PUBLIC PURPOSE CHARGE (SB 1149) SCHOOLS PROGRAM: **PROGRAM GUIDELINES**

Updated

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by the

OREGON DEPARTMENT OF ENERGY

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Introduction

The SB 1149 Schools Program was created when the Oregon Legislature passed Senate Bill 1149 in the 1999 legislative session. The bill went into effect on March 1, 2002. It provides that Portland General Electric and Pacific Power must collect a "Public Purpose Charge" (PPC) from consumers within their service areas that is equal to three percent of the total revenues from electricity services. The first ten percent of these PPC funds must go towards energy efficiency efforts in eligible public kindergarten through twelfth grade (K-12) school facilities within their service areas. The Oregon Department of Energy (ODOE) is the Program administrator of the SB 1149 Schools Program (Program) and works in cooperation with public K-12 school districts in Portland General Electric and Pacific Power service territories.

Program Guidelines were first developed in March 2002 to assist K-12 school districts in the implementation of cost-effective energy efficiency improvements in schools utilizing Public Purpose Charge funds. Since then, the Program Guidelines were revised in 2005, 2008, 2011, 2013, 2015, 2016 and most recently in 2017 (see Revision History).

Program Guideline revisions are the outcome of stakeholder collaboration with ODOE to update technical information and increase program process efficiencies.

The adopted Guideline revisions include:

- School districts can work with Energy Trust programs to submit energy measure savings for consideration through the Program after the Program's requirement to complete an energy audit has been met for each school
- School districts may still combine PPC funds and Energy Trust incentives on eligible measures but the combined funding is no longer capped at maximum reimbursement amount. Energy Trust incentives can be added to the maximum reimbursement amount, but never to exceed 100% of the project cost
- School districts may complete a fleet audit and can use PPC funds to purchase or lease Zero-Emissions Vehicles and to purchase or install charging stations

Collection, Distribution and Utilization of Funds

Oregon law[1] established a public purpose charge (PPC) of three percent of the total revenues collected from the retail electric customers within Portland General Electric and Pacific Power territories. The first ten percent of the PPC funds collected annually must be distributed to school districts located in the service territories of these two electric companies. PPC funds provide reimbursement[2] for the cost-effective portion of energy efficiency improvements, energy education, the purchase of environmentally focused energy, and Renewable Energy Resource Projects in Oregon K-12 public schools in Portland General Electric and Pacific Power service territories. By law[3], the Program continues through the end of 2025.

PPC funds are distributed monthly to the school districts directly by the electric companies. Distributed PPC funds are calculated according to the Weighted Average Daily Membership of the individual school district for the prior fiscal year[4].

By law, PPC funds must be used by school districts in the following manner:

- First, Energy Audits of eligible educational facilities or a fleet audit of school district must be completed and approved by the Oregon Department of Energy.
- Next, school districts may use the funds to implement approved:
    - Energy Efficiency Measures; and
    - Purchase or lease Zero-Emission vehicles (including buses); and
    - Install electric vehicle charging stations
- Finally, once all approved Energy Efficiency Measures have been implemented, a school district may conduct new Energy Audits and energy conservation education programs at eligible educational facilities.

Facilities

Eligible Facilities

Only school district facilities which meet each of the following criteria are eligible for PPC funds:

1) Must be served by Portland General Electric or Pacific Power; and
2) Must be owned by the Public School District; and

[1] Senate Bill 1149 (1999) Section
[2] School districts must pay for implementation of eligible Energy Efficiency Measures with non-PPC funds before they may be reimbursed for the cost-effective portion of the Eligible Energy Efficiency Measure.
[3] Senate Bill 838 (2007)
[4] As calculated under ORS 327.013. The Public Utility Commission has established by rule a methodology for distributing a proportionate share of funds to Education Service Districts that are partially located in the service territories of the electric companies.

3) Must be a K-12 Instructional School Facility; and
4) The Weighted Average Daily Membership for the facility must be included at the school district and/or Educational Service District by the Oregon Department of Education.

Excluded Facilities

School district facilities which meet any of the following criteria are excluded from using PPC funds:

1) Owned and operated by a school district but are destined for closure within 5 years; or
2) Owned and operated by a school district but are leased out for non-educational purposes.

Ineligible Facilities

School district facilities which meet any of the following criteria are ineligible from using PPC funds:

1) Leased, but not owned, by a school district; or
2) Not served by Portland General Electric or Pacific Power territories are not eligible for PPC funds.

Exclusion from the Energy Audit requirement of any eligible Instructional School Facility requires both an annual Energy Audit waiver approved by the Oregon Department of Energy **and** annual written notification to the Oregon Department of Energy on the status of the facility.

Energy Audit Requirements

School districts are required to complete Energy Audits of eligible Instructional School Facilities to identify and analyze measures.

Each eligible Instructional School Facility will be considered to have met the energy audit requirement if they have:

1) Completed a Whole Building Energy Audit; or
2) Completed multiple Targeted Energy Audits that, through a combination of data collected and analyzed measures, is equivalent to a Whole Building Energy Audit; or
3) Received a waiver from Oregon Department of Energy for an Energy Audit

Once eligible Instructional School Facilities have met the energy audit requirement, a school district can work with Energy Trust to complete one of the paths below to identify additional energy measures that can be considered for the Program. Energy Trust paths to identify additional measures include:

1) Custom study path (which may include a Technical Analysis Study (TAS)); or
2) Prescriptive measures path; or
3) Lighting measures path.

