

Carbon Offset Acquisition Progress Report: Port Westward Project, Port Westward Two and Carty

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Prepared for Portland General Electric

By The Climate Trust

Overview

In order to fulfill the requirements of the Oregon Carbon Dioxide Standard (“Oregon Standard”) when obtaining site certificates a generating facility may elect to pay a qualified nonprofit organization a standardized amount per ton of excess CO₂ emissions to implement offset projects on the facility’s behalf. Portland General Electric (PGE) elected to pursue this option for the Port Westward Project, Port Westward Unit 2 and Carty, and subsequently provided funding to The Climate Trust, a nonprofit organization qualified to implement offset projects under the monetary path. This Carbon Offset Acquisition Progress Report describes how The Climate Trust has utilized the monetary path payments to purchase and retire carbon offsets on PGE’s behalf.

The Climate Trust has received monetary path payments totaling \$17,732,150 from PGE for the Port Westward Project, Port Westward Unit 2 and Carty. The following table reviews the status of the funds as of December 31, 2014:

Payments	Funding from PGE			Carbon Offsets	
	Offset Funding	Carbon Purchase	Obligated as of 12/31/14	Anticipated	Retired as of 12/31/14
Port Westward Project	\$5,400,565	\$4,320,452	\$3,240,281	738,223	188,693
Port Westward Unit 2	\$4,415,486	\$ 3,532,388	\$2,661,760	811,442	22,984
Carty	\$7,916,099	\$6,332,879	\$1,412,600	171,000	0
GRAND TOTALS	\$17,732,150	\$14,185,719	\$7,314,641	1,720,665	211,677

Funding Obligations

Under the Oregon Standard, The Climate Trust is required to obligate at least 80% of offset funding into contracts for direct implementation of carbon offset projects. The remaining 20% of funds may be used for management of the offset projects. Additionally, The Climate Trust is required to obligate 60% of the total offset funding into contracts within two years of facility construction commencement. The Climate Trust’s performance against these benchmarks as of December 31, 2014 is outlined below:

Port Westward Project:

- 60% Obligation: Compliance was achieved on January 26, 2007.

- **80% Obligation:** The amount of funding obligated from the Port Westward Project has decreased to 60% from earlier years due to contract terminations that necessitated de-obligations. The Climate Trust shall obligate at least 20% more of PGE's funding into additional offset projects. In 2014, little progress was made toward fulfilling the 80% obligation requirement. This delay is due to The Climate Trust's focus on obligating the time-bound spending (60%) from Port Westward 2 and Carty.

Port Westward Unit 2:

