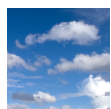


2016-2017 Environmental Objectives and Targets Results



Port of Portland's aviation, marine and industrial development operations have an impact on the environment. To address those impacts and fulfill our environmental policy, the Port sets environmental objectives and targets to meet goals in five program areas: air quality, energy management, natural resources, water resources and waste minimization/land quality. Yearly goal-setting is part of our Environmental Management System that continuously and systematically improves our environmental performance. By setting goals and tracking progress, we can measure our success. Program managers, operational staff and other stakeholders develop targets and actions that will minimize our environmental footprint, innovate on current practices or respond to stakeholder concerns.

To share our performance with the public, we report yearly on progress towards achieving targets. This document outlines achievements for Fiscal Year (FY) 2016-2017. The Port fulfills targets using internal resources and expertise and by teaming up with external partners. The Port of Portland is proud to report that we completed 16 out of the 20 targets and actions set for FY 16-17 and made significant progress on the remaining four targets.



Air Quality

Objective: Minimize impacts to air quality

Target: Reduce particulate matter emissions from diesel at Port-controlled operations by 75% from 2000 baseline levels by 2020. Timeframe: 2015-2020

Action: We identified and researched external funding opportunities that align with equipment replacement plans, including 1) Replacing the Port's *Tug Williams* in 2-3 years, cost: \$4,000,000; 2) Replacing the dredge material handling dozer in 2-3 years, cost: \$850,000; and 3) Repowering the *Tug Clackamas* in 3-4 years, cost: \$1 – 2,000,000. As a result of the research, we prepared and submitted a Diesel Emission Reduction Act grant application to repower the *Tug Clackamas*.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Reduce Port direct and indirect greenhouse gas (GHG) emissions 15% below 1990 baseline levels by 2020. Timeframe: 2009-2020

Action: The Port continues to meet this target through the purchase of certified Renewable Energy Certificates exceeding 100% of Port-wide electric energy usage and completing planned energy efficiency improvements (see Energy Management Program). As of 2016, the Port has achieved a 71% reduction from the 1990 baseline (including REC purchases).

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Participate in the Airports Council International (ACI) Airport Carbon Accreditation (ACA) Program to achieve Level II (Reduction) by 2016; Level III (Optimization) by 2018; Level III+(Neutralization) by 2035 for Portland International Airport (PDX), Hillsboro Airport (HIO), and Troutdale Airport (TTD). Timeframe: 2015-2035

Action: The Port achieved ACA Level II Accreditation for PDX and TTD airports. HIO carbon emissions increased due to the parallel runway construction and was certified at Level I. Work began on achieving Level III accreditation for all airports through developing an approved model using the ACI's Airport Carbon and Emissions Reporting Tool, but this work is not complete yet. We began evaluating carbon offset options to develop a strategy recommendation to achieve carbon neutrality.

Progress: The actions for this target are 50% complete for FY 16-17.

Target: Advocate for unleaded fuel penetration for the Avgas fleet at Hillsboro Airport (HIO) by working with General Aviation Operations to complete an unleaded fuel study and by working with fueling companies at HIO to initiate an unleaded fuel program that can be facilitated through the existing standards. Timeframe: 2015-2019

Action: We provided an overview on the results of the unleaded fuel study to the Hillsboro Airport Roundtable Exchange in October 6, 2016.

Action: We continued to advocate for unleaded fuel penetration for the Avgas fleet at HIO by engaging fueling companies to initiate an unleaded Mogas program that could be facilitated through the existing airport standards. Hillsboro Aviation and AeroAir declined participation due to liability and other concerns, but are interested in making use of a FAA-approved nationwide replacement fuel estimated to be available in 2018.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Reduce emissions from marine and aviation-related sources not under the Port's direct control, including Port customers, tenants and other stakeholders. Timeframe: 2016-2018

Action: We continued work with City of Portland, Multnomah County, Metro and Oregon Department of Environmental Quality to explore the feasibility of developing an effective, implementable and uniform clean diesel construction specification that could be voluntarily adopted by participating jurisdictions in the Portland metropolitan region. In support, the Port initiated a study of existing programs around the U.S. to inform the committee's policymaking. In marine operations, the Port met with Kinder Morgan to evaluate the replacement of switcher locomotives; leasing of locomotives proved to be a barrier in investing in replacements.

Progress: The actions for this target are 85% complete for FY 16-17.

Target: Reduce aircraft-related GHG emissions at PDX by 25% from 2010 levels by 2035. Timeframe: 2016-2035

Action: The Port prepared and received a Voluntary Airport Low Emissions Program grant to install preconditioned air units at 26 jet bridges to reduce aircraft jet fuel emissions. To support sustainable aviation biofuels, we continued development of engineering and design for PDX biofuel delivery infrastructure. We also evaluated biofuel alternatives and continued stakeholder engagement through the Portland Fueling Facility Consortium.

Progress: The actions for this target are 100% complete for FY 16-17.