Only measures that have been analyzed by a Qualified Energy Auditor and approved by the Oregon Department of Energy are eligible for reimbursement.

Program Energy Audits

Energy Audits that school districts request reimbursement through school district PPC funds must be conducted according to the Oregon Department of Energy requirements (http://www.oregon.gov/energy/energy-oregon/Pages/SB1149-Program-Guidelines.aspx) and performed by a Qualified Energy Auditor.

The Oregon Department of Energy maintains a current list of Qualified Energy Auditors on its website: http://www.oregon.gov/energy/energy-oregon/Pages/Schools-Audit-Firms.aspx

Determining the Audit Types

Two types of energy audits are used in the Program to assess a facility's energy saving potential, Whole Building Energy Audits and Targeted Energy Audits. The Whole Building Energy Audit is similar to the ASHRAE Level 2 audit, with some modifications.

More details about energy audit types and requirements are available in the Energy Audit Requirements located on the ODOE SB 1149 website: https://www.oregon.gov/energy/energy-oregon/Pages/Schools-Audit-Firms.aspx

Prior to execution of a contract to conduct an Energy Audit with a Qualified Energy Auditor a Scope of Work Approval Form must be submitted to the Oregon Department of Energy for review and approval. The Oregon Department of Energy will send written approval for a submitted Scope of Work Approval Form and may require clarifications and revisions before an Energy Audit may be conducted.

Whole Building Energy Audit

This audit includes a detailed building survey and energy analysis. The Whole Building Energy Audit identifies a list of potential EEMs that are likely to have a Simple Payback less than 50 years. A breakdown of energy use by system is required. All facility equipment and systems are reviewed to evaluate and confirm equipment and system operating profiles, methods of control, equipment efficiency, and changes of facility energy usage that have occurred or are anticipated. It includes calculations to support energy savings, costs, and Simple Payback. It may include energy modeling in addition to or as a substitute for Bin calculations. It will also identify low-cost/no-cost operations, maintenance and operation (O&M) procedures, and capital equipment and installation costs.

Targeted Energy Audit

This audit includes an investigation or analysis with a limited scope, typically of a single area of the building, system, or measure (e.g., lighting, boiler controls, cooling tower). This is typically done when a facility has already completed a Whole Building Energy Audit and needs to include or update a measure for future implementation. The level of effort may be tailored for the

specific scope of work, but for the item(s) being audited or analyzed all other specific requirements for a Whole Building Energy Audit must be followed. Any deviations need to be reviewed and approved by ODOE prior to approval of the Targeted Energy Audit scope of work.

Energy Use Index (EUI) Targets for Schools

For schools that do not currently meet the specified targets, the Energy Auditor must make every reasonable attempt to identify EEMs that, if implemented, would help a facility reach or surpass specified annual EUI targets.

		TARGET EUI (kBtu/SF/Yr)	
Region	**School Type**	**Facility Operating ≤ 50 hours per week** [1]	**Facility Operating > 50 hours per week** [2]
Western (ASHRAE Climate Zone 4c)	Elementary/Middle School	29	47
	High School	37	61
Eastern (ASHRAE Climate Zone 5b)	Elementary/Middle School	30	48
	High School	38	62

1. ANSI/ASHRAE/IES Standard 100-2015 Energy Efficiency in Existing Buildings, Table 7-2 Building Activity Energy Targets. The lower target represents the value in this ASHRAE table 7-2 with adjustments to incorporate the lower factor for schools from ANSI/ASHRAE/IES Standard 100-2015 Energy Efficiency in Existing Buildings, Table 7-3 Building Operating Shifts Normalization Factor.
2. ANSI/ASHRAE/IES Standard 100-2015 Energy Efficiency in Existing Buildings, Table 7-2 Building Activity Energy Targets. The upper target represents the value in this ASHRAE table 7-2 with adjustments to incorporate the higher factor for schools from ANSI/ASHRAE/IES Standard 100-2015 Energy Efficiency in Existing Buildings, Table 7-3 Building Operating Shifts Normalization Factor.

Waivers

Energy audit waivers for Instructional School Facilities may be obtained for the following facilities:

1) A facility that meets or surpasses the EUI target; and/or
2) A facility that is destined for closure within five years or the foreseeable future; and/or
3) Any facility that is leased by a school district to another entity.

A school district must request an Energy Audit waiver annually by written notification to the Oregon Department of Energy. The Oregon Department of Energy will review and approve or deny all waivers in writing. Waived status may be removed from a facility by contacting the Oregon Department of Energy.

No measures may be reimbursed with PPC funds for waived facilities.

New Facilities

A school district must inform the Oregon Department of Energy of the construction of any new Instructional School Facilities. New Instructional School Facilities automatically receive an Energy Audit waiver for the first two years of operation. Annual energy use must be entered for

a new facility beginning in the first year of operation. The second year of billing data following construction of the new facility will be used to establish a Baseline EUI for the facility. Starting with the third year of operation and beyond, the facility will follow the same process for conducting an Energy Audit and implementing EEMs.

Facilities Requiring an Updated Energy Audit

For facilities with Energy Audits older than 5 years, school districts must determine if the existing Energy Audit Report and associated EEMs that have not already been implemented are still valid. Large variances or changes from the conditions described in the approved Energy Audit Report to current conditions (e.g., EUI, facility conditions, existing systems) may be criteria to consider when reviewing the validity of the Energy Audit Report and EEMs. To confirm if existing Energy Audit Report or EEMs are still valid contact the Oregon Department of Energy.