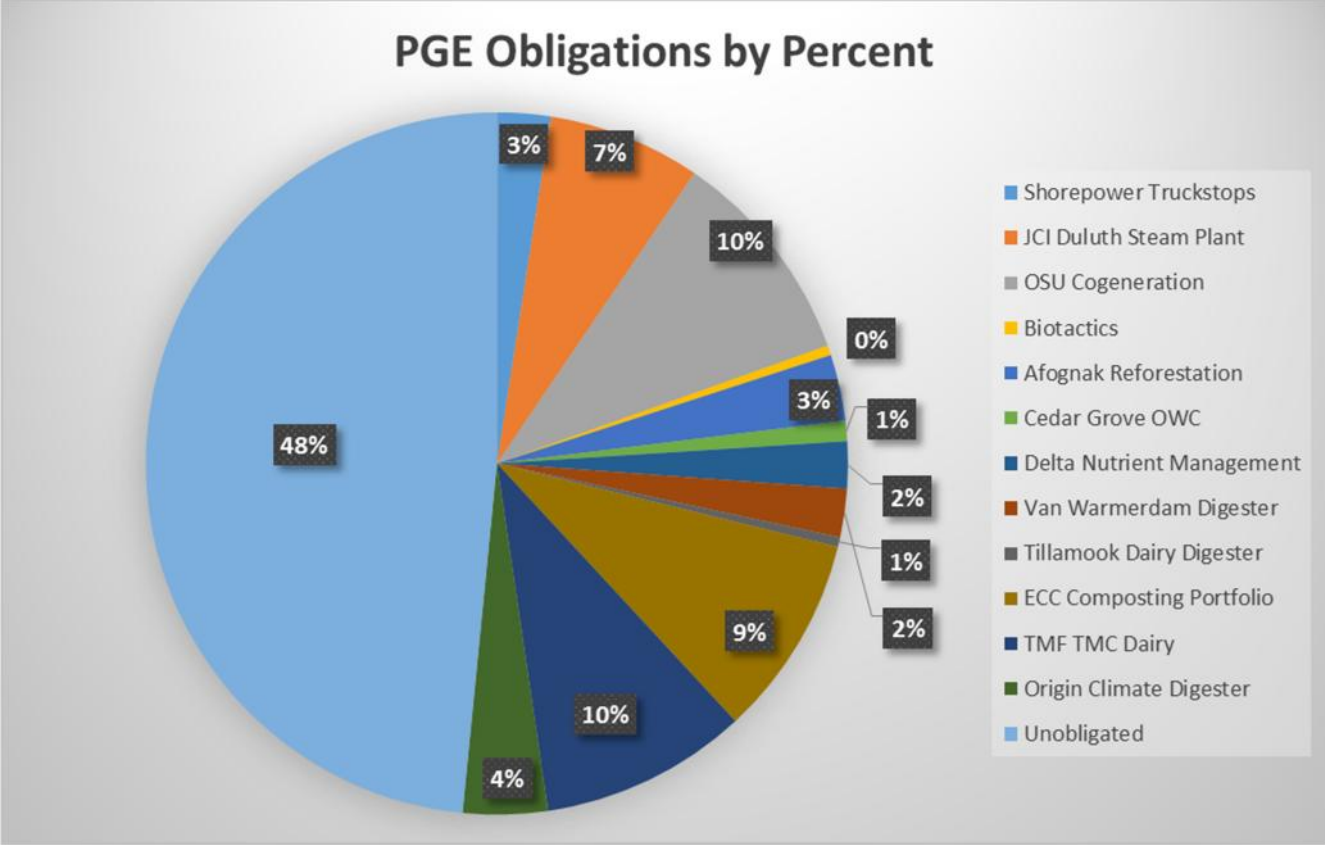
- **60% Obligation:** Compliance was achieved on October 8, 2014.
- **80% Obligation:** The Climate Trust has obligated 60% of Port Westward 2's carbon offset funding through contracts for carbon offset projects. The Climate Trust shall obligate at least 20% more of PGE's offset funding into additional offset projects. In 2014, The Climate Trust fulfilled the 60% obligation deadline. This was achieved through obligations to the Delta Nutrient Management Project, TMC Three Mile Canyon Dairy Digester Project and Camco Afognak Forestry Project (see below for full description of all projects).

Carty:

- **60% Obligation:** As of December 31, 2014, The Climate Trust has obligated 18% of Carty's carbon offset funding through contracts for carbon offset projects. The Climate Trust is actively seeking additional projects and is on target to obligate 60% or more of Carty's offset funding within two years of the facility construction commencement (January 2016).
- **80% Obligation:** The Climate Trust has obligated 18% of PGE Carty's offset funding through contracts for implementation of offset projects. The Climate Trust shall obligate at least 62% more of PGE Carty's offset funding into additional projects. In 2014, progress was made through allocation of offset funds to Origin Climate WA Beef Project, TMF Three Mile Canyon Dairy Digester Project and John Galt Biogas Van Warmerdam Project (see below for full description of all projects).

Overview of Carbon Projects Funded by PGE

The Climate Trust has obligated PGE's funding to twelve carbon projects, but nearly half of the funding has yet to be obligated. The following chart illustrates the percentage of PGE's funding by obligation.



Ten of the twelve projects contracted to deliver offsets with the support of PGE’s funding were active and producing emissions reductions as of December 31, 2014. Two projects were inactive. The funding and carbon reductions associated with each project are summarized below.

Active projects:

Project Name	Funding from PGE	% Share of Offset Project Funding	Carbon Offsets for PGE (mtCO ₂)	
			Anticipated	Retired
Camco Afognak Island Improved Forest Management Project	\$432,500	38.8%	193,571	128,571
Delta Nutrient management	\$306,750	100%	30,675	2
ECC Composting Portfolio	\$1,317,375	57.0%	202,750	22,984
Farm Power Tillamook Regional Digester	\$63,875	12.9%	7,300	0
JCI Duluth Steam Plant Retrofit	\$999,060	95%	199,812	0
John Galt Biogas Van Warmerdam Dairy Digester	\$316,000	37.4%	34,000	0
Oregon State University Cogeneration	\$1,424,956	95%	321,841	42,125
Origin Climate WA Beef	\$552,500	100%	75,000	193,682

Shorepower Truck stops	\$350,000	77.8%	70,000	0
TMF Three mile Canyon Dairy	\$1,355,400	92.1%	162,000	0
TOTAL	\$7,118,416		1,296,949	193,682

Completed and Terminated Projects:

Project Name	Status	Funding from PGE	Carbon Offsets Retired for PGE (mtCO ₂)
Cedar Grove Waste Composting	Complete	\$132,476	17,995
Biotactics	Terminated	\$63,750	0
TOTAL		\$199,226	17,995

Carbon Project Descriptions and Status Updates

The offset projects supported with PGE’s funding utilize diverse approaches to achieve real, measurable, and verified emissions reductions. Summaries and status updates for each of the projects are provided below. Additional project detail may also be found at TCT’s interactive map:

<http://www.climatetrust.org/work/portfolio/>

Afognak Island Improved Forest Management Project (Active)	
Description	In 2013, The Climate Trust contracted with Camco International Group to purchase carbon offsets from the Afognak Island Improved Forest Management Carbon Project. The Afognak project is the culmination of a decade of concerted efforts by dozens of dedicated individuals to conserve a unique, 8,220 acre ecosystem in perpetuity and prevent over 1 million tons of CO ₂ from being released into the atmosphere over the project life. The coastal areas of Afognak Island are home to 200-year old forests that provide important habitat for river otter, beaver, marten and ermine, while its coastal waters are home or feeding grounds for sea lions, harbor seals, and humpback whales. Afognak Island is also home to Alaska’s largest herd of elk. The American Land Conservancy (ALC) and the Rocky Mountain Elk Foundation (RMEF) acquired the forest and committed the land to conservation in perpetuity through a conservation easement. This pioneering effort is the first of its kind in the state of Alaska and focuses on conservation management with carbon revenues to support conservation and management in place of the clear-cut timber harvest prevalent in the area.
Status	The project is in operation and successfully completed its first third party verification by Rainforest Alliance in June 2012. The project will continue to generate additional carbon offsets in the coming years through conservation management, ongoing monitoring, and verification. In 2014, The Climate Trust obligated additional funding to the Afognak Project from Port Westward 2 in anticipation of a delivery in early 2015.

Delta Nutrient Management		(Active)
Description	First of its kind nutrient management project for Nitrous Oxide reductions by reducing nitrogen fertilizer applications on approximately 80,000 acres of cornfields in the North Central Region of the Midwest. Delta started with a 40 acre pilot in 2011 and is actively recruiting additional landowners. The Climate Trust will buy up to 30,750 unit contingent credits over seven years. This is a great example of using Oregon dollars to support nascent carbon offset sectors with little risk.	
Status	The Climate Trust executed the contract with Delta P2E2 in January 2014 and received the first two offsets of their kind in June of 2014. While TCT did not expect a large first delivery, we expected more than two. Furthermore, the project missed a milestone at the end of 2014 to have 5,000 acres enrolled by 12/31/14. Delta explains that it is having trouble signing up land owners for a variety of reasons. TCT has the option to cancel the contract and receive a cancelation fee, but decided to keep the project active to encourage development of this nascent sector. As there was no prepayment associated with this project there is no risk of loss.	

ECC Composting Portfolio		(Active)
Description	In 2013, The Climate Trust contracted with Environmental Credit Corp to buy carbon offsets verified from the avoided methane emissions from three composting projects they've developed in Colorado, Nevada and Delaware. Composting food waste, rather than managing it in a landfill, avoids the release of potent methane emissions to the atmosphere. The A1 Organics composting facility in Keenesburg, CO is the largest commercial composter in Colorado and one of the only composting outlets for Denver's food waste, while their Nevada facility is the only composting facility able to receive commercial food waste from Las Vegas. The Wilmington Organics Recycling Center, owned by the Peninsula Compost Group, is the largest food scrap composter on the East Coast. Together, these facilities have the capacity to compost 680,000 tons of food waste each year, and are expected to deliver up to 355,000 verified carbon offsets over contracted project life. The project is listed on the Climate Action Reserve and used version 1.1 of the Organic Waste Digestion Protocol	
Status	The Climate Trust accepted a delivery from the Peninsula project and retired 22,984 offsets to PGE's Port Westward 2 Project. However, the project was closed due to ongoing violations of ordinances and is not expected to reopen. As of December 31, 2014 TCT is in negotiations for replacement credits. The Nevada facility experienced a fire, causing several issues that resulted in the closure of the facility. As of the end of 2014, TCT is exploring replacement credits and an amendment to the contract. There was no prepayment associated with this portfolio of projects so there will be no loss of offset funds if a de-obligation is necessary.	

