue Sky Community Grant	Pacific Power	<u>https://pacificpower.net/env/bsre/cpf.</u> <u>ht ml</u>	State Gov., Local Gov., Agricultural, Institutional	100% of Capital Cost	Projects must be grid connected, less than 10 MW, locally owned
9	EE and Solar Grant	State Capital Budget	http://www.commerce.wa.gov/growin g- the-economy/energy/energy- efficiency- and-solar-grants/	Solar water heat, space heat, lighting	EE: \$350K/ biennium Solar: \$500K/ Biennium	Solar projects must have 1:1 leverage ratio
10	USDA Reap Grant	Federal Grant	http://www.rd.usda.gov/programs- services/rural-energy-america- program- energy-audit-renewable- energy- development-assistance	Agricultural renewable energy site assessments and technical assistance	Expenses associated with energy audits	Three tiered application structure.

Table 1 Available Incentives for State Agencies

Project	Biennium	DIV/ Region	Cost	Status
NE0301- Highlands Camp Water System Repair	17-19	NE	\$266,752	Complete
FL0204- Heat Exchange and Air Cooler, back-up power, Well House #2	17-19	FL	\$1,070,877	Complete
Tukes- Complete HVAC Repair	17-19	PC	\$343,114	Complete
Sedro Wooley HVAC Repair	17-19	NW	\$260,012	Complete
Colville- HVAC Repairs	17-19	NE	\$591,019	Complete
Cedar Creek- Carpenter Shop Conversion to Office	17-19	PC	\$214,687	Complete
NE0103- Warehouse HVAC Replace/ Upgrade/ Water heater Replacement	20-21	NE	\$103,000	Complete
Forks- HQ HVAC and Lighting Replacement	20-21	OL	\$277,823	In Progress*
PA 5001/02 HVAC and Lighting Repair	20-21	OL	\$277,187	In Progress*
Ellensburg HVAC Controls	20-21	SE	\$52,858	In Progress*
Enumclaw HVAC Controls	20-21	SP	\$144,328	In Progress*
Tumwater Compound HVAC Controls	20-21	тс	\$42,000	In Progress*
Meridian/ Webster Wells	20-21	FL	\$274,000	In Progress*

Table 2 DNR ESCO Projects through 2021 (*Projects depicted as in progress are complete as of 2024)