Energy Audit Reports

All Energy Audits must result in the creation of an Energy Audit Report. The Report is a detailed document prepared by a Qualified Energy Auditor that includes a summary of recommendations, building and energy using system descriptions, cost and savings of EEMs, and supporting calculations and details.

Eligible Energy Audit Costs

Eligible Energy Audit costs are expenses for performing approved Energy Audits conducted by a Qualified Energy Auditor that identify measures. All Energy Audits that comply with the requirements of the Program (including a Scope of Work Approval Form approved by the Oregon Department of Energy before the audit is conducted) and culminate in an Energy Audit Report approved by the Oregon Department of Energy are eligible for reimbursement with PPC funds.

Energy Audit costs that exceed 10% of a facility's total annual energy costs may be subject to additional review and be required to submit additional documentation for justification of additional cost.

Energy Efficiency Measure Life

Measure Life is considered the number of years an EEM is estimated to remain in service while providing the expected energy savings. Energy savings will likely continue well after Measure Life, but may be less than expected.

The Program has developed a Measure Life Table (see Appendix A – Measure Life Table) using multiple, peer-reviewed sources as well as data contained in the School Interactive Database. The Measure Life Table contains all values used in the Program.

Multi-component measures are measures with multiple, but distinct components, each with their own measure lives that cannot be separated for technical or practical reasons. The measure life for a multi-component measure is a weighted average of the individual

components' measure lives. Instructions on use of multi-component measure life may be found in Appendix B – Multi-Component Measure Life Calculator

Fleet Audit Requirements

School districts may complete a fleet audit of school district owned and/or leased fleet.

Audits should include but are not limited to a detailed survey of the school district's fleet of vehicles, buses, fuel for transportation and/or charging stations. Details to include age, make, model, fuel type, mileage, fuel efficiency, etc. Analysis of fleet to include miles/distance covered with fleet, annual fuel cost and quantity consumed, and use of vehicles if not for transportation of students to and from Instructional School Facility.

If services are leased, then Audits may include details around services leased and fleet available within leased services.

Audit measure analysis also to include estimated costs, estimated transportation fuel reduction and estimated greenhouse gas emissions reductions by updating the school district fleet with Zero-Emissions Vehicles, including buses.

Note: Detailed fleet audit requirements, resources and templates will be added to the Program's webpage at this link: https://www.oregon.gov/energy/energy-oregon/Pages/SB1149.aspx.

Energy Audit Measure Implementation

School districts may implement measures once they have been analyzed and are approved by ODOE as eligible according to the Program Guidelines.

Implementation Plan

An Implementation Plan is a document that lists all measures identified in Energy Audits performed by qualified Energy Auditors and measures submitted to the Program by Energy Trust. It may be found in the Schools Interactive Database and includes measure description, eligibility, measure life, simple payback and other data related to an analyzed facility. Eligibility of PPC funding may be found on the Implementation Plan. The school districts' estimated PPC funds along with approved PPC funds on expenditures are included at the top of the Implementation Plan. The implementation plan is considered a living document to which items are added, but not removed.

The purpose of the Implementation Plan is to:

- Verify that all required Energy Audits are complete and entered into the Schools Interactive Database; and
- Provide a summary of available information on all analyzed measures; and

- Ensure that measures that are not eligible for reimbursement with PPC funds are not implemented with the expectation of being reimbursed with PPC funds; and
- Designate and confirm all funding sources available for proposed projects (measures); and
- Identify measures requiring Commissioning; and
- Provide a summary of PPC funds approved on expenditures and estimated remaining PPC funds.

Information for the Implementation Plan is obtained and submitted via the Schools Interactive Database. The provided information includes measure descriptions, requirements, costs, and savings.

Other Measure Implementation

When a school district has completed energy audits at all eligible facilities that do not meet EUI Targets and have implemented all eligible measures a school district may:

1. Complete energy audits of non-instructional facility owned by the school district;
2. Initiate approved Energy Conservation Education Programs;
3. Pay for the incremental cost to purchase electricity from environmentally focused energy sources; and/or
4. Implement a Renewable Energy Resource Project to replace or supplement power to the site.

All activities described above require prior written approval by the Oregon Department of Energy to be eligible for PPC reimbursement.

Eligible Costs

Capital costs directly related to the design, materials, installation, project management or Commissioning of an eligible measure covered in the Program Guidelines are eligible for reimbursement with PPC funding.

PPC funds may be used for the reimbursement of energy efficiency improvements in the remodel or renovation of existing space identified and analyzed by a Qualified Energy Auditor in an Energy Audit Report approved by the Oregon Department of Energy. Only approved measures are eligible for reimbursement from PPC funds.

Maximum Reimbursement of PPC Funds

The maximum amount of PPC funds reimbursed will be capped at the total annual savings multiplied by the Measure Life. If a measure has a Simple Payback less than the Measure Life, 100% of the cost of the measure may be reimbursed. If a measure has a Simple Payback greater than the Measure Life, the eligible reimbursable cost is the Estimated Annual Energy Savings times by the Measure Life. All remaining costs must be covered with non-PPC funding.

Commissioning

Commissioning is required for the following energy-related capital projects that use PPC funds:

1) All boiler or chiller measures exceeding $100,000
2) All other HVAC measures and all HVAC controls measures exceeding $50,000
3) All lighting control measures exceeding $100,000
4) Other measures in which commissioning is critical for successful implementation and operation of the measure, as deemed appropriate by the auditor.