Energy Management

Objective: Reduce energy consumption and carbon emissions

Target: Reduce Port-wide energy consumption by 20% from 2011 baseline by 2020. Timeframe: 2014-2020

Action: The Portland International Airport-wide lighting upgrade project finished construction, reducing annual energy consumption by 1,383,000 kWh and resulting in a carbon footprint reduction of approximately 1,020 metric tons per year.

Action: Energy conservation opportunities identified by the Energy and Carbon Management Master Plan were evaluated for inclusion in the upcoming PDX Terminal and Concourse Capital Projects expansion work.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Purchase 100% of all Port electric energy from renewable sources by selecting cost-effective options in the energy market for Renewable Energy Certificates, Vintage Year 2016. This is an on-going target.

Action: The Port continued to uphold its commitment to 100% renewable power by purchasing 75,000 Renewable Energy Certificates last year, equating to about 75 million kWh of electricity consumption. This target resulted in the Port being consistently listed in the Top 10 in the Local Governments category (#9) and in the Top 100 (at #91) among 100% Green Power Purchasers under the U.S. Environmental Protection Agency's Green Power Partner ranking system.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Develop an energy baseline metering, tracking and analysis system for Portland International Airport (PDX) terminal complex and other large Port building's or systems utility service. Timeframe: 2012-2022

Action: We continued to install tenant sub-meters at PDX to promote energy conservation, recover operational costs and improve the accuracy of the Port's emissions inventory. The Port now requires tenant metering for all new PDX concession spaces (non-airline) to monitor and bill tenants for their electricity, natural gas and water consumption.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Develop and deliver a Strategic Energy Management program for Port's commercial energy improvements by participation in the Energy Trust of Oregon Strategic Energy Management (SEM) Program. Timeframe: 2015-2018

Action: The Port completed two-years of participation in the SEM program. We completed an after-hour assessment of the HQ facility to identify opportunities to reduce energy consumption through guiding employee behavior; results of the audit with suggestions for improvement were shared through employee communications. Information gained from program participation is being used for corrective work such as employee outreach, system control set points, or the addition of occupancy sensors.

Progress: The actions for this target are 100% complete for FY 16-17.



Land Quality (formerly Waste Minimization)

Objective: Reduce waste generation and hazardous materials use

Target: Zero waste: Achieve 90% or greater landfill diversion by 2018. Timeframe: 2013-2018

Action: The Waste Management Team (WMT) piloted the Green Plate and HQ Box durable dishware programs for diners at PDX food carts or for Port HQ employees taking their food to-go with support from the Oregon Department of Environmental Quality Materials Management Division. Pre- and post-waste audits measured the efficacy of the program in reducing waste from disposable to-go container and changes in food compost volumes. The WMT gathered feedback from customers, food cart operators, janitorial staff, and Port Concessions Operations to evaluate successes and opportunities for improvement in program design. Data from waste audits, stakeholder feedback and pilot program success will be analyzed and synthesized in a report (available November 2017) to determine next steps.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Reduce food waste from PDX terminal restaurants by implementing one or more Food Optimization Study recommendations in coordination with restaurants in the PDX Terminal. Timeframe: 2015-2017

Action: The WMT created outreach materials based on a Food Optimization Study that examined how restaurant business purchasing, inventory, and marketing models influence levels of waste generation, while simultaneously assessing new opportunities for food diversion and food waste reduction for PDX concessions. Messages and materials were developed based on stakeholder interviews. The outreach materials are designed to increase restaurant employee involvement in food optimization by providing education and a standard waste-tracking method. This target contributes to the implementation of the Port's Five-years to Zero Waste Plan.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Minimize waste generation by providing waste minimization outreach and technical assistance to non-terminal tenants at PDX. Timeframe: 2015-2020

Action: The WMT collaborated with Port and tenant construction departments to determine best practices for minimizing construction and demolition waste and to encourage material diversion and waste tracking. The team continued work with Atlantic Aviation to track waste generated during new facility construction. A report summarizing the findings from the landfill-bound waste assessment and opportunities for waste diversion was completed. The report also included detailed recommendations for waste collection and handling equipment as well as outreach and signage for the new Atlantic Aviation facility.

Progress: The actions for this target are 100% complete for FY 16-17.



Natural Resources

Objective: Minimize impacts and seek opportunities to enhance natural resources

Target: Implement projects in support of the Airport Futures Intergovernmental Agreement (IGA) for environmental improvements around Portland International Airport. Timeframe: 2010-2035

Action: The Port natural resources team conducted site maintenance and monitored birds and vegetation and the Xerces Society monitored pollinators on the 50-acre native grassland mitigation site at Government Island to evaluate the success of the enhancement project and guide future management.

Action: Working in partnership with the PDX Community Advisory Committee (CAC) Natural Resources Sub-committee, we selected a project for funding to enhance the ecological health of the Columbia Slough Watershed.