Farm Power Tillamook Regional Digester		(Active)
Description	<p>In 2013, The Climate Trust contracted to purchase carbon offsets from Farm Power, a Washington LLC, for a regional anaerobic digester installed in Tillamook, Oregon that will process manure from four nearby dairies: Silver Mist Dairy, Martin Dairy, Kenneth Tohl Dairy, and Traskview Farm. The project is located at the Silver Mist dairy and manure from the other dairies is transported to the digester via pipeline. The project also processes food waste. The Climate Trust will purchase carbon offsets from the avoided methane that would have otherwise vented into the atmosphere. Tillamook dairy combusts the biogas from the digested manure and food waste to generate electricity. The environmental attributes from this renewable source of electricity Renewable are sold to the Tillamook People’s Utility District (TPUD) as Renewable Energy Certificates (RECs).</p>	
Status	<p>Project is active, and was listed on the Climate Action Reserve project registry in 2012. The Climate Trust has been fundamental in driving the success of this project, by successfully championing a legislative policy change in Washington State that delineates the Renewable Energy Credits from the Carbon Offsets generated by this project. This regulation, which was signed into law on May 1, 2013 ensured that Farm Power could generate revenues, and improve financial sustainability through the sale of carbon offsets from this project. At the end of 2014 TCT was in negotiations to purchase additional offsets from the project. The first verification and delivery of offsets are expected in early 2015.</p>	

JCI Duluth Steam Plant Efficiency Upgrade		(Active)
Description	<p>The Climate Trust is purchasing carbon offsets from an industrial energy efficiency project being implemented by Johnson Controls Inc. (JCI) at the City of Duluth’s Steam Plant in Duluth, Minnesota. The plant is owned by the City of Duluth and operated by the Duluth Steam Cooperative Association. Pursuant to an energy savings performance contract signed by Johnson Controls and the City of Duluth, JCI has installed three industrial efficiency measures at the steam plant. The energy efficiency measures will reduce the amount of coal the steam plant burns annually for heating purposes.</p>	
Status	<p>The project has been successfully implemented and reached commercial operation on August 1, 2007. Although JCI submitted verification reports for 2007-2010 project years, the delivery of carbon offsets has been delayed due to a variance in the monitoring and verification plan. The Climate Trust is working with Johnson Controls to resolve these variances. In 2014, JCI contracted with Ruby Canyon Engineering to validate the monitoring and verification plan and anticipates successful validation in 2015. Once validated TCT anticipates a delivery of vintage 2007 through 2014 offsets in 2015.</p>	

John Galt Bioogas Van Warmerdam Dairy Digester (Active)	
Description	In 2013, The Climate Trust contracted to purchase carbon offsets from John Galt Biogas from an organic waste digester at the Van Warmerdam dairy in Sacramento County, California. This innovative project covers an open waste lagoon so that the facility can store up to two days of biogas production, combusting the gas to generate electricity only during peak pricing periods. By turning methane gas generated by cow manure into electricity, this project benefits farmers and rural economies by reducing greenhouse gas emissions, other environmental pollutants, and building community awareness of clean energy in the region.
Status	In 2014, TCT executed an amendment with John Galt Biogas to purchase additional tons and \$220,000 was obligated from Carty's funding. This is in addition to the \$96,000 already obligated from Port Westward 2. The first delivery vintage v2013-15 offsets are anticipated in September 2015.

Oregon State University Combined Heat and Power (Active)	
Description	The Climate Trust has contracted to buy carbon offsets from a cogeneration project being implemented by Oregon State University (OSU) at its campus in Corvallis, Oregon. The project involves installing a combined heat and power plant to provide steam and electricity for the campus. The installation of a 5.5-megawatt combustion turbine generator fired by natural gas, a heat recovery steam generator, and two auxiliary boilers will generate electricity that will meet 100% of the heat load and approximately 50% of the electrical load at the University, thereby reducing the use of grid-based electricity.
Status	The project reached commercial operation in July 2010. The Climate Trust received 13,209 verified offsets from the project following the project's first verification report submitted in November 2011. In 2014, vintage 2011-13 offsets were verified and delivered to TCT, totaling 31,133 offsets, 95% of which were then retired towards the Port Westward Project. The project is on schedule and TCT anticipates full delivery.

Origin Climate Greenhouse Gas Solids Reduction (Active)	
Description	The Climate Trust will purchase avoided methane emissions using an anaerobic digester installed at the Washington Beef slaughterhouse in Toppenish, Washington. In January 2013, Washington Beef covered its anaerobic lagoon with an insulated, soft cover. This system captures methane previously released to the atmosphere and uses it in on-site boilers.
Status	TCT executed the contract with Origin Climate (previously named TerraPass) on June 4 th 2014. The project has been in operation for several years and we anticipate the first delivery to The Climate Trust of vintage 2015 offsets in mid-2016.