Commissioning requires the consultation and written approval of the Oregon Department of Energy prior to implementation. The Oregon Department of Energy maintains a list of currently qualified commissioning agents on its website: http://www.oregon.gov/energy/energy-oregon/Pages/Schools-Commissioning-Firms.aspx.

Note: Implementation of Retro-Commissioning measures identified through an Energy Audit will need to be completed by a Qualified Commissioning Firm for the school district to be reimbursed the eligible maximum amount through their PPC funds. The Qualified Commissioning Firms are listed on Oregon Department of Energy's webpage at this link: http://www.oregon.gov/energy/energy-oregon/Pages/Schools-Commissioning-Firms.aspx

Fleet Audit Implementation

A school district may utilize PPC funds per fleet audit recommendations to:

- Purchase or lease Zero-Emission Vehicles, including buses
- Purchase or install electric vehicle charging stations to provide electricity to zero-emission vehicles

Administrative Expenses

A school district may charge for administrative expenses or may contract with a third party firm to provide administrative services with prior written approval from the Oregon Department of Energy. The school district must submit the following items to the Oregon Department of Energy by October 1st for Administrative Services that Fiscal Year:

1) A letter from the school district listing the school district staff who will complete the administrative tasks, the date range for these administrative tasks, the specific administrative tasks that will be completed and the amount of PPC funds that will be collected for these tasks; and/or
2) A copy of the contract with a third party firm that will be providing the administrative services. The contract must include the specific administrative tasks that will be completed, the date range for these tasks, and the amount of PPC funds that will be collected after services are complete

Note: Total reimbursable administrative expenses may not exceed 5% of a school district's total apportioned PPC funding.

Reimbursable administrative tasks:

- Collect and submit copies of electric utility bills for annual eligibility reporting to Oregon Department of Energy
- Collect and input all energy usage for eligible school facilities into the Schools Interactive Database for annual energy usage reporting to Oregon Department of Energy
- Manage the process of hiring a Qualified Energy Auditor or Qualified Energy Audit Firm, which may include all stages beginning from contacting interested firms through hiring a Qualified Energy Auditor or Qualified Energy Audit Firm[5].
- Manage/oversee the energy audit review process between the Oregon Department of Energy and the Qualified Energy Auditor or Qualified Energy Audit Firm
- Collect data for fleet audit and/or manage the fleet audit process
- Compile documentation and submit requests for reimbursement of expenses including all final costs broken out by audit cost, equipment and labor costs for implemented measures and commissioning costs, if applicable
- Enter requested amounts for final projects costs, commissioning costs or fleet audit measure costs into the Schools Interactive Database
- Review school district's Implementation Plan and submit comments and updates to Oregon Department of Energy for review[6]
- Manage accounting details by recording and tracking all PPC revenues and expenditures

Invoices and receipts for district administrative services must be submitted to the Oregon Department of Energy no later than October 1st following the end of the fiscal year for which they were approved.

[5] All processes should follow school district's procurement rules and regulations.
[6] Oregon Department of Energy will update the Implementation Plan and the Schools Interactive Database with the valid comments and updates.

Reporting Requirements

The Oregon Department of Energy collects Program-related data from school districts through correspondence and with the use of the Schools Interactive Database. The Schools Interactive Database is considered the official record for the purpose of meeting requirements of the Program.

Annual Eligibility Reporting

School districts must submit a copy of their electric company billing statement(s) that reflects the main meter usage for each eligible school site to the Oregon Department of Energy no later than the first day of November of each year. All eligible school districts must provide written notification of a change in electric service provider to the Oregon Department of Energy within 30 days of the change. All eligible school districts must also provide written notification to the Oregon Department of Energy if an educational facility has been closed or will be closing.

Annual Energy Use Reporting

School districts must enter the monthly energy use information for each eligible school facility by January 1 of each year into the School Interactive Database. Energy use and cost information for all fuel sources is entered for the prior fiscal year. The square footage of the facility and the hours of operation must also be verified for accuracy when entering energy use and cost information each year.

For example, energy use and cost data for the fiscal year 2020 (July 2019 – June 2020) must be entered into the Schools Interactive Database by January 1, 2021. The Schools Interactive Database is able to accept monthly usage data. Monthly usage data must be provided at least one time per year, but may be submitted monthly.

Audit Reporting

After performing an Energy Audit, the Qualified Energy Auditor must report audit information through the Schools Interactive Database for each facility audited. Energy Audit information must include: date of audit, audit level, Baseline EUI, EEM descriptions, measure costs, measure energy savings, measure cost savings, and cost of audit. After performing a fleet audit, the details must be reported through the Schools Interactive Database for school district fleet and recommended measures. The Audit Report, all backup documentation for the Audit Report and the Scope of Work Approval form must be imported into the Schools Interactive Database.

Audit Implementation Plan

Prior to implementing measures, school districts submit an Implementation Plan to the Oregon Department of Energy for approval. The completed Implementation Plan report exported from the Schools Interactive Database includes all measures the school district is planning to implement, the funding sources to be used for the measures, and, where applicable, all measures and cost of measures implemented to date.