Action: The CAC approved funding to support the work with Friends of Trees for urban tree canopy enhancements, which included planting: 330 trees at Columbia Children's Arboretum (1/21/17), 142 trees at Piedmont and Woodlawn neighborhoods (1/28/17) and 125 trees at Concordia and Vernon neighborhoods (3/11/2017). Employees participated as planting volunteers.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Extend partnership with Friends of Trees by sponsoring and participating in tree plantings in neighborhoods adjacent to or near Port facilities to offset impacts from Port operations. Events include an employee service opportunity. This is an on-going target that began in 2008.

Action: We funded Friends of Trees planting projects for tree canopy enhancements in areas impacted by airport operations, which included the following community-based volunteer events: 103 trees planted at SE Vancouver, WA (11/19/16) and Columbia Children's Arboretum Tree Care (4/15/17). Employees participated as volunteers.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Develop a Pacific Lamprey monitoring plan in conjunction with the US Fish and Wildlife and the US Army Corps of Engineers for locations near Port Marine Terminals. This is a two-year target that is intended to meet the Port's obligation under the 10-year terminal-wide berth maintenance permit. Timeframe: 2015-2017

Action: We completed fabrication of a Larval Lamprey Electrofishing System and preliminary testing at the Yakima Tribe fish hatchery. This included lamprey tissue sample collection to be used in eDNA primer for future eDNA analysis. Work was summarized into a technical memorandum: *Larval Lamprey Sampling Equipment and Method Development*.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Develop a Port-wide Strategic Natural Resources Mitigation Plan that will identify mitigation needs and potential mitigation options. Timeframe: 2016-2018

Action: We developed a draft Port of Portland Mitigation Demand Forecast for a 10-year planning window based on business and operations planning. We will continue to research and develop a Port-wide comprehensive mitigation strategy that aligns with regional mitigation banking needs.

Progress: The actions for this target are 90% complete for FY 16-17.



Water Resources

Objective: Minimize impacts to water resources

Target: Improve stormwater quality by evaluating the potential contribution of zinc from galvanized metals at Port facilities and implement recommendations for potential source control measures. Timeframe: 2016-2018

Action: A consultant evaluated potential zinc sources and provided the following recommendations: policy change to limit, or ban, the installation of galvanized construction materials to curb future sources; replacement of older galvanized material in pipes, downspouts, rooftops and fences for source control; galvanized roof coatings help to prevent zinc from entering runoff; in some areas it may be appropriate to disconnect downspouts and allow runoff to infiltrate; and, effective treatment systems target zinc removal directly at the source by connecting to downspouts or underground vaults.

Progress: The actions for this target are 100% complete for FY 16-17.

Target: Improve stormwater quality by designing and implementing a social marketing campaign for Port tenants working in outdoor locations to encourage good housekeeping and spill response and cleanup. Timeframe: 2016-2017

Action: We initiated a social marketing campaign directed towards users of the Port's newly constructed Ground Transportation Lot to engage taxi, shuttle buses and transportation network service drivers in good housekeeping practices to prevent stormwater pollution. We completed an audience analysis, analyzed barriers and benefits to desired behaviors, and developed messages based on audience knowledge and attitudes. A Columbia Slough watershed map was developed to educate drivers, and draft posters are under development promoting best management practices. Messages will be refined with final audience testing and evaluation of language translations.

Progress: The actions for this target are 90% complete for FY 16-17.

Target: Reduce water consumption at PDX by completing a pilot education and outreach campaign aimed at optimizing water use reduction through proper use of restroom water efficiency features at PDX. Timeframe: 2016-2017

Action: We surveyed the travelling public and airport employees to understand the efficacy of current signage to guide the use of dual-flush handles in terminal restrooms. Based on survey results and feedback, we created a new design and tested it in two restroom areas in the terminal. The new signage resulted in a 28 percent increase in use of the water efficiency feature.

Progress: The actions for this target are 100% complete for FY 16-17.

2016/17 Awards and Recognition

Airports Carbon Accreditation Program – Level II certification for PDX and TTD airports recognizes reductions in carbon emissions from in airport operations, with the ultimate goal of becoming carbon neutral.

Climate Registered™ – The Port uses The Climate Registry’s robust voluntary greenhouse gas reporting program to measure, publicly report and provide third-party verification for its carbon footprint.

Sustainability at Work – Gold Certification, Port of Portland Headquarters Building, Sustainability at Work (City of Portland Bureau of Planning and Sustainability), November 2015-2018

Top 10 in the Local Governments category and in the Top 100 (at #91) among 100% Green Power Purchasers under the U.S. Environmental Protection Agency’s program.

Port-wide ISO 14001 EMS independent third-party verified certification. From the independent third-party auditors: “This EMS is the most comprehensive, advanced and effective to be audited by this audit team with a combined 38 years of experience auditing to the ISO 14001 standard.”

Airports Sustainability Declaration – Airports Going Green Conference, October 2016

STAR Award for Citizen Involvement for the PDX Community Advisory Committee from the Oregon Land Conservation and Development Commission.

2017 Best “Green” Concessions Concept or Practice from the Airports Council International-North America (ACI-NA) for the newly-installed Fats, Oils and Grease removal system at PDX for efficient wastewater treatment.