Shorepower Truck Stop Electrification		(Active)
Description	<p>In 2005, The Climate Trust contracted with Shorepower Technologies to purchase carbon offsets from a project that reduces truck diesel engine idling through truck stop electrification. Each night thousands of truckers idle their diesel engines to power heating, air conditioning, and appliances in their sleeper cabs. Idling engines cause undue wear on machinery, emit harmful air pollutants, and increase noise pollution. Shorepower's Truck Electrified Parking (STEP) system is a low-cost alternative to idling that provides drivers with grid-based electricity, cable television and Internet connections to enable drivers of long-haul heavy-duty trucks to shut down their engines and save fuel during rest periods. Shorepower's project includes 275 parking spaces at four truck stops in Oregon and two in Washington.</p>	
Status	<p>Shorepower Technologies has completed installation of electrified parking spaces at all six truck stops. The first monitoring report indicated that the number of carbon offsets the project will deliver is lower than anticipated, due in part to the fact that truck drivers are not accustomed to using this new and emerging technology. Shorepower provided a Remedial Action Plan describing the causes and proposed actions to remedy the offsets shortfall to The Climate Trust in March 2012. Shorepower proposed additional sites in 2013, but additional review and documentation is needed to ensure that offsets from these sites can be verified, and the project has not yet completed verification for emissions reductions achieved to date. In 2014, Shorepower missed another deadline, but they did secure 10,000 replacement offsets to bring them into compliance with the contract. However, none of these were retired on PGE's behalf. The Climate Trust is working with Shorepower to resolve the project's underperformance.</p>	

TMF Three mile Canyon		(Active)
Description	<p>TMF Biofuels, LLC developed the Threemile Canyon Farm Digester Project, an anaerobic digester system designed to divert manure from a lagoon. The project captures the methane emissions that normally vent into the atmosphere and uses them to generate electricity through 1.6 MW engine heat recovery system.</p>	
Status	<p>TCT executed the contract on July 21st 2014 with the first delivery set for November 2014. While no offsets were delivered by the end of 2014, TCT confirmed the verification is underway. TCT expects a delivery of vintage 2013 and 2014 offsets in early 2015.</p>	

Inactive Projects:

Biotactics		(Terminated)
Description	<p>The Climate Trust and the Klamath County Economic Development Association (KCEDA) entered into a master agreement whereby KCEDA proposed project activities to The Climate Trust that could generate carbon offsets. Under this agreement, funding was obligated for one project – a small business proprietor who proposed replacing natural gas and propane heating with geothermal energy to heat large commercial greenhouses used to produce and incubate predatory mites. Biotactics, the small business proprietor, relocated from southern California to operate exclusively in Klamath Falls, Oregon and utilize the abundant source of geothermal energy for its predatory mite production.</p>	

Status	<p>Under this agreement, The Climate Trust established two phases of funding for Biotactics which would have resulted in 25,500 carbon offsets and a total payment of \$127,500. Half the funding was provided upfront to enable Biotactics to relocate to Klamath Falls, Oregon (along with other sources of funding acquired by the small business owner). To receive the second half of funding (under the second phase) Biotactics was required to fulfill its business plan to expand commercial operations, doubling the size of greenhouse gas facilities. Under both phases, Biotactics was required to submit annual monitoring and verification reports to demonstrate greenhouse gas reductions.</p> <p>Unfortunately, due to the economic downturn, Biotactics was not able to fulfill its agreement for expansion and did not submit annual monitoring and verification reports. Given the small size of operations, The Climate Trust and Biotactics determined that offset verification was not commercially reasonable and agreed to terminate the contract. Biotactics reported that as a result of the relocation to Klamath Falls, Oregon, the company operated for six years, employed 13 workers and used geothermal energy exclusively to heat its commercial greenhouses. The Climate Trust was unable to recover the \$63,750 prepayment.</p>
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Cedar Grove Waste Composting (Complete)	
Description	<p>The Climate Trust contracted to purchase greenhouse gas emission reductions generated from Cedar Grove Everett and Maple Valley organic waste composting projects. These projects, which utilize the Climate Action Reserve Organic Waste Composting Project Protocol, employ best management practices in their facilities through organic composting, reducing emissions by diverting organic waste from a landfill, where it would release the potent greenhouse gas, methane.</p>
Status	<p>The Climate Trust retired 17,995 tons of offsets from these projects on behalf of PGE's Port Westward Project in 2013, fulfilling its obligation to the Port Westward Project.</p>