Implemented Audit Measures Reporting

Following the implementation of an audit measure, school districts must report the installed measure costs, implementation date, and funding source and/or incentive amounts into the Schools Interactive Database. Expenditure documentation must be sent to Oregon Department of Energy at the time of data entry in the Schools Interactive Database. Expenditure documentation details are listed below. The school district should enter information the same year the project was completed, even if reimbursement requests are planned for a later date.

Note: Reimbursement for Program projects is not allowed until the information for installed measures has been reported in the Schools Interactive Database and has been reviewed and approved by ODOE.

Energy Education Reporting

School districts report the following information to Oregon Department of Energy after implementing energy education:

- Number of instructional hours, and
- Number of students who received energy education by program; and
- Measure of success of program (benchmark or project completed); and
- Cost of energy education materials.

Environmentally Focused Fuel Sources Reporting

School districts report the following information to Oregon Department of Energy following the purchase of environmentally focused fuel sources:

- Alternative fuel source; and
- Incremental cost / kilowatt-hour or Btu; and
- Number of kilowatt-hours or Btu purchased; and
- Savings of carbon dioxide (CO_2).

Renewable Resource Reporting

School districts report the following information to the Oregon Department of Energy after implementing Renewable Energy Resource Projects:

- Renewable energy source; and
- Energy savings in kilowatt-hours, therms, or Btus; and
- Estimated avoided cost.

Other Financial Incentives

Measures identified by Program Audits or Energy Trust materials that have been deemed eligible may receive reimbursement from the school district's PPC funds and other incentive programs including, but not limited to, the Oregon Department of Energy - Energy Incentive Programs, Oregon Utilities incentive programs and the Energy Trust of Oregon.

Total PPC funds and other incentives may not exceed the total cost of an eligible project.

Energy Trust of Oregon

School districts may utilize all incentives offered through the Energy Trust of Oregon. School districts that utilize Energy Trust of Oregon incentives on Program eligible measures[7] may also use PPC reimbursement on those measures.

Financial Requirements

With the passage of HB 2960 (2011), school districts receive their apportioned PPC funds directly from the utilities on a monthly basis. The following information is provided in order to guide school districts in receiving the PPC funds, tracking the PPC funds and expending the PPC funds according to the law and the Program Guidelines.

Revenues

PPC funds should be received as revenue account set up by the school district and segregated from other funds with a separate fund and object code. The school district should be able to pull a report at any time to indicate the revenues paid to the school district, any expenses paid with the PPC funds and details of what the expenses are. The revenues received will be considered unobligated funds. Any credits from previously completed eligible projects that have not yet been fully reimbursed must be noted on financial statements.

If an eligible measure is funded with a loan or bond, then the PPC distributions should be received and recorded in the same fund and object code as all PPC revenues. The eligible reimbursement amount can then be used to pay down the Debt Service. The PPC funds are only reimbursable up to the maximum reimbursement amount even if the debt obligation is a larger amount.

Expenditures

School districts may need a Board Resolution to appropriate the funds and get authorization prior to using PPC funds.

Expenditures from the PPC funds must only be used to reimburse for these expenditures:

1) Program Energy Audits performed by Qualified Energy Auditors
2) Program fleet audits
3) Final project implementation costs for eligible audit measures up to the Measure Life. Project implementation costs include: design, materials, installation and project management for the eligible audit measure (see Audit Implementation section)
4) Eligible project costs for eligible fleet audit measures
5) Commissioning costs for measures that require commissioning or approved by ODOE for commissioning (see Commissioning section).

[7] Measures must be approved by the Oregon Department of Energy and eligible for reimbursement through the SB 1149 Schools Program to be eligible for PPC reimbursement.

6) Administrative expenses for eligible services up to 5% (see Administrative Expenses section)

All expenditures to be reimbursed with PPC funds are required to be entered into the Schools Interactive Database in the appropriate location.

Expenditures should remain in a distinct and separate account.

Note: School districts may not utilize or transfer funds for reimbursement of eligible costs unless the reporting requirements for all schools within the school district are entered into the Schools Interactive Database.

Expenditure Documentation

It is recommended that school districts create an expenditure reimbursement form for documentation and cost tracking. All expenditures from PPC funds should be broken out by the expense (i.e., audit cost, individual measure, etc.) on the reimbursement form.

Documentation related to PPC expenditure **must be submitted to ODOE** for review and approval prior to PPC reimbursement. The documentation must include the following:

1) Verification of the final cost. Acceptable documentation includes:
   a) Schedule of values or spreadsheet of completed EEMs (broken out by specific EEM from Schools Database), and
   b) Copy of incentive payment or final incentive amount confirmation, and
   c) One or more of the following:
      i. Copy of receipt; or
      ii. Copy of payment coupon; or
      iii. Copy of issued check; or
      iv. Copy of paid invoice(s) by contractor(s) of specified work; or
      v. Print out of accounting system detail with paid amounts by project and contractor.

2) Verification that the costs have been entered into the Schools Interactive Database (audit cost, final project costs for the implemented measure, commissioning costs for the implemented measure, etc.). Verification of this data entry may be in the form of a screen print of the database or a PDF of the data entry.

The Oregon Department of Energy recommends that school districts maintain these documents either in hard copy or electronically following the school district's financial retention schedules.

Program Verification and Quality Control

To maintain the highest level of quality assessment and performance for the Program, the Oregon Department of Energy will conduct verification of Audits and implemented measures. This program verification:

- Includes documents that PPC Funds have been spent on qualified expenses; and
- Provides assurance that Audits are accurate; and
- Provides assurance to school districts that EEMs are installed correctly.

Verification and Quality Control of Audits

All Audits are subject to review and approval by the Oregon Department of Energy. Quality Control reviews will include, at minimum, a sampling of audits at each audit level for all Qualified Energy Auditors.

The Oregon Department of Energy provides training to all Qualified Energy Auditors participating in the Program to help ensure quality and consistency in audits and reports.

Verification and Quality Control of Implemented Measures

All implemented measures are subject to random inspection and verification by the Oregon Department of Energy. Inspectors may be an auditor, Professional Engineer, Program staff, or an independent third party.

Definitions

Average Daily Membership (ADM) is the measure that indicates the average number of students in membership on any given day during the reporting period. The Oregon Department of Education computes the resident ADM of each district (ADMr), which is the ADM of the students who live in the district, regardless of where they attend. Weights are added by law to ADMr to obtain weighted average daily membership (ADMw), which is the basis for making state school fund payments.

Baseline Energy Use Index (EUI) is the energy consumption for a specified time period to which future energy consumption will be compared. For the Program, the minimum preceding time period need to calculate Baseline Energy Use is two years, with three to five years preferred.

Bin Calculations are methods, or calculation procedures, where monthly weather data is sorted into discrete groups or bins of weather conditions. Each bin will contain the average number of hours in a year that a temperature-range or condition will occur. Building heating or cooling loads and resulting energy consumption based on the efficiencies of equipment are then calculated for each bin condition. Summing the results of these multiple calculations can provide a more accurate estimate of yearly energy use or savings than simpler methods.

British Thermal Unit (BTU) is a unit of energy equal to about 1055 joules, and are used to compare different units of energy (e.g., kWh, therms, etc.)

Commissioning of new equipment is the process of ensuring that systems are designed, installed, functionally tested, and capable of being operated and maintained to perform in accord with the design intent.

Completely Implemented Plan occurs when a school district has obligated all Program funds towards eligible Energy Audits, eligible EEMs, and other allowable program expenses; and/or all eligible instructional school facilities in the school district are operating at or below the energy use index (EUI) target.

Cost-Effective means that an energy resource, facility or conservation measure – during its life cycle – results in delivered power costs to the ultimate consumer no greater than the comparable incremental cost of the least cost alternative new energy resource, facility or conservation measure. Cost comparison shall include, but need not be limited to:

- Cost escalations and future availability of fuels;
- Waste disposal and decommissioning costs;
- Transmission and distribution costs;
- Geographic, climatic and other differences in the state; and
- Environmental impact.

Eligible School Site includes any public school facility whose Average Daily Membership is included at the school district and/or Education Service District by the Oregon Department of Education and is within Portland General Electric or Pacific Power territory.

Energy Audit is the comprehensive assessment of a building's energy use and efficiency through the analysis of the building and all energy using systems. An Energy Audit also includes the documentation of existing conditions, and the development of actionable measures to reduce the Facility's energy use and cost. Audit findings and recommendations will be included in the Energy Audit Report.

Energy Audit(ing) Firm is a firm that has signed the Qualified List Agreement and is able to contract with a Contracting Agency to provide on-site energy audits and energy studies under the Program. Individual staff members for the firm must also be deemed qualified by ODOE.

Energy Audit Report is a detailed report prepared by a qualified energy auditor that includes a summary of recommendations, a baseline building description, a description and cost of EEMs, documented calculations that support estimated energy savings, and Simple Payback Period or life-cycle cost analysis.

Energy Conservation Education Programs are hands-on instructional programs intended to involve students, teachers, and staff in efforts to operate school facilities in an energy efficient manner. Programs strive to integrate education on energy, the environment, and their relationship to savings opportunities. Programs include those developed by: U.S. Department of Energy or its affiliated agencies or programs, Oregon Department of Energy, State Colleges or Universities or any curriculum approved by the Oregon Board of Education, the National Energy Education Association, and/or the local school district or school board.

Energy Efficiency Measure (EEM) is a capital or permanent improvement in a facility, designed to reduce energy cost and the total energy use at the site.

Energy Use Index **(EUI)** is a measurement of the total energy used in a building (or facility) for a specific period of time stated in terms of British thermal units (Btu) per gross conditioned square foot per year (kBtu/sf/yr).

Energy Use Index (EUI) Target is the amount of energy consumption that should be attainable at a facility in relation to specified conditions. A facility's current EUI is compared to the EUI target for the Program that was developed by ODOE and is subject to periodic adjustment.

Implementation Plan is an Excel document that lists all measures identified in audits performed by qualified Energy Auditors. The implementation plan can be found in the Schools Interactive Database and includes measure description, eligibility, measure life, simple payback and other related data contained within the Schools Interactive Database. The implementation plan is considered a living document to which items are added, but not removed.

Instructional School Facility is a public K-12 school site whose primary function is instruction that may include facilities used for classroom instruction, multipurpose activities, and libraries.

Low or No-Cost Energy Efficiency Measures generally include minor capital improvements or equipment adjustments that might be carried out by maintenance staff within existing maintenance budgets. Measures should provide quantifiable energy and energy cost savings.

Measure Life is the number of years an EEM is estimated to remain in place while providing the expected energy savings.

Operations and Maintenance (O&M) Measures include the repair, replacement or adjustment of equipment to optimize operation. It also includes minor capital improvements that might be carried out by maintenance staff without the assistance of an outside contractor.

Public Purpose Charge (PPC) is a surcharge paid by ratepayers in the service territories of Portland General Electric and Pacific Power to be used for energy efficiency, conservation and renewable resource efforts. The first ten percent of these funds is allocated to K-12 public schools in Portland General Electric and Pacific Power territory for energy efficiency efforts in public schools.

Public School Facility includes facilities that are owned and operated by the school district and used for any purpose associated with public K-12, and also includes facilities that are used by more than one school district. This includes buildings that are owned by a school district and leased to another school district or Education Service District for educational purposes.

Qualified Energy Auditor is an individual or company that meets the requirements of the qualified professional auditor as established by Oregon Department of Energy's Request for Qualifications. All Energy Audits for the Program must be performed by a qualified Energy Auditor.

Qualified Energy Audit(ing) Firm is a firm that has signed the Prequalified List Agreement and is able to contract with a Contracting Agency to provide on-site energy audits and energy studies under the Program. Individual staff members for the firm must also be deemed qualified by ODOE.

Quality Control is planned review procedures employed to verify that all aspects involved in the development of a product and the final product meet quality objects and Program requirements.

Renewable Energy Resources include, but are not limited to straw, forest slash, wood waste or other wastes from forestland. It also includes industrial waste, solar energy, wind power, geothermal resources, or waste heat recovery. It does not include a hydroelectric or geothermal project with more than one megawatt of installed generating capacity.

Renewable Energy Resource Project is a project that uses a renewable energy resource at a school site to produce electricity to replace or supplement electricity to the site. All projects must be pre-approved by the Oregon Department of Energy.

Retro-Commissioning is the process of ensuring that systems are performing as designed for current building operation and optimizing the building's operation. It most often focuses on, but is not limited to, the dynamic energy-using systems such as mechanical equipment, lighting, and related controls with the goals of reducing energy waste, obtaining energy cost savings for the owner, and identifying and fixing existing problems. While Retro-Commissioning may result in recommendations to investigate further capital improvements, O&M tune-up activities and diagnostic testing are primary Retro-Commissioning activities.

Schools Interactive Database is the database used to report information on school district energy use, audit recommendations and implemented projects (measures) related to the Program. The Schools Interactive Database is the official record for the Program.

Scope of Work Approval Form is the form that must be filled out and signed by the Contracting Agency and the energy auditing firm and sent by the energy auditing firm to ODOE for approval. ODOE's approval of the Scope of Work Approval Form must occur prior to the execution of a contract between the Contracting Agency and the energy auditing firm.

Simple Payback is the total cost of an EEM, or project divided by the first year energy cost savings, stated in years.

Staff Training provides skills and techniques for trouble-shooting, adjusting, and modifying equipment in order to improve the energy efficiency of capital equipment.

Weatherization includes measures designed to reduce the heat loss or gain of a facility through the building envelope.

Weighted Average Daily Membership (ADMw) is the basis for making state school fund payments and the foundation for PPC fund distribution in the Program. ADMw is calculated by the Oregon Department of Education using ADM values provided by school districts.

Zero-Emissions Vehicle is a battery electric vehicle, a plug-in hybrid electric vehicle or a hydrogen fuel cell vehicle or any other type of vehicle defined by ODOE or Environmental Quality Commission.

Revision History

January 2020

- School districts can work with Energy Trust programs to submit energy measure savings for consideration through the Program after the Program's requirement to complete an energy audit has been met for each school
- School districts may still combine PPC funds and Energy Trust incentives on eligible measures, but the combined funding is no longer capped at maximum reimbursement amount. Energy Trust incentives can be added to the maximum reimbursement amount, but never to exceed 100% of the project cost
- School districts may complete a fleet audit and can use PPC funds to purchase or lease of Zero-Emissions Vehicles and to purchase or install charging stations

January 2017

- Measure life and category updates
- Energy audit template revisions
- Updated website links and document cross-references

September 2016

- Allows school districts to accept Energy Trust of Oregon incentives with or without PPC reimbursement, and to apply both funding sources on the same measure.
- Expenditure documentation including incentive payments must be submitted to ODOE for review and approval prior to PPC reimbursement.

January 2015

- Defines two levels of Energy Audit, whole building and targeted
- Clarifies frequency requirement of re-auditing school facilities
- Removes Tier System and required EEM requirement

July 2013

- Incorporates Measure Life into funding criteria to meet Secretary of State recommendations
- Redefines tier system

September 2011

- References to *Education Service Districts* were replaced with *School Districts*, as necessary to meet the law
- Reimbursement section was updated and renamed "Financial Requirements" to meet the law and provide school districts with more detail on these requirements
- Flow charts were added to clarify the process of having an audit completed and projects implemented

July 2008

- Measures that have a Simple Payback of 20 years or less are required to be implemented
- New EUI Target Ranges
- Typical school operating hours updated
- Clarification of use of incentives from Energy Trust of Oregon
- Clarification of eligible measures in Tier I, Tier II, and Tier III
- Specifies implementation costs to be entered the same year as project completion

December 2005

- Established reimbursement protocol
- Required energy use data be entered into the Schools Interactive Database
- Data collected by the Oregon Department of Energy is the official record

September 2002

- Initial version

Appendix A – Measure Life Table

SB 1149 Schools Measure Life [d]

Equipment/Measure	(Years)
Building Envelope	
Double glazed windows (complete units)	30
Retrofit double glazing	20
Triple glazed windows (complete units)	30
Adding storm windows	15
Solar shade films	12
Insulated metal doors	20
Cavity insulation (wall, floor or ceiling)	30
Reduction of window or door area	30
Rigid roof deck insulation	25
Caulking, weather stripping & sealing	10
Exterior door self closers	5
HVAC Components	
Boilers	30
Boiler burners	20
Boiler tune-up optimization	5
Replacement steam traps	6
Ground source heat pump systems	25
Rooftop gas/oil pkgd units	15
Fans, central	25
Air conditioner, rooftop/split	15
Air-to-air packaged heat pumps	15
Water-to-air packaged heat pumps	15
Variable Refrigerant Flow / Ductless Heat Pump	15
Coils, DX, water or steam	25
Radiant/unit heaters, all types	20
Thermostatic valve	15
Furnaces, gas/oil	20
Chillers, reciprocating	25
Chillers, centrifugal & absorption	30
Cooling towers	25
Heat Recovery Systems	20
Heat Exchangers	25
Damper systems & VAV conversions	20
Low leak dampers	15
Air economizers	15
Automatic boiler flue dampers	15
Ductwork & Piping (new)	30
Duct and pipe insulation/sealing	15
Valve and damper actuators, Valves	15

Equipment/Measure	(Years)
HVAC Controls	
DDC systems	15
Local controls: timers, prog. thermostats	15
CO_2, auto faucet or other sensors	10
Pumps, Motors & Drives	
Pumps, base mounted	25
Pumps, inline	20
Premium efficiency motors	25
Variable frequency drives	20
Domestic Hot Water	
Heat pump water heaters	15
Gas or propane water heaters	20
Solar water heaters	15
Faucet flow restrictors, aerators	10
Lighting	
Lighting fixtures, non-LED	25
LED lighting fixtures (integrated)	20
Lighting fixture rebuild kits [a]	20
T-LED lamps and retrofits [c]	15
Exterior LEDs	18
Field/Stadium LEDs	25
Electronic ballasts	15
Dimming systems	12
Occupancy sensors	10
Lighting control systems (electronic)	15
Linear fluorescent fixture de-lamping [b]	9
Reduced wattage linear fluorescent lamps [c]	9
Screw-in replacement CFL lamps	5
Screw-in replacement LED lamps	12
Kitchen Equipment	
Refrigeration system upgrades	15
Walk-in fan EC motors	15
Reach-in refrigerators/freezers	18
Ice machines	10
Walk-in door self-closers	10
Kitchen cooking equipment	25
Kitchen hood fan VFD and control	18
Other Measures	
Pool covers	10
Solar PV systems	25
Retro-commissioning	5
Vending machine controls	10
Computer power management controls	5

Notes:

a. To include ballast, lamps, lamp holders, reflector and lenses if present and in deteriorated condition

b. To include ballast disconnection from lamp holders or lamp holder removal

c. Ballast compatability must be verified

d. If an appropriate category is not available or the value provided is in question contact ODOE for further guidance

SB 1149 School Measure Life Table References

1. 2015 ASHRAE Handbook – HVAC Applications. Chapter 37, Table 3 and Table 4
2. ASHRAE *Service Life and Maintenance Cost Database* - http://xp20.ashrae.org/publicdatabase/
3. Hiller, Carl C., *Determining Equipment Service Life,* ASHRAE Journal, pp.48-53, August 2000.
4. Bonneville Power Administration (BPA), Measure Life Study II, by Synergic Resources Corporation and Skumatz Economic Research Associates
5. Oregon Department of Energy, *State Energy Efficient Design (SEED) Program* Appendix J, Table 1, Equipment Life. October, 2010
6. The Massachusetts Joint Utilities, *Measure Life Study.* November 17, 2005. Energy & Resource Solutions.
7. California Public Utilities Commission, *Database for Energy Efficient Resources (DEER),* www.deeresources.com/
8. NREL, *Feasibility Study of Economics and Performance of Solar Photovoltaics at the Former Fort Ord Army Base Site in Marina, California*. NREL/TP-7A30-58242, May 2013.
9. ODOE, *Oregon Solar Electric Guide.* Rev $^{4}/_{11}$, pp.12.
10. Phone conversation with Fisher-Nickel, PG&E Food Technology Center on kitchen equipment life in schools.
11. Photovoltaic Degradation Rates – An Analytical Review, Dirk C. Jordan and Sarah R. Kurtz, National Renewable Energy Laboratory
12. Oregon Department of Energy Schools Interactive Database (SID) Operating Hours average for schools, data pull 10/6/16
13. Various lighting fixture cut sheets listing rated operating hours (Lithonia, Philips, GE)

Appendix B – Multi-component Measure Life Calculator

Energy Efficiency Measure Components	Component Cost	Measure Life	Cost * Measure Life
Component 1 (Describe)			
Component 2			
Component 3			
Component 4			
Component 5			
Component 6			
TOTAL			
	Weighted Measure Life:		

Table Instructions

1. List the individual Components, Component Costs, and Measure Life in the respective row and column

a. Component cost should include the materials, labor, overhead/profit, and contingency costs as described in EEM Cost Estimation Table instructions

b. Component measure life should be sourced from the SB 1149 Measure Life Table

*2. Multiply the Component Cost by the Measure Life. Put the total in the "Cost * Measure Life" column*

*3. Divide the "Cost * Measure Life" Total by the "Component Cost" Total. Put that value in the Weighted Measure Life box.*